UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

```
------------------------------X
In re Applications of Bowater/)
Great Northern Paper, Inc. for)        Project Nos. 2458 and 2572
New Hydropower Licenses,      )
Ripogenus and Penobscot Mills )
Projects                      )
------------------------------X
```

AFFIDAVIT OF PAUL L. CHERNICK

Commonwealth of Massachusetts)

County of Suffolk) ss.:

Paul L. Chernick, duly sworn, deposes and states as follows:

1. I am the president of Resource Insight, Inc. (RII) located at 18 Tremont Street, Suite 1000, Boston, MA 02139.

2. The purpose of this affidavit is to provide information related to the energy alternatives discussion set forth in the Draft Environmental Impact Statement (DEIS) in this proceeding. Specifically, this affidavit addresses four points:

   * Energy efficiency can replace the energy lost due to habitat-protection or enhancement measures.

   * GNP likely has significant in-house efficiency resources.

   * New power supply resources should not be as expensive as GNP assumes.

   * GNP has made inconsistent representations regarding the future of the coated paper complex and the relationship of future employment to energy costs.

Professional Background

3. I received an SB degree from the Massachusetts Institute of Technology in June, 1974 from the Civil Engineering Department, and an SM degree from the Massachusetts Institute of Technology in February, 1978 in Technology and Policy. I have been elected to membership in the civil engineering honorary society Chi Epsilon, and the engineering honor society Tau Beta Pi, and to associate membership in the research society Sigma Xi.

4. I was a Utility Analyst for the Massachusetts Attorney General for over three years, and was involved in numerous aspects of utility rate design, costing, load forecasting, and the evaluation of power supply options. Since 1981, I have been a consultant in utility regulation and planning, first as a Research Associate at Analysis and Inference, after 1986 as President of PLC, Inc., and in my current position at Resource Insight.

5. I have advised a variety of clients on utility matters. My work has considered, among other things, the need for, cost of, and cost-effectiveness of prospective new generating plants; conservation potential; conservation program design and evaluation; and the valuation of environmental externalities from energy production and use. My resume is Attachment PLC-1 to this testimony. I have testified approximately 100 times on utility issues before various regulatory, legislative, and judicial bodies including the Federal Energy Regulatory Commission, the Atomic Safety and Licensing Board of the U.S. Nuclear Regulatory Commission and many state agencies, including in New England;

- the Massachusetts Department of Public Utilities,
- the Massachusetts Energy Facilities Siting Council,
- the Vermont Public Service Board,
- the Vermont Legislature,
- the New Hampshire Public Utilities Commission,
- the Connecticut Department of Public Utility Control,
- the Rhode Island Public Utilities Commission, and
- the Maine Public Utilities Commission.

6. I have also testified before utility regulators in Texas, New Mexico, the District of Columbia, Maryland, Michigan, Minnesota, South Carolina, Pennsylvania, Ohio, and Florida. A detailed list of my previous testimony is contained in my resume

Alternative Sources of Power for Great Northern Paper

7. Three broad categories of power are available to replace the hydro capacity that would be lost due to the flow restrictions proposed in Alternative 1: on-site conservation, power purchases and on-site generation. I discuss some of the shortcomings of the analysis of conservation and power purchases below.

On-Site DSM Potential

8. Electricity from conservation measures is a form of resource acquisition. More than merely managing load for the future, conserved power is a source of low-cost reliable power available to meet future load, to replace existing power sources or to add to existing demand needs.

9. The energy alternatives assessment in the DEIS simply fails to examine conservation and efficiency as a low cost source of replacement power. Although GNP claims to have addressed conservation as an alternative to replacement power, the record fails to support Bowater/GNP's claims. The record is silent on key information needed to examine adequately conservation as an alternative to purchased power. Missing information includes the efficiency of its installed equipment, the cost of additional efficiency options, and the criteria used by Bowater in evaluating efficiency options. GNP catalogs its efforts at improving efficiency in the past and dismisses the possibility of further conservation replacing hydro-power outright, stating, "It is impossible for energy conservation measures to eliminate the need for any of the hydro-electric power from the projects."[1]

10. In fact, many efficiency improvement options are likely to remain in GNP's facilities and would be a less expensive source of alternative power than purchased power from Bangor Hydro Electric Company ("BHE"). In my extensive experience with demand side management (or "DSM") planning, I have generally found that industrial firms that assert that they have fully exploited all

---

[1] Application Exhibit H at 38.

conservation opportunities only invest in efficiency options that have a short payback period of 1-2 years.

11. The literature confirms that industrial customers, and pulp and paper manufacturers in particular, do not take full advantage of the cost-effective conservation potential. For instance, Winslow Fuller cites a 2-year simple payback as the most common cost-effectiveness threshold used by industrial customers.[2]

12. The information on the methods by which Bowater/GNP selects efficiency investments, particularly the Company's internal hurdle rate, has not been obtained by FERC and is not present in the DEIS, although parties have requested this information in this proceeding. Absent such information, it is impossible to determine definitively whether GNP is utilizing the resource efficiently. We must therefore assume that the payback rate used by Bowater/GNP to assess efficiency improvements is similar to other industrial facilities.

13. Measures with payback periods of less than two years generally comprise only a small portion of the cost-effective efficiency potential. All the conservation potential with longer payback periods is still available. Hence, the least-cost accommodation to the loss of power generation for habitat protection is likely to include cost-effective efficiency investments at Great Northern's mills.

14. Available information indicates that there is likely an enormous conserved power potential in the GNP system. For example, in testimony concerning Great Northern's proposed development of the "Big A" hydroelectric project in 1985, Amory Lovins, the nation's preeminent expert on energy efficiency, estimated that between 29.2 and 58.4 megawatts of cost effective conservation was available at the Company's facilities -- for a cost of about 1 ¢/kWh.

15. A recent report by R. Neal Elliott estimated the potential for cost-effective conservation at the time of

---

[2] Fuller, Winslow H., 1992. "Industrial DSM - What Works and What Doesn't", ACEEE 1992 Summer Study on Energy Efficiency in Buildings, pages 5.75-5.81.

equipment change-out due to equipment failure or process modernization, but not process optimization, in a range of electricity-intensive industries.[3] In the pulp and paper industry, Elliott estimates that savings of 11% - 49% of current electricity use are possible, primarily from improvements in motor efficiency (pp. 42-3). Elliott reviewed several other studies and found their results to be roughly consistent with his own. One study initiated by B.C. Hydro found significant differences in the savings potential of different industries, and in particular found the largest potential savings--42%--in the pulp and paper sector.[4]

16. The energy loss projected by GNP to meet additional flows sought by resource agencies and conservation organizations is less than 5% of the power generated by the existing hydropower system. GNP has provided no evidence that it has begun to exhaust the potential of energy efficiency investments to meet replacement power needs.

Power Purchases

17. Great Northern has claimed that purchasing power from Bangor Hydro would cost approximately 8.3¢/kWh in 1994. FERC has not examined whether purchases would actually cost the Company this much. There is strong reason to believe that GNP could obtain the power at a significantly lower cost.

18. Relatively inexpensive energy and capacity are available on the NEPOOL system. In the short-term, sales of generation from existing NEPOOL capacity are available for as low as $30 per MWh. In the long-term, new gas combined cycle or wind power will be available for about $50 per MWh. The availability of such low cost power should provide GNP and BHE an opportunity to negotiate a

---

3 Electricity Consumption and the Potential for Electric Energy Savings in the Manufacturing Sector, April 1994, American Council for an Energy Efficient Economy, Washington DC).

4 Jaccard, Mark, John Nyboer and Allan Fogwill, 1993. "How Big is the Electricity Conservation Potential in Industry?", The Energy Journal, Vol 14, No. 2.

mutually beneficial discount to standard industrial rates. "Economic development" rate discounts are frequently offered to industrial customers who can self-generate. BHE could offer GNP a reduced rate that still covers all its marginal costs (as determined by market prices), a portion of fixed costs, and a profit-margin, thereby yielding a benefit for other ratepayers.

19. One way to evaluate the market price for energy and capacity is to review the results of recent requests for proposals to provide capacity and generation. Attached to this affidavit is Table 1, which shows the bid prices received by the Burlington Electric Department in a recent RFP. The first page shows aggregated energy and demand charges and demonstrates that short term purchases (Bid #21, 1995-1998) are available for $24/MWh (real-levelized 1994$). These prices are significantly lower than BHE's embedded cost of $83/MWh in 1994. In 1998, the year in which many of the bids go into effect, nuclear power was offered for about $35/MWh, coal for less than $32/MWh, one oil-fired plant came in at under $26/MWh and several others at less than $30/MWh, and system purchase for less than $26/MWh.[5]

20. A recent request for power offered by New England Electric System's Green RFP restricted entrants to renewable resources (including waste-to-energy plants). This RFP also garnered relatively low-cost bids. Among the <u>highest-priced</u> winners were a 1 MW landfill methane project costing $51.7/MWh and an approximately 250 MW wind-farm costing $50.3/MWh. Three other projects totaling about 7 MW came in under $40/MWh.[6]

21. Another indication that inexpensive power is readily available on the NEPOOL system comes from the fact that recently, rate concerns have led many New England utilities to trim their DSM plans. These resources are still available at relatively low cost; they have only been deferred because they are not currently needed.

---

[5] All costs are expressed in 1994 dollars and were calculated from the current dollar prices on pages 2 and 3 using the assumptions at the bottom of page 1.

[6] Northeast Power Report, January 6, 1995, pages 11-12. These prices are real-levelized 1994 dollars.

Some of this cost-effective conservation is likely to be available in Bangor Hydro-Electric's own system.

22. Great Northern has not provided any evidence that it sought to take advantage of the low market electricity prices and negotiate a lower price for replacement power from BHE. There is substantial reason to believe that GNP should be able to negotiate a rate discount with BHE.

23. GNP has previously and may currently hold a contract with BHE for "Maintenance and Back-up Energy" that prices energy at a 25% premium above BHE's hourly incremental energy cost, and capacity at 1/12 of the NEPOOL capability responsibility charge.[7]

24. The Maine PUC recently approved a rate proposal from Central Maine Power that provided large industrial customers a 15% rate cut, with a guarantee of an additional 3% cut over five years for customers who agreed to maintain current load levels through the year 1999.[8] In addition, BHE has recently proposed offering individual customers a discounted rate priced at its marginal cost plus 10%.

25. Moreover, GNP has not substantiated its claim that it requires firm replacement power in the event that it loses the hydro generation. GNP has only specified the amount of hydro energy it would lose; flow restriction might not affect capacity at all. A well-structured interruptible contract my be able to provide the same capacity and reliability available from the current hydro resource at lower cost than a firm contract. GNP has not examined this possibility.

---

[7] Power Purchase and Sale Agreement between Bangor Hydro-Electric Company and Great Northern Paper Company, November 30, 1988. The sale was interruptible if it threatened to increase BHE's system peak. Prices for strictly interruptible energy were to be negotiated monthly.

[8] State of Maine Public Utilities Commission (January 10, 1995). Detailed Opinion and Subsidiary Findings in Docket No. 92-345(II) re Central Maine Power Company Proposed Increase in Rates.

26. Finally, a fundamental issue is the question of whose costs should be considered in evaluating the project. A number of society-wide economic impacts have been introduced into the discussion. Even if power purchases from BHE at $83/MWh were GNP's least cost option, it is the societal costs that should be relevant in determining the use of public resources. The difference between the marginal cost of the power (say, $40/MWh) and its $83/MWh price-tag represents a benefit to the other rate payers in BHE's system.

GNP's Representations Regarding the Future of the Coated Paper Complex are Inconsistent

27. In its application and in subsequent filings, Bowater/GNP repeatedly states that should its proposed water use plan be modified by the Commission so as to provide additional resource enhancements, such as restoration of continuous flows in the Back Channel, the resulting increase in energy costs would likely cause the company to shut down selected paper machines which constitute the "coated paper complex." See Exhibit H at 126-127; Bowater/GNP response to FERC Additional Information Request 5.

28. Bowater/GNP's claim that the hydropower lost by maintaining Back Channel flows is indispensable to its coated paper complex rests on three mutually inconsistent assertions regarding the future of the coated paper facilities. First, Bowater/GNP argues that certain existing machines are so marginally profitable that they would be closed down if energy costs increased even minimally. Second, the company's actions indicate that it believes the coated paper complex is worth operating, even though it ties up inexpensive hydropower that could otherwise back out expensive steam power used at other operations. Third, the company claims that the facilities have so much promise that it plans to invest hundreds of millions in modernization and expansion -- but only if the cost of hydropower does not increase.

29. Not all of these claims can be true at the same time. If the coated paper complex is the company's least profitable operation, its viability cannot logically depend directly on the availability of its lowest-cost

power source. In order to optimize production and minimize costs, facility managers should allocate the most expensive marginal source of power used in the system to the least efficient process, subject to technical constraints.

30. Conversely, if the least expensive source of energy is allocated to the most costly process -- as Bowater/GNP may be doing with the coated paper complex -- then inexpensive power may be wasted on the wrong machinery. The facility would be subsidizing inefficient processes with more profitable production lines. That "subsidy" is a measure of lost profitability to the entire facility.

31. Accordingly, if Bowater/GNP is allocating one of its least cost electricity sources, hydropower, to some of its most expensive and inefficient operating machinery, the company may be failing to maximize the profit making potential of its mills. As a result, the company may be over- (or under-) stating the impact of incremental energy costs on its marginal machines. The company is likely presenting a false choice to the Commission between Back Channel flows and the continuing operation of the coated paper complex; if these machines are so marginally competitive, then it is likely that they will be closed in the future no matter what the terms of the hydropower license may be.

32. The Commission, like the company, can only determine the validity of any threat to current production if it has specific information setting forth the operational costs and profitability of the machines. The Commission asked for this kind of information in Additional Information Request 5. Unfortunately, the company did not provide answers to the specific questions set forth in the request. Instead, the company submitted selective excerpts from a study it commissioned on its pulp and paper operations from Jaako-Poory. These excerpts do not provide machine profitability and cost data as requested by the Commission, and as needed to determine accurately the validity of the company's assertions. While the excerpts are intended to support the company's general assertion that the coated paper complex of machines are expensive to operate and therefore vulnerable to incremental cost increases, the excerpts do not address

the credibility of the company's claim that it may shut those machines down due to changes in the hydropower system.

33. Moreover, it is important for the Commission to view the company's assertions in context. The profitability of a manufacturing operation depends upon a number of variables. Operating costs include payroll, maintenance, federal, state and local taxes, insurance, cost of raw materials and overhead. Typically, energy costs constitute a small fraction of the overall costs of operating industrial equipment. It is likely that costs other than electricity drive the economics of the mills. For example, the largest increase in incremental energy costs modeled by the company as a result of increased flows in the Back Channel (500 cfs) is approximately \$2.5 million (30,700MWH x \$83/MWH). This constitutes 0.5% of GNP's gross sales volume of \$450 million and roughly 2% of GNP's forecasted 1994 payroll of \$121 million. (Ex. H, App. B.) (Even these percentages are likely inflated as there are less expensive energy alternatives to purchased power available to the company.)

34. As this illustrates, energy costs are typically a small part of the incremental costs of operating a facility as large and complex as a paper mill.

Conclusion

35. In reviewing alternative sources of power, the DEIS fails to consider the important role that energy conservation can play as a source of low cost replacement power. There is likely a great deal of power available through efficiency improvements, particularly from improvements with payback periods longer than the two-year hurdle rate typically used by industrial facilities. In addition, we question the accuracy of the claims made by Bowater/GNP – and relied upon in the DEIS – regarding costs of purchased power and the implications for the coated paper complex if any hydropower is lost to ecologically improved flows. Before the DEIS can be accurate, it must undertake a fundamental review of alternatives to purchased power and to the company's claims of economic damage.

____

Paul L. Chernick

Sworn to before me this

_____ date of _________, 1995.

____

Notary Public

My Commission expires _________.

Table 1
Total Costs of Units Offered in Burlington Electric Department's RFP ($/MWh)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Real-Levelized (1994$)
1 Nuclear #1					40.11	48.22	48.22	56.34	56.34	64.45	68.51	68.81	72.66	72.86	43.28
2 Nuclear #2					39.91	48.02	48.02	56.04	56.04	64.15	68.01	68.21	72.06	72.36	43.03
3 Nuclear #3					40.51	48.22	48.12	55.84	56.24	63.95	64.25	68.11	72.16	72.16	42.86
4 Nuclear #4					40.31	48.12	48.42	56.14	56.54	64.65	68.51	68.81	72.96	72.96	43.35
5 Coal #1					38.43	38.44	40.53	40.29	44.55	46.64	48.81	50.84	53.12	56.74	33.76
6 Coal #2					36.78	36.72	40.65	42.63	44.56	46.59	48.80	50.91	53.15	56.81	33.61
7 Coal #3					36.02	37.93	41.29	44.64	48.01	51.44	54.95	57.12	62.17	65.82	36.14
8 Coal #4	41.54	47.77	56.20	58.63	70.44	72.97	75.80	78.50	83.47	82.84	87.52	90.82	94.43	98.24	58.40
9 Oil #1					34.46	35.91	41.23	46.81	49.08	53.10	56.05	60.24	63.79	67.50	36.55
10 Oil #2					33.18	34.72	39.20	41.08	44.63	47.66	52.14	55.96	58.60	62.80	33.89
11 Oil #3					37.70	39.56	45.10	48.81	52.06	54.98	59.02	62.85	66.04	70.08	38.77
12 Oil #4					32.55	33.90	38.20	41.43	46.38	50.15	52.85	56.81	60.79	63.61	34.23
13 Oil #5					35.31	36.00	39.60	41.98	45.98	48.67	50.09	52.67	55.13	58.18	33.82
14 Oil #6					29.63	30.61	33.77	36.68	38.38	40.31	44.66	46.73	50.24	53.17	29.28
15 Oil #7					37.70	39.29	43.10	46.55	49.56	52.89	56.57	60.07	64.33	68.75	37.55
16 System #3					30.48	32.32	36.53	41.08	43.58	47.53	52.34	54.71	59.40	61.93	32.94
17 System #4					42.00	43.98	46.03	48.20	50.48	52.72	54.97	57.53	59.98	65.06	38.33
18 System #2	27.73	28.09	28.60	30.44	33.85	33.33	34.83	36.37	37.96	39.55	41.14	42.78	44.61	46.46	28.38
19 System #5	29.50	35.71	37.81	40.22	43.01	46.41	56.23	59.64	63.55	67.77	72.33				41.40
20 System #6	24.69	27.31	29.83	34.07	38.32	45.44	56.00	57.77	59.78	61.24	63.18	65.00	66.95	68.92	38.23
21 System #1	28.12	30.64	26.70	17.76	30.31										24.39
22 System #7		44.83	47.17	49.84	55.79	59.50	63.76	70.57	74.85	79.44	87.25	0.00	0.00	0.00	42.10

Notes:

Total Cost = Energy Cost + Capacity Cost/(8.76*Capacity Factor)

Capacity Factor Assumptions	
Nuclear	74%
Coal or Oil	80%
System	100%

Real-levelized values were calculated for the period between 1995 and 2007 for which prices are given. Some bids extended beyond 2007.

Levelization Assumptions	
ndr	10.00%
inf	3.50%
rdr	6.28%

Table 1
Energy Costs of Units Offered in Burlington Electric Department's RFP ($/MWh)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
1 Nuclear #1					5.40	5.80	5.80	6.20	6.20	6.60	6.80	7.10	7.10	7.30
2 Nuclear #2					5.20	5.60	5.60	5.90	5.90	6.30	6.30	6.50	6.50	6.80
3 Nuclear #3					5.80	5.80	5.70	5.70	6.10	6.10	6.40	6.40	6.60	6.60
4 Nuclear #4					5.60	5.70	6.00	6.00	6.40	6.80	6.80	7.10	7.40	7.40
5 Coal #1					18.45	17.04	17.70	16.03	18.87	19.53	20.27	20.87	21.73	22.49
6 Coal #2					18.23	16.74	19.25	19.80	20.30	20.91	21.69	22.37	23.18	23.99
7 Coal #3					17.47	17.95	18.46	18.96	19.47	20.05	20.70	21.45	22.22	23.01
8 Coal #4	29.40	32.00	34.60	36.00	22.90	23.70	24.70	25.50	28.50	27.40	28.40	29.50	30.70	32.00
9 Oil #1					27.33	28.78	30.53	32.54	34.81	37.40	40.35	43.12	45.95	48.95
10 Oil #2					25.33	26.87	28.50	30.38	32.50	34.82	37.87	40.26	42.90	45.68
11 Oil #3					30.57	32.43	34.40	36.68	39.22	42.14	45.46	48.58	51.77	55.10
12 Oil #4					23.99	25.34	26.78	28.59	30.68	33.03	35.73	38.26	40.81	43.63
13 Oil #5					26.75	27.44	28.18	29.14	30.28	31.55	32.97	34.12	35.15	38.20
14 Oil #6					18.93	19.91	20.93	22.41	24.11	26.04	28.25	30.32	32.40	34.62
15 Oil #7					27.00	28.59	30.26	32.28	34.58	37.19	40.16	42.95	45.78	48.77
16 System #3					22.49	23.76	25.11	26.81	28.74	30.98	33.50	35.87	38.28	40.81
17 System #4					22.33	23.32	24.35	25.43	26.58	27.74	28.87	30.25	31.59	32.99
18 System #2	24.00	24.34	24.85	25.44	28.10	26.83	27.58	28.37	29.21	30.05	30.93	31.82	32.90	34.00
19 System #5	29.50	30.00	32.10	34.51	37.30	40.70	44.81	48.22	52.13	56.35	60.91			
20 System #6	11.33	11.67	12.02	12.38	12.75	13.13	13.53	13.93	14.35	14.78	15.23	15.68	16.15	16.64
21 System #1	25.61	28.08	24.10	15.10	27.60									
22 System #7		36.27	38.61	41.28	44.37	48.08	52.34	56.30	60.58	65.17	70.13			

Table 1

Capacity Costs of Units Offered in Burlington Electric Department's RFP ($/kW-yr)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
1 Nuclear #1					225.00	275.00	275.00	325.00	325.00	375.00	400.00	400.00	425.00	425.00
2 Nuclear #2					225.00	275.00	275.00	325.00	325.00	375.00	400.00	400.00	425.00	425.00
3 Nuclear #3					225.00	275.00	275.00	325.00	325.00	375.00	375.00	400.00	425.00	425.00
4 Nuclear #4					225.00	275.00	275.00	325.00	325.00	375.00	400.00	400.00	425.00	425.00
5 Coal #1					140.00	150.00	160.00	170.00	180.00	190.00	200.00	210.00	220.00	240.00
6 Coal #2					130.00	140.00	150.00	160.00	170.00	180.00	190.00	200.00	210.00	230.00
7 Coal #3					130.00	140.00	160.00	180.00	200.00	220.00	240.00	250.00	280.00	300.00
8 Coal #4	85.10	110.50	151.40	158.60	333.17	345.30	358.11	371.41	385.20	388.50	414.34	429.74	446.64	464.22
9 Oil #1					50.00	50.00	75.00	100.00	100.00	110.00	110.00	120.00	125.00	130.00
10 Oil #2					55.00	55.00	75.00	75.00	85.00	90.00	100.00	110.00	110.00	120.00
11 Oil #3					50.00	50.00	75.00	85.00	90.00	90.00	95.00	100.00	100.00	105.00
12 Oil #4					60.00	60.00	80.00	90.00	110.00	120.00	120.00	130.00	140.00	140.00
13 Oil #5					60.00	60.00	80.00	90.00	110.00	120.00	120.00	130.00	140.00	140.00
14 Oil #6					75.00	75.00	90.00	100.00	100.00	100.00	115.00	115.00	125.00	130.00
15 Oil #7					75.00	75.00	90.00	100.00	105.00	110.00	115.00	120.00	130.00	140.00
16 System #3					70.00	75.00	100.00	125.00	130.00	145.00	165.00	165.00	185.00	185.00
17 System #4					172.32	180.96	189.96	199.44	209.40	218.82	228.67	238.96	248.71	280.95
18 System #2	32.65	32.85	32.85	43.80	50.37	56.94	63.51	70.08	76.65	83.22	89.43	96.00	102.57	109.14
19 System #5		50.00	50.00	50.00	50.00	50.00	100.00	100.00	100.00	100.00	100.00			
20 System #6	117.00	137.00	156.00	190.00	224.00	283.00	372.00	384.00	398.00	407.00	420.00	432.00	445.00	458.00
21 System #1	21.96	22.44	22.80	23.28	23.76									
22 System #7		75.00	75.00	75.00	100.00	100.00	100.00	125.00	125.00	125.00	150.00			