Exhibit No. ___(CJC-1T)

Revisions of July 19, 2004

1   The second concern is the hydro-condition assumptions that the Commission has

2   imposed in estimating PSE's power costs when it sets rates. Utilizing 40-year

3   water instead of 60-year water tends to introduce bias towards wet years, and

4   overlooks dry years. Thus, PSE would tend to under-recover its power costs.

5   **1.   Reduced Use-Per-Customer and Infrastructure Costs**

6 Q.   **How does PSE's current rate design hurt PSE?**

7 A.   As described in Mr. James Heidell's testimony, Exhibit No. ___(JAH-1T), PSE

8   relies on volumetric charges to recover a large amount of the fixed costs for the

9   system required to bring gas or electricity to customers. When use per customer

10   declines, for example due to conservation or more energy efficient appliances and

11   buildings, the Company under-recovers its infrastructure costs until the next rate

12   case. Even then, if usage continues to decline, the under-recovery starts again

13   immediately. This drags down earnings.

14 Q. **Have you estimated the lost earnings associated with under recovering**

15   **infrastructure costs?**

16 A.   Yes. PSE is incurring significant capital expenditures for improved infrastructure

17   to serve existing and new customers. PSE's rate of current capital expenditures is

18   creating higher depreciation expenses than what is covered in its current tariffs. If

19   PSE's system had no growth, the entire difference between the current capital

20   expenditures and the recovery of, and on, could be lost. PSE has, however, added

21   new customers and MWh retail sales have increased since 2001, while use per

1   states where restructuring is active, and Table 4, which shows recently authorized

2   ROEs in states where restructuring has been delayed, or suspended or active.

3   **TABLE 3**
4   **Restructuring Active**
5   **Rate Case Since 2003**

Company	State	Service	New ROE
Unisource	Arizona	Gas	11
Washington Gas Light	District of Columbia	Gas	10.65
Commonwealth Edison	Illinois	Electric	11.72
Washington Gas Light	Maryland	Gas	11
Maine Public Service	Maine	Electric	10.25
Elizabethtown Gas	New Jersey	Gas	10
Jersey Central Power & Light	New Jersey	Electric	9.5
Public Service Electric & Gas	New Jersey	Electric	9.75
Rockland Electric Co.	New Jersey	Electric	9.75
Orange & Rockland Utilities	New York	Electric	12.75
Orange & Rockland Utilities	New York	Gas	11
Northwest Natural Gas	Oregon	Gas	10.2
Pacific Power & Light	Oregon	Electric	10.5
New England Gas Co.	Rhode Island	Gas	11.25
Central Vermont PSC	Vermont	Electric	10.25

6   **AVERAGE ROE TOTAL:**   10.6367

7   **AVERAGE ROE ELECTRIC:**   10.5657

8   **AVERAGE ROE GAS:**   10.72

TABLE 4
Restructuring Delayed, Suspended, or Active
Rate Case Since 2003

Company	State	Service	New ROE
Unisource	Arizona	Gas	11
Arkansas Western Gas	Arkansas	Gas	9.9
Washington Gas Light	District of Columbia	Gas	10.65
Commonwealth Edison	Illinois	Electric	11.72
Maine Public Service	Maine	Electric	10.25
Elizabethtown Gas	New Jersey	Gas	10
Jersey Central Power & Light	New Jersey	Electric	9.5
Public Service Electric & Gas	New Jersey	Electric	9.75
Rockland Electric Co.	New Jersey	Electric	9.75
Orange & Rockland Utilities	New York	Electric	12.75
Orange & Rockland Utilities	New York	Gas	11
Empire District Electric	Oklahoma	Electric	11.27
Northwest Natural Gas	Oregon	Gas	10.2
Pacific Power & Light	Oregon	Electric	10.5
New England Gas Co.	Rhode Island	Gas	11.25

4   **AVERAGE ROE TOTAL:**   10.63

5   **AVERAGE ROE ELECTRIC:**   10.69

6   **AVERAGE ROE GAS:**   10.5657

7   C.   <u>DCF Analysis</u>

8   Q.   **Will you describe the DCF theory?**

9   A.   Yes. Investors purchase stocks today (Period 1) because they seek future (Period

10   2) income. There are two components of future income: (i) expected dividends;

11   and (ii) expected capital gains. The following expression captures this fundamental

12   financial concept:

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1   equation. That interest rate is currently about 4.89%.

2   I also tested the effect of a short term T-Bill (90 days) as a measure of R_F. The

3   estimated Beta increased slightly. None of these sensitivity analyses changed my

4   overall CAPM conclusion.

5   **Q.   What growth factor did you use in your CAPM analysis?**

6   A.   The CAPM requires a forecast of growth in the market. Here I use the DJIA.

7   **Q.   How has the DJIA changed recently?**

8   A.   In the past year (as of March 2004), the DJIA of 30 large companies has increased

9   37.97%. The Dow also measures an index of 15 utilities that increased slightly more

10   than the DJIA. The utilities increased by about 38.93% over the same period.

11   **Q.   Were the last 52 weeks exceptionally high?**

12   A.   Yes. Calendar year 2003 was a good year for investors in the stock market

13   generally. The DJIA increased 25.3% from year end 2002 to year end 2003.

14   Investors in the 15 Dow Utilities did ~~slightly better~~about the same in 2003 ~~than~~ as

15   investors in the DJIA. During the past ten years, three years had declines in the

16   DJIA and seven had increases. Calendar year 2003 was in the top four; only 1995

17   and 1996 were greater and 1999 was about the same as 2003. The three negative

18   years were 2000 to 2002. The return over ten years increased from 1993 to 2003

19   was 178% or an average of about 17.8% per year when dividends are included in

20   the Dow.

1   In fact, the CAPM would support an ROE of 11.75%, even if the market expects a

2   DJIA rate of growth of only about 15.8%, which is less than the annual growth

3   rate in the DJIA in six of the last ten years. In fact, 15.8% is lower than all of the

4   "up" year increases since year 1995. As I discuss below, the Beta for the target

5   group of utilities that PSE should seek to match is considerably higher, at about

6   .78, than PSE's Beta, at about .63. Therefore, the market expectation using the

7   .78 Beta for the target utilities could be even lower at about 13.7% and still justify

8   setting PSE's ROE at 11.75%. *See* Exhibit No. ___(CJC-5).

9 **Q.** **Did you test the effect of omitted variables and how these missing factors**

10   **could affect beta?**

11 **A.** Yes. In the analysis that I performed for this case, I used the same approach for a

12   group of 55 utilities that I used to measure Beta for PSE. In this analysis, I added

13   additional factors or variables. I found that applying the missing values to a

14   sample of 55 utility companies over the same time period would <u>not</u> cause

15   estimated Betas to increase significantly. Here, I find that Beta should be about

16   .78 for the target utility group. PSE needs to improve its financial health to reach

17   this target group's performance. Therefore, an ROE higher than 11.75% could be

18   justified as a target for PSE. This is based on my analysis of Beta for 55 utility

19   companies, adjusting for other explanatory factors or variables to make this sample

20   comparable to PSE. *See* Exhibit No. ___(CJC-5).