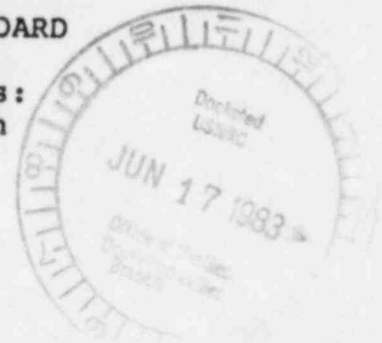


UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:
James P. Gleason, Chairman
Frederic J. Shon
Dr. Oscar H. Paris



In the Matter of)
)
CONSOLIDATED EDISON COMPANY OF)
NEW YORK, INC.)
(Indian Point, Unit No. 2))
)
POWER AUTHORITY OF THE STATE OF)
NEW YORK)
(Indian Point, Unit No. 3))
)

Docket Nos.
50-247 SP
50-286 SP

AFFIDAVIT OF
GREATER NEW YORK COUNCIL ON ENERGY
WITNESS RICHARD A. ROSEN
ON COMMISSION QUESTION 6.3

May 31, 1983

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PDR ADOCK 05000247
PDR

DS03

1 Q. HAVE YOU ATTEMPTED A COMPARISON SIMILAR TO THAT UNDERTAKEN
2 BY DR. FELD OF ACTUAL 1982 CAPACITY FACTORS FOR SALT WATER PWR'S TO
3 1982 CAPACITY FACTORS PREDICTED BY THE ESRG CAPACITY FACTOR MODEL?

4 A. Yes, I have.

5 Q. AND WHAT WERE THE RESULTS OF THAT COMPARISON?

6 A. In order to corroborate the results of Dr. Feld's comparison
7 I predicted the adjusted capacity factors in 1982 for all 14
8 operating salt water PWRs using the ESRG model. Unlike
9 Dr. Feld's analysis, however, I then compared the predicted
10 re-adjusted capacity factors, incorporating refueling and NRC
11 mandated outage hours, to the actual unadjusted 1982 capacity
12 factors (as of November 30, 1982). The result of this comparison
13 was that the ESRG model, predicting an average capacity factor
14 over all plants of 54.3% for 1982, underestimated the actual
15 average 1982 capacity factor of 63.8% by 9.5 percentage points.
16 Dr. Feld, on the other hand, calculated an error margin of
17 13.9 percentage points.

18 Q. DID YOU FIND ANY OTHER MAJOR DIFFERENCES BETWEEN THE RESULTS
19 OF YOUR COMPARISON AND DR. FELD'S?

20 A. Yes, I did. Dr. Feld stated that he found two plant predictions
21 that were larger than the actual 1982 capacity factors, one of
22 which was San Onofre and the other of which was unnamed but
23 cited as having a predicted capacity factor that exceeded the
24 actual figure by 1.5 percentage points. I also found over-
25 estimates for San Onofre and a plant (Salem 1) whose prediction
26 was slightly over the actual. More interestingly, and in

1 contrast to Dr. Field's results, my calculations also showed
2 a predicted capacity factor in 1982 for Indian Point 3 (56.2%)
3 that exceeds the actual capacity factor in 1982 of 20.1%
4 by a significant 36.1 percentage points.

5 Q. DR. FELD HAS TESTIFIED THAT THE RESULTS OF HIS COMPARISON
6 INDICATE THAT THE ESRG MODEL IS "BIASED IN TERMS OF UNDER-
7 ESTIMATING CAPACITY FACTORS." DO YOU AGREE WITH THIS
8 CONCLUSION?

9 A. No, I do not. Dr. Feld bases his conclusions on the comparison
10 of predicted to actual capacity factors in one specific year.
11 However, the predictions generated by the ESRG model are not
12 meant to perfectly track capacity factors for all plants and
13 years, but instead serve to reflect the basic time trends
14 of plants with specific characteristics. By focusing on
15 one year's experience, Dr. Feld ignores the explanatory
16 power of the model in its ability to track plant operating
17 performance over a span of years.

18 To illustrate the inconsistency in Dr. Feld's approach
19 I performed a second comparison of predicted to actual capacity
20 factors for salt water PWRs, this time for 1981. The results
21 of this comparison, in contrast to the 1982 results, showed
22 an average predicted capacity factor for all plants (58.6%)
23 which almost perfectly matched the actual average 1981 capa-
24 city factor of 58.2%. Furthermore, of the fourteen plants
25 examined, seven plants had predicted capacity factors which
26 exceeded the actual 1981 figures and seven had predicted

1 values which underestimated the actual 1981 performance.

2 Clearly, no bias exists in the 1981 predicted capacity factors
3 either toward over or underestimating actual performance.

4 Two conclusions emerge from this exercise. First, as
5 mentioned above, there is limited value in undertaking single
6 year comparisons of the model predictions to actual experience.
7 The value of the model should be judged on its ability to track
8 experience over time. Second, and more importantly, because of
9 the year to year variation in the models predictive accuracy,
10 the statistical results should be applied to the Indian Point
11 units with caution. Thus, in our analysis of the early retire-
12 ment of the Indian Point units we adapted a mid-range scenario
13 that forecasts a 1% annual decline in capacity factors assuming
14 a 1982 capacity factor of 55% for Indian Point 2 and 53% for
15 Indian Point 3. The mid-range approach is a conservative
16 application of the regression results which show a 7% annual
17 decline for the two units.

18 Q. DOES THIS CONCLUDE YOUR AFFIDAVIT?

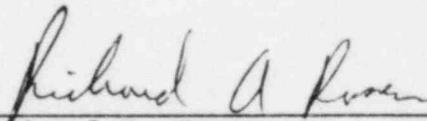
19 A. Yes, it does.

UNITED STATES OF AMERICA
BEFORE THE
NUCLEAR REGULATORY COMMISSION

STATE OF MASSACHUSETTS)
COUNTY OF SUFFOLK) ss

AFFIDAVIT OF RICHARD A. ROSEN

Richard A. Rosen, being first duly sworn, on oath, deposes and says that the attached statement was prepared by him or under his supervision and the information contained in such is true and correct to the best of his knowledge, information and belief.


Richard A. Rosen

Subscribed and sworn to before me this 31 day of May,
1983.


Notary Public

My Commission Expires Nov. 12, 1987