



## TABLE OF CONTENTS

I.	Identification and Qualifications .....	1
II.	Introduction and Summary .....	3
III.	East River Repowering Project Issues .....	4
IV.	Steam Production Studies .....	20
V.	Steam Economic Development Task Force and Energy Infrastructure Master Plans.....	21
VI.	Gas Efficiency Program.....	22

## TABLE OF EXHIBITS

Exhibit ___ PLC-1S	<i>Professional Qualifications of Paul Chernick</i>
Exhibit ___ PLC-2S	<i>Load Pocket Data Sources</i>
Exhibit ___ PLC-3S	<i>Westchester County Interrogatory Response in Case 00-E-1208</i>
Exhibit ___ PLC-4S	<i>March 1 2004 Wall Street Journal Article</i>

1 **I. Identification and Qualifications**

2 **Q1: MR. CHERNICK, PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS**  
3 **ADDRESS.**

4 A1: I am Paul L. Chernick. I am the president of Resource Insight, Inc., 347 Broad-  
5 way, Cambridge, Massachusetts.

6 **Q2: SUMMARIZE YOUR PROFESSIONAL EDUCATION AND EXPERIENCE.**

7 A2: I received an SB degree from the Massachusetts Institute of Technology in June  
8 1974 from the Civil Engineering Department, and an SM degree from the  
9 Massachusetts Institute of Technology in February 1978 in technology and  
10 policy. I have been elected to membership in the civil engineering honorary  
11 society Chi Epsilon, and the engineering honor society Tau Beta Pi, and to  
12 associate membership in the research honorary society Sigma Xi.

13 I was a utility analyst for the Massachusetts Attorney General for more  
14 than three years, and was involved in numerous aspects of utility rate design,  
15 costing, load forecasting, and the evaluation of power supply options. Since  
16 1981, I have been a consultant in utility regulation and planning, first as a  
17 research associate at Analysis and Inference, after 1986 as president of PLC,  
18 Inc., and in my current position at Resource Insight. In these capacities, I have  
19 advised a variety of clients on utility matters.

20 My work has considered, among other things, the cost-effectiveness of  
21 prospective new generation plants and transmission lines, retrospective review  
22 of generation-planning decisions, ratemaking for plant under construction,  
23 ratemaking for excess and/or uneconomical plant entering service, conservation  
24 program design, cost recovery for utility efficiency programs, the valuation of  
25 environmental externalities from energy production and use, allocation of costs

1 of service between rate classes and jurisdictions, design of retail and wholesale  
2 rates, and performance-based ratemaking (PBR) and cost recovery in restruc-  
3 tured gas and electric industries. My professional qualifications are further  
4 summarized in Exhibit \_\_\_\_ PLC-1S

5 **Q3: HAVE YOU TESTIFIED PREVIOUSLY IN UTILITY PROCEEDINGS?**

6 A3: Yes. I have testified approximately one hundred and ninety times on utility  
7 issues before various regulatory, legislative, and judicial bodies, including the  
8 Arizona Commerce Commission, Connecticut Department of Public Utility  
9 Control, District of Columbia Public Service Commission, Florida Public  
10 Service Commission, Maryland Public Service Commission, Massachusetts  
11 Department of Public Utilities, Massachusetts Energy Facilities Siting Council,  
12 Michigan Public Service Commission, Minnesota Public Utilities Commission,  
13 Mississippi Public Service Commission, New Mexico Public Service Commis-  
14 sion, New Orleans City Council, North Carolina Utilities Commission, Public  
15 Utilities Commission of Ohio, Pennsylvania Public Utilities Commission,  
16 Rhode Island Public Utilities Commission, South Carolina Public Service Com-  
17 mission, Texas Public Utilities Commission, Utah Public Service Commission,  
18 Vermont Public Service Board, Washington Utilities and Transportation Com-  
19 mission, West Virginia Public Service Commission, Federal Energy Regulatory  
20 Commission, and the Atomic Safety and Licensing Board of the U.S. Nuclear  
21 Regulatory Commission.

22 **Q4: HAVE YOU TESTIFIED PREVIOUSLY BEFORE THE NEW YORK PUBLIC SERVICE**  
23 **COMMISSION?**

24 A4: Yes. I have testified in the following cases:

- 25 • Case No. 96-E-0897, on the electric restructuring plan of the Consolidated  
26 Edison Company of New York, Inc. (“Con Edison” or “the Company”).

- 1 • Case No. 99-W-0658, on the rates of United Water New Rochelle.
- 2 • Case No. 99-S-1621, on Con Edison’s steam rates.
- 3 • Case No. 00-E-1208, on the allocation of generation costs between New York
- 4 City and Westchester County.

5 **Q5: HAVE YOU BEEN INVOLVED IN OTHER UTILITY-PLANNING ACTIVITIES IN NEW**  
6 **YORK?**

7 A5: Yes.

- 8 • I co-authored “Comments on the 1991–1992 Annual and Long Range Demand-
- 9 Side-Management Plans of the Major Electric Utilities” (with John Plunkett et
- 10 al.), September 1990, filed in NY PSC Case No. 28223, regarding New York
- 11 utilities’ DSM plans.
- 12 • On behalf of environmental groups, I reviewed analyses of distributed resources
- 13 as alternatives to transmission investments for Orange and Rockland Utilities’
- 14 Western Load Pocket Study (2000–2001) and Con Edison’s Rainey to East 75<sup>th</sup>
- 15 St. Project Distributed Resource Screening Study (2000).
- 16 • I was the City’s representative to the Con Edison Steam Plant Collaborative in
- 17 2001–2003.
- 18 • I was project manager and senior analyst for the New York City Energy Plan
- 19 (December 2003), and provided technical assistance to New York City for the
- 20 Energy Policy Task Force Report (January 2004).

21 **II. Introduction and Summary**

22 **Q6: ON WHOSE BEHALF ARE YOU TESTIFYING?**

23 A6: My testimony is sponsored by the City of New York.

1 **Q7: HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS PROCEEDING?**

2 A7: Yes. I filed direct testimony in response to the Company's original filing and  
3 rebuttal testimony in response to the prefiled direct testimony filed by other  
4 parties. Inasmuch as the Joint Proposal submitted on May 28, 2004 resolves all  
5 issues in the pending gas and steam cases, I have revised my original prefiled  
6 testimony to respond to the Joint Proposal.

7 **Q8: WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8 A8: My testimony is in support of aspects of the Joint Proposal. In particular, I  
9 focus on supporting the Joint Proposal's allocation of costs of the ERRP  
10 between electric and steam service. In addition, I support several other aspects  
11 of the Joint Proposal. For example, I support the Joint Proposal's call for a  
12 Steam Production Study. I also support the provisions that require the formation  
13 of a Steam Business Development Task Force and the development of Energy  
14 Infrastructure Master Plans. Finally, the Gas Efficiency Program set forth in the  
15 Joint Proposal is consistent with my testimony and I support it.

16 **Q9: WHAT ARE YOUR RECOMMENDATIONS FOR THE COMMISSION IN THIS**  
17 **PROCEEDING?**

18 A9: I recommend that the Commission approve the Joint Proposal because it sets  
19 forth reasonable compromises to the numerous issues facing the parties in these  
20 proceedings. In particular, for the reasons set forth more fully below, I  
21 recommend that the ERRP cost allocation set forth in the Joint Proposal be  
22 approved without modification.

### 23 **III. East River Repowering Project Issues**

24 **Q10: WHAT IS THE SIGNIFICANCE OF THE ERRP?**

1 A10: The ERRP was originally proposed as a way to replace the electric and steam  
2 capacity of the Waterside plant, so that Con Edison could sell Waterside, two  
3 other parcels on First Avenue adjacent to Waterside (an office building and a  
4 parking lot), and the former steam plant at Kips Bay, which has served in recent  
5 years as a fuel-supply facility for Waterside. To simplify the discussion below,  
6 I refer to the removal of Waterside from rate base, the sale of the four  
7 properties, and the reflection in rates of the gain on the sale collectively as the  
8 “Waterside Transactions.”

9 The primary motivations of the ERRP proposal included reducing the cost  
10 of steam supply and mitigating uneconomic electric costs without shifting those  
11 costs into steam rates (April 1998 Steam Plan in Case 96-S-1065 at 26). The  
12 proposal was also intended to add electric generation to relieve constraints on  
13 electric supply to the East River and in-City load pockets. The increased supply  
14 will also reduce the market price of electric energy and capacity and increase  
15 the viability of competition in the in-City generation market.

16 **Q11: HOW DID YOU IDENTIFY THE EAST RIVER IN-CITY LOAD POCKETS?**

17 A11: I reviewed a number of studies that confirmed these load pockets. I have listed  
18 those studies on Exhibit \_\_\_\_PLC-2S.

19 **Q12: HAS THE IMPORTANCE OF THE ERRP CHANGED IN ANY MANNER SINCE IT  
20 WAS PLANNED?**

21 A12: Yes. The benefits of the project to electric customers have increased  
22 significantly. Over the last two years, market prices for electric energy have  
23 increased dramatically, and the NYISO has imposed the Demand Curve for  
24 setting electric capacity prices. Given these changes, the ERRP, like any other  
25 incremental generation in the City, is likely to provide much greater benefits to  
26 consumers on the Con Edison electric system than was expected in 1998.

1 **Q13: DOES THE HISTORY OF THE ERRP AFFECT THE TIMING OF THE RATE**  
2 **RECOGNITION OF ITS COSTS?**

3 A13: Yes. The original purpose of the ERRP was to replace Waterside. Accordingly,  
4 steam rates should not be increased to reflect the costs of ERRP until those  
5 rates can be offset by the benefits of reflecting the retirement of Waterside and  
6 the gain on the real-estate sale. That end can be achieved by deferring the  
7 ERRP costs until the Waterside Transactions are complete or by accelerating  
8 the rate effects of the Waterside Transactions. The Joint Proposal utilizes the  
9 first alternative. I believe that choice is appropriate. In addition, the Joint  
10 Proposal does not prejudice any party with respect to potential future prudence  
11 proceedings.

12 **Q14: HOW DOES THE JOINT PROPOSAL ALLOCATE THE COSTS OF THE ERRP**  
13 **BETWEEN THE ELECTRIC AND STEAM OPERATIONS?**

14 A14: As first explained by Con Edison Witness Rick Shansky, the Joint Proposal  
15 proposes to charge the electric operation for all costs required for electric  
16 generation, and to charge the steam operation for the incremental costs of steam  
17 production, including the heat-recovery steam generators, water treatment, and  
18 fuel for the duct burners. This seems to be a reasonable approach to the  
19 allocation. As shown below, the Joint Proposal's allocation of ERRP costs is  
20 consistent with the flow of ERRP benefits.

21 **Q15: IS THE ERRP COST-EFFECTIVE OVERALL?**

22 A15: Mr. Shansky's Exhibit RS-2 indicates that the benefits of the ERRP (including  
23 the benefits of the Waterside Transactions) exceed its costs by about \$145  
24 million annually. However, Exhibit RS-2 does not reflect the reduction of  
25 market electricity prices due to the addition of ERRP's incremental 125 MW  
26 of capacity. I estimate that those market effects add about \$85 million in



1 capacity savings and \$34 million in energy savings to the value of the ERRP  
 2 for electric customers.

3 **Q16: HAVE YOU SEPARATED THE COSTS AND BENEFITS SHOWN IN EXHIBIT RS-2**  
 4 **BETWEEN STEAM AND ELECTRIC OPERATIONS?**

5 A16: Yes. The following table summarizes my attempt to approximate Con Edison's  
 6 proposed allocation of the levelized annual ERRP costs and benefits. I have not  
 7 included the gain on the Waterside Transactions, because the amounts of the  
 8 gains on the various portions are not known at this time.

**East River Repowering Project Economic Benefits**

*Levelized Annual Cost (Millions of Dollars)*

line	Total <sup>a</sup>	Steam	Electric	Basis for Allocation to Steam
1 Recovery of Investment	\$80	\$27	\$53	1/3 to steam: Exhibit EJR-1
2 Property Tax	\$28	\$9	\$19	1/3 to steam: Exhibit EJR-1
3 Operations & Maintenance	\$25	\$7	\$18	\$5.4 M in 2005 (Exhibit EJR-1) × levelizing factor of 1.25 (Exhibit RS-2)
4 Total ERRP Fixed Costs	\$133	\$43	\$90	[1] + [2] + [3]
<b>Avoided Waterside and Steam System Costs</b>				
5 Recovery of Future Investments	\$19	\$1	\$18	\$10 M future ERSSS capital × 12%(Exh RS-2)
6 Property Tax	\$26	\$1	\$25	2.1% of total (Response S -128(a) Attachment)
7 Operations & Maintenance	\$24	\$10	\$14	\$8.3M (Exhibit EJR-1) × levelizing factor
<b>Electricity Purchases</b>				
8 Capacity Market Benefit	\$85		\$85	125 added MW × \$0.09/kW- yr/addedMW × 6,000 MW market capacity × level factor
9 Energy Market Benefit	\$34		\$34	0.9% of \$62/MWh for 50 GWh marke purchases × levelizing factor
10 Value of Energy Generated	\$121		\$121	Exhibit RS-2
11 Total Avoided Costs (Benefits)	\$310	\$12	\$298	[5] + [6] + [7] + [8] + [9] + [10]
12 Net Benefit without Fuel	\$177	-\$31	\$207	[11]-[4]
13 Net Fuel Benefit <sup>b</sup>	-\$41	\$80	-\$121	\$64M in 2005 (Exh EJR-1) × levelization factor
14 Net Economic Benefits	<b>\$136</b>	<b>\$49</b>	<b>\$86</b>	[12]+[13]

**NOTES:**

<sup>a</sup>From Exhibit RS-2

<sup>b</sup>\$200 M in fuel costs minus \$159 M in fuel savings, from Exhibit RS-2

1 I have added to Con Edison's analysis lines 9 and 10, which show the  
2 benefits of the ERRP in reducing the market prices of energy and capacity for  
3 all users of Con Edison distribution services in the New York City load  
4 pocket.<sup>1</sup> These effects are described in more detail in the next section.  
5 Otherwise, the table is derived from information in Con Edison's Exhibits  
6 and discovery responses.

7 **Q17: WHAT DOES YOUR ANALYSIS OF THE ALLOCATION OF THE ERRP BENEFITS**  
8 **SUGGEST ABOUT THE JOINT PROPOSAL'S PROPOSAL FOR ALLOCATING THE**  
9 **ERRP COSTS?**

10 A17: The Joint Proposal allocation appears reasonable, in that costs follow the reason  
11 for the investment. In addition, under these allocations, both steam and electric  
12 customers are likely to experience lower bills due to operation of the ERRP. As  
13 shown above, the Joint Proposal's approach also allocates the costs of the  
14 ERRP in a pattern similar to the incidence of the benefits, which further  
15 supports the reasonableness of the Joint Proposal.

16 **Q18: PLEASE EXPLAIN HOW THE ALLOCATION OF THE ERRP BENEFITS SUPPORTS**  
17 **THE JOINT PROPOSAL'S ALLOCATION OF THE ERRP COSTS.**

18 A18: As a result of the ERRP, the electric operation will receive most of the non-fuel  
19 benefits, while the steam operation will receive the fuel benefit.<sup>2</sup>

---

<sup>1</sup>The ERRP has additional benefits to the electric operations that I have not quantified. It will improve electric reliability and air quality in New York City, southern New York State, and the entire NYISO, by increasing capacity and replacing some very old capacity (Waterside 8 and 9 were installed in 1949) with brand-new generators. The ERRP will also reduce the market prices of energy in the Westchester load zones, and the market price of rest-of-state capacity required for customers in both New York City and Westchester.

<sup>2</sup>The avoided costs include electric benefits that would have been counted as fuel savings when Con Edison was an integrated electric utility. Now that Con Edison purchases most of its power,

1           By my estimate, electric customers would receive roughly 96% of the non-  
2 fuel benefits of the ERRP and the retirement of Waterside (\$298 million of  
3 \$310 million, from line 12 in the table above). Con Edison's allocation of fuel  
4 costs offsets this imbalance in the distribution of benefits. The allocation of fuel  
5 costs is critical; before fuel costs, the operation of the ERRP *increases* steam  
6 costs by \$31 million annually, while electric costs are *reduced* by \$207 million  
7 (line 13 of the table). Adding Con Edison's allocation of fuel benefits to the  
8 avoided costs, the benefits of the ERRP would be distributed about one third  
9 to steam and two-thirds to electricity (line 11 plus line 13 in the table).

10           The overall allocation of about one-third of the benefits of the ERRP to the  
11 steam operation is consistent with the allocation of one-third of the ERRP fixed  
12 costs to steam, as set forth in the Joint Proposal.

13   **Q19: ARE THERE ANY UNCERTAINTIES THAT COULD AFFECT THE REASONABLE-**  
14   **NESS OF THE ALLOCATION OF ERRP COSTS?**

15   A19: Yes. First, my conclusions assume that my allocation of the costs approximate  
16 those that Con Edison uses for Waterside and proposes for ERRP. If those  
17 allocations would be significantly different from those I assumed, the  
18 allocations might be inequitable.<sup>3</sup>

19           Second, for the final allocation to be equitable, and to avoid skewing the  
20 allocations in favor of the electric operation, the steam system must receive a  
21 substantial portion of the Waterside Transactions.

---

the energy generated by ERRP is counted as avoided energy purchases, rather than reductions in Con Edison fuel bills.

<sup>3</sup>In some cases, I have estimated the levelized benefit or cost from data for the rate year in this proceeding; if those values are inconsistent with the benefits and costs in Exhibit RS-2 for the year 2005, my estimates may be in error.

1 **Q20: DO THE REASONS FOR THE CONSTRUCTION OF THE ERRP SUPPORT A**  
2 **GREATER ALLOCATION OF COSTS TO THE STEAM DEPARTMENT?**

3 A20: No. Although Con Edison's planning for the ERRP did include a desire to find  
4 a way to use the value of the Waterside site to offset some costs, some of which  
5 Con Edison wanted to transfer from the electric system to the steam operation,  
6 benefits for the electric system were also important in the justification of the  
7 ERRP. The cogeneration of steam at the ERRP provided a rationale for Con  
8 Edison to build badly-needed electric generation in a load pocket experiencing  
9 pressing capacity and local-delivery problems—and within the economic and  
10 institutional constraints of electricity industry restructuring. In addition, the  
11 allocation of more costs to the steam system would threaten its viability.

12 **Q21: WHY IS IT IMPORTANT THAT THE STEAM SYSTEM REMAIN VIABLE?**

13 A21: The loss of the steam system would have dramatic, deleterious impacts on Con  
14 Edison's electric and gas customers, including those in Westchester County. As  
15 the Commission said in 1978, "If the ultimate result of ever-increasing rates is  
16 the departure of all steam customers from the system, it will be disadvant-  
17 ageous to Con Edison's gas and electric customers" (18 NYPSC 1770). More  
18 recently the Commission found, "The depression of steam system demand  
19 might well have a negative impact on electric ratepayers, particularly at a time  
20 when the demand for electricity in New York City is already high relative to  
21 supply" (Opinion 00-15).

22 The loss of the steam system would increase cooling load on the electric  
23 system by about 700,000 tons, or more than 433 MW. Adding 433 MW of load  
24 would increase the market price by about \$200 million annually for installed  
25 capacity, and by perhaps another \$100 million annually for energy. In addition,  
26 the new development on the West Side of Manhattan and around the World

1 Trade Center site will be more likely to rely on electricity, further increasing the  
2 growth in peak load.

3 The transfer of steam customers to the electric system would also lead to  
4 large investments in distribution and transmission equipment that Con Edison  
5 would need to deliver additional electricity to replace the lost steam supply.  
6 Furthermore, former steam customers would need to invest in their own boilers,  
7 chillers, internal distribution (to bring electricity and gas to the new  
8 equipment), and reconfiguration of their facilities. In the process, customers  
9 would likely lose usable space, which is often very valuable in dense urban  
10 areas.

11 The Con Edison gas-delivery system would also be affected because it  
12 would need to deliver about 8,500 MMBtu/hr in additional gas to replace the  
13 7,200 Mlb/hr of steam used at the winter peak. A large portion of the steam  
14 system is oil-fired or dual-fuel, while almost all converting customers would  
15 be likely to use gas. Consequently, Con Edison's gas-transmission system  
16 would need to be upgraded (at unknown cost) to supply up to an additional  
17 8,500 MMBtu/hr of gas into Manhattan. In addition, Con Edison's gas-distribu-  
18 tion system would need to be reinforced to carry that additional volume to  
19 customers, and pipelines would need to bring that gas into the New York  
20 metropolitan area.

21 The loss of all the cogeneration on the steam system would also reduce the  
22 efficiency of energy use in New York City, resulting in increased fuel imports  
23 and emissions of carbon and other pollutants.

24 **Q22: DOES THE THEORY OF PRICING FOR JOINT PRODUCTS PROVIDE ANY**  
25 **GUIDANCE ON THIS ISSUE?**

1 A22: I am well acquainted with this issue, since I wrote my Master's thesis on pricing  
2 for peak load and joint products. Essentially, pricing of joint products should  
3 result in the full utilization of both products, while covering the cost of  
4 production. In the case of cogeneration,

- 5 • capacity should be added as long as the total value of the steam and  
6 electricity exceeds the cost of production.
- 7 • the pricing of the products should allow for full utilization of the output,  
8 so that no product needs to be wasted.

9 Con Edison's allocation proposal is consistent with these principles. For  
10 the Con Edison system, there is no question as to whether the full electric  
11 capacity of the ERRP is necessary and will be used by the electric system. Nor  
12 is there any danger of under-utilization of the Con Edison electric distribution  
13 system. On the steam side, however, excessive allocation of ERRP and other  
14 costs could easily result in major load losses and under-utilization of the steam  
15 production and distribution systems. As I describe above, the loss of the steam  
16 system could have major adverse effects on Con Edison's systems for the  
17 transmission and distribution of both electricity and gas. The Commission  
18 should be careful not to shift any excess costs onto the steam system.

19 **Q23: HAS THE COMMISSION FOUND THAT THE ELECTRIC SYSTEM SUBSIDIZES THE**  
20 **STEAM SYSTEM?**

21 A23: No. Although some cite to a passage from Opinion 00-15 to support this  
22 assertion, significantly, throughout that quote, the Commission put quotation  
23 marks around "subsidy," implying that the Commission was using a term  
24 without endorsing it. Later in Opinion 00-15 (at 21), the Commission stated as  
25 follows:

1 the longstanding allocation of cost between electric and steam has been  
2 reasonable, and the discontinuance of electric production at these plants  
3 effectively means that the electric department's portion of the investment  
4 can be regarded as "stranded" investment in appropriate circumstances.

5 In short, the Commission has decided that there has been no subsidy  
6 historically at the cogeneration plants and has not decided whether the excess  
7 fixed costs are steam costs or stranded electric investment.

8 **Q24: WOULD YOU AGREE WITH THE PROPOSITION THAT THE ERRP IS NOT IN THE**  
9 **RIGHT PLACE AND IS NOT THE RIGHT TYPE OF CAPACITY FOR ELECTRICAL**  
10 **SUPPLY TO CON EDISON?**

11 A24: No. The fact is that Con Edison *does* need generation in Manhattan to serve the  
12 East River 69 kV load pocket and the East 13<sup>th</sup> Street 138 kV load pocket.  
13 According to the NY ISO, the East River load pocket was constrained for 1,097  
14 hours in the year ending February 29, 2004.<sup>4</sup> The following table shows Con  
15 Edison's 2001 projections of load and capacity for 2006 in the load pockets  
16 affected by the ERRP:

**Projected 2006 MW without ERRP**

	<b>Load</b>	<b>Capability</b>	<b>Deficit</b>
<i>East River</i>	486	460	26
<i>East 13th St.</i>	1571	1550	21
<i>West 49th St.</i>	2721	2599	122

17 *Source: "Con Edison Service Area Year 2001 Annual Transmission Baseline Assessment,"*  
18 *10/17/01, "Table IV: Year 2006 Load Pocket Analysis." Distributed at the 10/22/01 meeting of*  
19 *the NY-ISO Transmission Planning Advisory Subcommittee*

20 The only generation currently operable in the East River and East 13th St.  
21 load pocket are East River 6 and 7; the West 49th St. load pocket is also served  
22 by the Poletti plant.<sup>5</sup> Since 2001, Con Edison's load forecast has increased.  
23 This suggests that the deficits would likely be even larger if evaluated today.

---

<sup>4</sup>"Real Time Load Pocket Thresholds," NY-ISO Market Monitoring Unit, March 15, 2004.

<sup>5</sup>The new Poletti combined-cycle plant apparently will not be connected to the West 49<sup>th</sup> Street load pocket.

1 **Q25: IF GENERATION WERE NOT BUILT IN THE EAST RIVER LOAD POCKETS, HOW**  
2 **COULD CON EDISON SERVE THE LOADS IN THOSE AREAS?**

3 A25: It would be very difficult. The alternative to generation in the East River load  
4 pockets would be some unspecified additional transmission investment that  
5 would tie the Manhattan loads to existing or new generation outside the  
6 pockets. Were replacement generation not built elsewhere in New York City,  
7 transmission would be needed to bring additional power into the City load  
8 pocket, as well. To provide any estimate of the cost, feasibility or timeline for  
9 such transmission would be pure speculation. Westchester County certainly has  
10 not been receptive to transmission projects to benefit New York City.<sup>6</sup> In  
11 addition, it is worth noting that several transmission projects to serve the New  
12 York City load pocket have been shelved. The Empire Connection transmission  
13 line into New York City recently failed to find buyers for its capacity, and  
14 suspended its capacity auction.<sup>7</sup>

15 **Q26: IS GENERATION ELSEWHERE IN NEW YORK CITY READILY AVAILABLE?**

16 A26: No. While many generation and transmission projects have been proposed to  
17 serve New York City, those resources need to be built before they can keep the  
18 lights on or moderate energy prices. Other than the ERRP, I know of only one  
19 generator—the 500-MW Poletti combined-cycle plant—under construction  
20 today in the New York City load pocket. That plant is being built subject to the  
21 condition that the 855-MW Poletti reheat steam plant be retired soon after the

---

<sup>6</sup>For example, Westchester County vigorously opposed the Millennium Pipeline project. In Case 00-E-1208, the County acknowledged that it had not publicly advocated the construction of additional transmission lines through Westchester to New York City any time in the last thirty years (IR NYC-W25). (This interrogatory response is attached as Exhibit \_\_\_ PLC-3S.)

<sup>7</sup>Smith, Rebecca. “Power Project For New York City Is Left in Doubt” *Wall Street Journal*, (March 1, 2004) at A5, attached as Exhibit \_\_\_ PLC-4S).



1 combined-cycle enters service, and that the older plant's operations be limited  
2 in the interim period.

3 Getting approval and financing for new sites seems to be particularly  
4 difficult. For example, the recently completed 250-MW Keyspan-Ravenswood  
5 cogenerator (originally designed to sell steam to Con Edison), like Poletti and  
6 the ERRP, is located at an existing power-plant site.

7 Between them, the new Poletti and Ravenswood units do not even replace  
8 old Poletti, let alone Waterside. They certainly would not cover any load  
9 growth. Since the New York City market had capacity in 2003 barely equal to  
10 the minimum 80% of peak load required for reliable service, we must be  
11 concerned about the adequacy of electric capacity. Thus, the ERRP is needed  
12 to meet the electricity needs in the City.

13 **Q27: HAS THE COMPETITIVE MARKET BEEN EFFECTIVE IN BRINGING NEW**  
14 **GENERATION INTO SERVICE IN NEW YORK CITY?**

15 A27: No. Almost all the capacity added in New York City since Con Edison's  
16 divestiture of generation (or even under construction) has been located at  
17 existing plants (Ravenswood, the restart of Astoria 2), or been added by NYPA  
18 (ten combustion turbines and the Poletti combined-cycle) or Con Edison  
19 (Hudson Avenue restart, the ERRP). The market has been slow to develop  
20 merchant plants whose electric generating capacity is sold into the capacity and  
21 energy markets. Building generation and transmission based on market prices  
22 alone has proven to be very difficult. Even with a contract from Con Edison to  
23 support its construction and operation, SCS Astoria experienced some difficulty  
24 in financing its plant.

25 **Q28: IS THERE ANY REASON TO BELIEVE THAT THE ERRP IS MORE IMPORTANT**  
26 **TO THE STEAM SYSTEM THAN THE ELECTRIC SYSTEM?**

1 A28: No. The assertion that operation of the ERRP is essential to meet steam-system  
2 load is correct only if Waterside is retired. From a reliability standpoint, the  
3 steam system benefits very little from the replacement of Waterside with the  
4 ERRP. On the other hand, the additional electrical capacity of the ERRP over  
5 the capacity of Waterside is a vital contribution to the electrical system. Also,  
6 the Waterside retirement is the linchpin of the sale of the First Avenue  
7 properties, which will benefit steam and electric customers.

8 **Q29: DOES CON EDISON'S ALLOCATION OF COSTS TO ELECTRICITY RESULT IN AN**  
9 **EXCESSIVE COST FOR COMBUSTION TURBINE CAPACITY IN NEW YORK CITY?**

10 A29: No. The combustion turbines that NYPA built in New York City in 2001 cost  
11 about \$1,298/kW, and none of them were in Manhattan, let alone the East River  
12 or East 13th Street load pockets.

13 **Q30: WHY DID CON EDISON ABANDON ITS ORIGINAL PLAN TO BUILD THE ERRP**  
14 **AS A COMBINED-CYCLE PLANT?**

15 A30: It is my understanding that the New York State Department of Environmental  
16 Conservation established a policy of not allowing the use of East River water  
17 to cool power plants. Building a dry cooling system is both expensive and  
18 demanding of space, which is hard to come by in Manhattan.

19 **Q31: WHAT WOULD THE EFFECT BE OF ALLOCATING ALL OF THE COSTS OF THE**  
20 **STEAM/ELECTRIC PLANTS TO THE STEAM SYSTEM?**

21 A31: Under such an allocation, all the benefits of the steam-electric plants for  
22 reducing electric prices would flow to the electric customers, at no cost. In  
23 addition, all the stranded costs of the former cogeneration plants at West 59<sup>th</sup>  
24 Street and East 74<sup>th</sup> Street would be transferred to the steam system.

25 This allocation proposal is wholly inequitable and would be disastrous for  
26 the already struggling steam system, which would be burdened with the

1 stranded costs of West 59<sup>th</sup> Street, East 74<sup>th</sup> Street, East River, and Hudson  
2 Avenue while simultaneously being harmed by the operation of the ERRP.  
3 Meanwhile, electric customers would benefit inequitably.

4 **Q32: WHAT WOULD BE THE EFFECT OF ALLOCATING ALL OF THE ERRP COSTS TO**  
5 **THE STEAM DEPARTMENT?**

6 A32: Allocating all of the ERRP costs to the Steam Department would frustrate the  
7 original objective of the ERRP—reducing steam costs and revitalizing the  
8 steam system. Instead, such an allocation would threaten the viability of the  
9 steam system by depriving steam customers of the fuel benefit from the ERRP.  
10 This would add to the significant base rate increase already contemplated in the  
11 Joint Proposal.

12 **Q33: WOULD SHIFTING COSTS TO THE STEAM BUSINESS HAVE ANY OTHER**  
13 **RAMIFICATIONS?**

14 A33: Yes. Such a shift in costs also may have the effect of shifting electric costs from  
15 Westchester County customers to those located in New York City.

16 In Case 00-E-1208, the Commission indicated its intention to charge the  
17 same stranded-cost rate to all Con Edison customers, while charging customers  
18 in Westchester County and New York City for market energy and capacity  
19 prices in their separate pricing zones. Were Westchester County to succeed in  
20 its proposals in this proceeding, it would interfere with Con Edison's ability to  
21 build additional cogeneration capacity that would reduce costs to its customers,  
22 and increase the rate at which steam loads would switch to electricity, particu-  
23 larly for cooling. Both the reduction in new generation capacity in New York  
24 City and the increase in electric loads would tend to drive up market energy and  
25 capacity prices in New York City. However, those higher market prices in the  
26 City would also reduce net stranded costs, and Westchester customers would

1 receive 10-15% of those reductions in stranded costs. Thus, under the initial  
2 decision in Case 00-E-1208, undermining Con Edison's steam system and  
3 increasing in-City electric prices would reduce Westchester County's stranded-  
4 cost burden at the City's expense.

5 **Q34: IS THERE ANY EVIDENCE OF OTHER AVAILABLE SITES THAT WOULD**  
6 **SUBSTITUTE FOR THE ERRP?**

7 A34: That is not at all clear. There is no evidence of an equivalent-electric plant site  
8 that would be capable of providing equivalent support to the lower Manhattan  
9 69-kV and 138-kV systems.

10 To the extent that such a site exists, the ability to permit the construction  
11 of an equivalent-electric plant would have to be analyzed, as would the  
12 associated costs. The ERRP's permitting process was probably facilitated by  
13 the fact that it was being built in an existing structure and that it would reduce  
14 emissions from the steam equipment on the site. Another plant site would have  
15 neither of these advantages.

16 **Q35: WHAT IS THE DISPATCH APPROACH TO ALLOCATING ERRP FUEL COSTS**  
17 **BETWEEN ELECTRIC AND STEAM OPERATIONS?**

18 A35: The dispatch approach allocates to the electric system only the cost of fuel, and  
19 only in those hours when ERRP electric energy costs would be less than the  
20 market price for electrical energy.

21 **Q36: IS THIS DISPATCH APPROACH TO FUEL ALLOCATION APPROPRIATE?**

22 A36: No. First, it ignores the benefits to Con Edison electric distribution customers  
23 of the lower market energy prices resulting from the operation of the ERRP.  
24 Including those benefits would greatly increase the value of the electric  
25 generation and the hours it would be economic to run for the benefit of electric

1 consumers.<sup>8</sup> In my testimony above, I estimate those benefits at \$34 million  
2 annually.

3 In addition, peakers use significant amounts of fuel in startup, ramping up  
4 to operating load levels, and ramping down. Operating at partial load exacts a  
5 major heat-rate penalty on combustion turbines; EPRI's 1993 "TAG Technical  
6 Assessment Guide" estimates a 10% heat-rate penalty for annual load operation  
7 for a peaking turbine, compared to its full-load heat rate. Thus, if such an  
8 allocation is used, it must be corrected for the inefficiency of peaking  
9 operation.

10 Finally, for generation in those hours in which market prices are below the  
11 marginal cost of the ERRP's electric dispatch, adjustments for the electricity  
12 produced has considerable value and the energy consumed for electric  
13 generation must be made.<sup>9</sup> Only 47% of the fuel used in the combustion  
14 turbines is turned into steam, while 89% of the fuel used by the duct burners is  
15 turned into steam.<sup>10</sup>

16 **Q37: DO YOU HAVE ANY COMMENTS ON THE JOINT PROPOSAL'S TREATMENT OF**  
17 **THE OPERATING COSTS ASSOCIATED WITH THE HIGH-PRESSURE BOILERS AT**  
18 **74<sup>TH</sup> STREET AND 59<sup>TH</sup> STREET?**

19 A37: The Joint Proposal appropriately delays any transfer of these costs from electric  
20 rates to steam rates until the proceeds from the sale of the First Avenue

---

<sup>8</sup>This also does not reflect the benefits of the ERRP in providing additional in-City generation and reducing the extent to which fossil boiler plants need to be running to meet security-constrained dispatch rules.

<sup>9</sup>In contrast, the steam generators use only energy exhausted by the combustion turbines, which would otherwise have gone up the stack, so they add no cost to electric generation.

<sup>10</sup>I computed the 89% value from the increase in fuel input and steam output due to the operation of the duct burners, in Exhibit PMD-6.

1 Properties are available to offset the effect on steam rates. The details of the  
2 allocation and use of those proceeds will be the subject of another proceeding,  
3 after the sale is complete and net proceeds are known.

#### 4 **IV. Steam Production Studies**

##### 5 **Q38: HOW DID CON EDISON EXAMINE THE ECONOMICS OF ADDING COGENERA-** 6 **TION AT OTHER STEAM PLANTS?**

7 A38: Mr. Shansky described the process in his prefiled testimony, and provided a  
8 summary of Con Edison's results in his Exhibit RS-1. I was a participant in the  
9 Steam Plant Collaborative, on behalf of the City of New York. Con Edison  
10 estimated the capital and annualized costs of a 64-MW combustion turbine with  
11 heat-recovery steam generator at each of three sites (Hudson Avenue, 59<sup>th</sup>  
12 Street, and 74<sup>th</sup> Street), and a 266-MW combined-cycle plant at Hudson Avenue  
13 (which has more room than the other sites).

##### 14 **Q39: DO YOU AGREE WITH JOINT PROPOSAL'S ESTABLISHMENT OF A STUDY OF** 15 **THE ECONOMICS OF NEW COGENERATION PLANTS?**

16 A39: Yes. The investment grade study required by the Joint Proposal is consistent  
17 with my stated desire that Con Edison should move forward to complete the  
18 analyses of these potential resources, including their effects on electric market  
19 prices, and, if the analyses support it, move forward with construction of cost-  
20 effective generation as soon as possible.<sup>11</sup>

---

<sup>11</sup>While Con Edison is not generally in the generation business in New York, it continues to have a responsibility to use its existing resources (including the steam-plant sites) to benefit its customers. Con Edison need not build or operate the generation itself, so long as cost-effective plants are brought on line.

1 **V. Steam Economic Development Task Force and Energy Infrastructure**  
2 **Master Plans**

3 **Q40: DO YOU SUPPORT THE JOINT PROPOSAL'S ESTABLISHMENT OF A STEAM**  
4 **ECONOMIC DEVELOPMENT TASK FORCE AND ENERGY INFRASTRUCTURE**  
5 **MASTER PLAN?**

6 A40: Yes. There are a number of construction projects on the West Side of Manhattan  
7 whose developers have expressed an interest in taking steam from the Con  
8 Edison steam system:

- 9 • A garage under construction by New York City's Department of Sanitation  
10 at West 57<sup>th</sup> Street and Twelfth Avenue, which would use about 70 Mlb/hr  
11 for space heating, and another 5 Mlb/hr for water heating and  
12 miscellaneous uses.
- 13 • A second Department of Sanitation garage at 31<sup>st</sup> Street.
- 14 • A expansion of the Javits Convention Center, at 34<sup>th</sup> to 42<sup>nd</sup> Streets and  
15 Eleventh to Twelfth Avenues, planned for 2010. The developer is  
16 interested in switching to steam for heating the existing structure, as well  
17 as the expansion. The Convention Center would require approximately 300  
18 Mlb/hr of steam.
- 19 • The 1,500-room Convention Center Hotel, at 11th Avenue and 42<sup>nd</sup> Street,  
20 using 175 Mlb/hr for space heating, water heating, and possibly chilling.
- 21 • The New York Sports and Convention Center (including a museum, retail  
22 and restaurant space) proposed for 2009, from 30<sup>th</sup> to 33<sup>rd</sup> streets, between  
23 11th Avenue and the Hudson River, using 150 Mlb/hr for heating, 6 Mlb/hr  
24 for hot water, as well as potential chilling load.

25 Altogether, these projects project a demand of about 700 Mlb/hr, which is  
26 over half the steam capacity of the cogeneration plant Con Edison considered

1 for West 59<sup>th</sup> Street. Con Edison should be aggressively marketing steam  
2 service to major development projects, both on the West Side and in lower  
3 Manhattan. By establishing a Steam Economic Development Task Force and  
4 requiring the development of Energy Infrastructure Master Plans, the Joint  
5 Proposal will help to ensure the efficient expansion of Con Edison's steam  
6 business.

7 **VI. Gas Efficiency Program**

8 **Q41: DO YOU SUPPORT THE JOINT PROPOSAL'S ESTABLISHMENT OF A GAS**  
9 **ENERGY-EFFICIENCY PROGRAM?**

10 A41: Yes. The Joint Proposal establishes an aggressive Gas Efficiency program.  
11 Improved efficiency would help customers reduce their total bills, and free up  
12 existing capacity (of gas pipelines into Con Edison's service territory and gas  
13 mains) to serve new load. The spare capacity would help defer the need for new  
14 investments, or allow electric loads to shift to gas and steam, relieving the  
15 overloaded electric system and reducing market prices.

16 **Q42: DOES THIS CONCLUDE YOUR TESTIMONY?**

17 A42: Yes.