AFFIDAVIT OF PAUL L. CHERNICK

Now comes Paul L. Chernick, and deposes, saying:

1. I am the president of Resource Insight Inc., 5 Water St, Arlington, Massachusetts. Resource Insight is a utility and energy consulting firm, specializing in electric and gas utility resource planning and ratemaking.

2. 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 honorary society Sigma Xi.

3. I was a utility analyst for the Massachusetts Attorney General for more than 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.

4. Over the last 32 years, I have testified in more than 230 times on utility issues before various regulatory, legislative, and judicial bodies, including utility regulators in 24 states, the District of Columbia and five Canadian provinces, and two Federal agencies.

5. I have reviewed the Agreement, HMLP's Amended Complaint of November 21, 2006, HMLP's response to discovery, and the affidavit of Mayhew D. Seavey of December 2, 2008, on behalf of the HMLP. This affidavit responds to a number of assertions raised by Mr. Seavey, and the conclusions he draws from his Exhibits 1 and 2.

6. Mr. Seavey's definition of "capacity" in his ¶17 is incorrect and introduces unnecessary confusion regarding important issues in this case. The capacity (often called "capability") of a generating unit is generally defined as the maximum power it can produce, for example as the maximum energy (in kilowatt hours) that the plant can produce in an hour. Capacity is measured in different ways for different purposes: gross output or net of the plant's own

power usage; at standard, winter or summer temperatures; for short periods or for many hours on end; and many more.

7. Mr. Seavey states that, in his opinion, "Sections 2.5 and 15.2(e) [of the Agreement] impose on GRS a contractual obligation to maintain a minimum Capacity Factor" (¶20) and that "Section 15.2(e) represents that the Facility …will operate at a minimum Capacity Factor of approximately 85%" (¶24) Mr. Seavey is incorrect with respect to both Sections.

8. Section 2.5 says that HMLP can terminate the Agreement if GRS fails to maintain the minimum Capacity Factor (65%) in two consecutive years, but does not impose any other obligation. Given HMLP's evidence regarding the price of replacement power, it does not appear that termination would have benefited HMLP. HMLP does not appear to have ever attempted to initiate that option, and does not appear to be asking in this case to be allowed to retroactively terminate the contract. Hence, Section 2.5 does not support Mr. Seavey's assertions or HMLP's requested relief.

9. As I read Section 15.2(e), GRS would only have violated that obligation if it did not expect the Facility to operate an annual Capacity Factor of approximately 85%. Mr. Seavey's analysis in Exhibit 2 incorrectly applies a Capacity Factor to the Design Capability; the Agreement defines Capacity Factor in terms of Maximum Claimed Capability, not Design Capability.

10. Mr. Seavey asserts that "The language in Sections 2.5 and 15.2(e) of the Agreement is customary in the electric power industry for this type of contract, especially in the time period that the Agreement was negotiated and executed, to express a promise to operate a generating unit at a certain Capacity Factor level" (¶22). As I explained in paragraph 9, these sections do not promise any particular capacity factor.

11. In my experience, most unit-power contracts for Qualifying Facilities (QFs), especially small plants such as the Facility, provided for the purchaser to pay only for the energy provided, and in some cases to make fixed payments if a target level of energy output or availability were achieved. (The Agreement does not provide for any fixed payments.) The remedy for lower energy output, including energy reductions due to lower capacity factors, was generally that the seller was paid for less energy. Capacity-factor promises

and penalties for low capacity factor are generally not necessary in an energy-only contract such as the Agreement.

12. Contracts that reflect "express a promise to operate a generating unit at a certain Capacity Factor level" generally do so explicitly. For example:

- The generic contract for PacifiCorp's 2005 RFP provides that the monthly capacity payment will decline by 2% for every 1% that the potential capacity factor (including any available energy that the buyer does not take) falls below 96%.
- The 1992 Purchase Power Agreement between Altresco Lynn Limited Partnership and Boston Edison Company specifies that the capacity payment would decline by 1% for every 1% that equivalent availability factor (essentially the same as potential capacity factor) falls below 80%.
- The "Master Agreement for Generation Projects" in the 2006 Connecticut capacity-contract proceeding (Docket No. 05-07-14PH02 provided that, if the actual availability for a project fell more than five percentage points below the Target Availability "warranted by the Supplier," the supplier would pay a penalty to the purchasing utility, consisting of the difference between peak and off-peak energy prices for the energy represented by the availability deficiency.

13. Similarly, Mr. Seavey asserts that "Section 15.2(e) represents that the Facility will be capable of producing between 2,650 and 3,200 kW" (¶24). What Section 15.2(e) actually says is that GRS represented and warranted that "the Facility shall be designed and constructed to have a Design Capability of 2,850 kW, with a range from 2,650 to 3,200." Section 1 of the Agreement defines "Design Capability" as "the net electrical capability expressed in kW that the Facility is expected to be capable of demonstrating under a Capability Audit…" A generating facility may have a Design Capability of 2,850 kW, and be expected before the fact to be able to generate 2,850 kW, but actually be unable to provide that amount of power, due to a variety of factors, including fuel supply. As is true for the discussion of Capacity Factor in my paragraph 9, Mr. Seavey does not assert (and certainly does not demonstrate) that GRS misrepresented its capacity expectation. Thus, Mr.

Seavey has not demonstrated that GRS violated the capability expectations provisions in Section 15.2(e).

14. Indeed, Mr. Seavey does not provide any information that calls into question the Design Capability of the Facility. The Agreement defines the Facility to be "those structures and equipment to be constructed by Operator." Mr. Seavey does not question the ability of the structures and equipment constructed by GRS to produce 2,850 kW, if sufficient gas were available from the landfill, which is not a structure or equipment constructed by GRS. Even if Section 15.2(e) required the Facility to be completed with any particular capability (as opposed to the expectations specified in Section 15.2(e) and Section 1), Mr. Seavey has not provided any evidence that the Facility failed that test.

15. Mr. Seavey spends several paragraphs of his affidavit (¶¶37–43, 49–51) arguing that the computation of Capacity Deficiency in Section 2.4 of the Agreement must be interpreted as requiring terms to mean something different from the definitions in the Agreement, and specifically that MCC must be "fixed at the initial rating" (¶41). If HMLP had intended to specify a binding requirement for plant capacity and a penalty for failing to achieve that capacity, it could have used language much more direct than that in the portions of the Agreement in which Mr. Seavey imagines such an obligation. For example, HMLP's 1994 Unit Power Agreement with New England Power (NEPCo) for a purchase from the Manchester Street Station provided that, in the first ten years of the purchase, if "the aggregate Winter Normal Claimed Capability Rating of the Manchester Units is less than 400 MW, Seller shall deliver to Buyer for the duration of such conditions and at no cost to Buyer, an additional fractional entitlement in each of the Bear Swamp Units equal to" the shortfall. Since Manchester Street was still under construction at the time of the contract, the situation was very similar to that facing the parties to the Agreement; NEPCo and HMLP clearly stated the capability requirement and the remedy if a specific measure of capability fell below that level.

16. Mr. Seavey asserts that the Capacity Deficiency calculation in Section 2.4 requires that the Maximum Claimed Capability (MCC) must be interpreted as a fixed value (¶39), so that there can be a difference between MCC and

Qualifying Capacity (QC), given that the definitions of MCC and QC appear to be the same (¶38). In other words, Mr. Seavey asserts that MCC must be a permanently fixed value in order for Section 2.4 to have any effect.

17. He further assumes, without any other justification, that "For purposes of calculating Capacity Deficiencies under Section 2.4 of the Agreement, MCC would remain fixed at the initial rating..." (¶41) The Agreement does not refer to the initial rating of the Facility in any context.

18. Mr. Seavey asserts that "Based on my calculations, MCC [as defined in the Agreement] equals 2,600 kW," even though he provides no such calculations, the value 2,600 kW does not appear in the Agreement, and MCC is not assigned any fixed value.

19. Mr. Seavey interprets MCC (as that term is used in the Agreement) in two inconsistent ways. In ¶¶33–35, he asserts that the term MCC "effectively became 'Seasonal Claimed Capability' (SCC)." SCC is set every month, is variable, and reflects performance over time. In ¶¶38–41, he argues that MCC is totally different from SCC, that it is fixed and independent of actual performance. Mr. Seavey's first interpretation is much more consistent with the use of MCC in New England utility applications; MCC was always a variable quantity, based on a generator's demonstrated capability over time.

20. Mr. Seavey computes his estimate of the Capacity Deficiency charges under Section 2.4 in Exhibit 1 to his affidavit. That exhibit is inconsistent with Mr. Seavey's own assumptions, since it computes a Capacity Deficiency for any month in which the Facility's SCC was less than 2,850 kW, even though he assumes the MCC is 2,600 kW and Capacity Deficiency charges start when the SCC falls below 2,060 kW (¶50). Even by Mr. Seavey's logic, no Capacity Deficiency would have existed through March 2003. Yet his Exhibit 1 shows Capacity Deficiencies in every month, starting in May 2000.

21. Mr. Seavey's assertion that MCC represents a fixed value is unjustified, for three reasons. First, MCC (and its successor, SCC) has always been a variable rating, assigned by NEPOOL or ISO-NE to reflect capacity at various points in time. Second, MCC/SCC has always been a measure of demonstrated capacity, rather than a contract value. Third, MCC can be different from QC and Section 2.4 can be effective, without making Mr.

Seavey's enormous logical leap to the conclusion that MCC is permanently fixed.

22. Specifically, the MCC in the Agreement could be read as the "Maximum Summer Capability" and "Maximum Winter Capability" as published annually in the NEPOOL (ISO-NE since 2001) annual "Forecast Report of Capacity, Energy, Loads, and Transmission" (CELT) published April 1 each year, but reflecting information available at January 1 of that year. If that is the case, the QC could be the capability credited by NEPOOL (or the ISO) for each month (or other period used in determining capability responsibility), while MCC would be the capability set in the CELT. Both MCC and QC would be variable, performance-based measures of capability, but the variations would be recognized on different schedules and time frames.

23. Similarly, the Agreement MCC could be interpreted as the capability recognized by ISO-NE at the beginning of a quarter or month, with QC being the actual capability credited to HMLP in the ISO's final billing.

24. These interpretations of MCC make more sense than Mr. Seavey's interpretation, for at least three reasons. First, assuming that HMLP believed that it was paying a fair, market-based price for the output of the Facility, there would be no reason to believe that not receiving capacity (and paying for proportionally less energy) from the Facility would disadvantage HMLP. On the other hand, if HMLP were counting on the Facility to provide a particular amount of capacity in the near term, HMLP would be in the position of quickly obtaining capacity or paying the NEPOOL/ISO default capacity price. Any shortfall in the summer compared to expectations the previous January might well impose costs on HMLP.

25. Second, my suggested interpretations are consistent with the absence of any reference in the Agreement to the initial reported capacity, which Mr. Seavey asserts is the hidden meaning of MCC in the Agreement.

26. Third, under Mr. Seavey's interpretation, the Capacity Deficiency computation would depend entirely on details and accidents of the Facility's first month. The computation results would have been completely different had the Facility started operation with a much lower initial MCC, even if all

subsequent operations were the same as actually occurred. For example, in the first month of operation, the Facility might have just one of the three engines installed and connected to the fuel supply and the electrical system, resulting in an initial MCC around 900 kW. Under Mr. Seavey's interpretation of the Agreement, MCC would have been 900 kW for the entire contract term, and his Exhibit 1 would show no Capacity Deficiency. If GRS had believed that the initial MCC would have this critical effect on its contract obligations, it would have had a strong incentive to report a low MCC in the first month.

27. In Mr. Seavey's Exhibit 1, he multiplies the monthly Capacity Deficiency by what he calls the "Deficiency Rate," to derive the deficiency charge. The term "Deficiency Rate" is not used in the Agreement. Mr. Seavey seems to be using "deficiency rate" as a synonym for the Agreement's "Installed Capability Responsibility adjustment charge or…Installed Capability Responsibility deficiency charge, established from time to time by NEPOOL pursuant to the NEPOOL agreement" (Section 2.4). The nature and terminology of the installed-capacity (ICAP) market has changed several times since the Agreement was signed in 1997, in ways not recognized by Mr. Seavey.

28. When the Agreement was drafted, NEPOOL assessed the ICAP adjustment charge or deficiency charge for the difference between each participant's ICAP responsibility and the participant's ICAP resources. The treatment of capacity requirements by NEPOOL and ISO-NE has varied over time.

29. The ISO ran ICAP auctions in 1998–2000, but suspended the auctions in 2000 due to concerns about market manipulation. The ICAP requirement continued, but the supply of capacity far exceeded demand, so few if any participants paid a deficiency charge.

30. From April 2003 to November 2006, ISO-NE reestablished monthly auctions for ICAP, conducting a "supply auction" around the middle of the previous month and a "deficiency auction" at least two business days before the beginning of the month. (ISO-NE Manual 20, "NEPOOL Manual for Installed Capacity, Revision 0, November 1, 2002) Under this regime, the ISO required that

> "Each Participant must submit information to ISO-NE demonstrating that it has satisfied its Summer or Winter Capability Period Unforced Capacity obligation. This information must be submitted to ISO-NE prior to the Deficiency Auction for the Obligation Month in question. Participants are able to satisfy such obligations through [a number of mechanisms, including] [p]urchases of ICAP through the ISO administered Installed Capacity Auctions… Participants that fail to notify ISO-NE that they have satisfied their Unforced Capacity obligations will be required to participate in the Deficiency Auction." (Ibid, §2.5)

31. The role of the Deficiency Rate was strictly limited in this period. "Participants that are still deficient after the completion of a Deficiency Auction will pay a deficiency charge to ISO-NE equal to the Deficiency Rate…, multiplied by the number of MWs by which the Participants are deficient." (Ibid, §4.2) That Deficiency Rate was set at "$6.15/kW-month measured on an ICAP basis. The unit-specific equivalent forced outage rate used to convert this charge to a UCAP basis shall be 7.67%….The Deficiency Rate shall be converted to a UCAP basis by dividing the ICAP rate by the quantity one minus the EFORd. The resulting Deficiency Rate, expressed on a UCAP [unforced capacity] basis…shall be $6.66/kW-month." (ISO-NE Market Rule 1, January 13, 2005)

32. Mr. Seavey erred in applying the higher UCAP rate in a situation in which the Agreement specifies an ICAP rate. For the UCAP computation, the ICAP of each generator is reduced by its forced outage rate. A generator with an installed capacity of 100 kW and a forced outage rate of 7.67% would have a UCAP of 92.33 kW. Either 100 kW of ICAP at the ICAP Deficiency Rate of $6.15/kW or 92.33 kW of UCAP at the UCAP Deficiency Rate of $6.66/kW would be paid about the same amount ($6.15 or $6.16 monthly, depending on round-off).

33. More importantly, Mr. Seavey also erred in equating the Deficiency Rate with the Installed Capability Responsibility charges referred to the Agreement. The Deficiency Rate would apply to HMLP only if it (1) failed to purchase enough ICAP before the ICAP supply auction, (2) failed to purchase enough ICAP in the ICAP supply auction, and (3) participated in the deficiency auction (as ISO-NE would have required) but failed to obtain

sufficient ICAP in that auction, due to failure of suppliers to offer enough capacity. In fact, in every deficiency auction from April 2003 through November 2006, supply offers exceeded the need, so no utility should have been charged the Deficiency Rate for capability shortfalls.

34. Thus, it appears that no NEPOOL LSE was charged the Deficiency Rate for shortages of capacity. The Deficiency Rate also applied to suppliers outside New England, for failure to schedule and deliver power as required, and may have been charged for that purpose.

35. The equivalent in April 2003 through November 2006 of the Installed Capability Responsibility charges that existed in November 1997 was not the Deficiency Rate but the deficiency auction price, which would be the price paid by a participant who took no other action to meet its responsibility. In 30 of those 44 months, the deficiency auction price was zero. In the remaining 14 months, the average deficiency auction price was $0.83/kW-month, not the $6.66/kW-month Mr. Seavey assumes.

36. Even by Mr. Seavey's interpretation, there were no deficiencies under the Agreement prior to April 2003, so it is not necessary to determine the equivalent of the Installed Capability Responsibility charges in that period.

37. Correcting Mr. Seavey's four errors—the interpretation of the MCC, the computation of the Capacity Deficiency (see my ¶20), the equation of Installed Capability Responsibility charges in the Agreement with the 2003–2006 Deficiency Rate (rather than the deficiency auction price), and the use of UCAP rather than ICAP prices—would eliminate the calculated Capacity Deficiency Charge. Properly applying the terms of Agreement Section 2.4, the ISO-NE pricing of installed capacity, and a more plausible interpretation of the meaning of MCC in the Agreement eliminates Mr. Seavey's claimed Capacity Deficiency charge.

38. Returning to Mr. Seavey's assertions regarding Capacity Factor, despite his claims that GRS had promised HMLP that the Facility would maintain an 85% capacity factor, his computation of energy-related damages in his Exhibit 2 does not rely on that theory. Rather, Mr. Seavey argues in ¶¶56–63 that, if GRS had accurately predicted in 2002 the Facility's monthly energy output through 2011, HMLP "could have saved approximately $4.3 million

in power supply costs by entering into a power-supply transaction on similar to [a] Select Energy purchase" contract that he claims some Massachusetts municipal utility signed in 2002 (¶63).

39. Mr. Seavey's claim that HMLP "could have saved approximately $4.3 million" implicitly relies on at least four conditions:

    a. GRS could have predicted the exact rate of decline of energy output from the Facility. Not just that energy output would decline over time, but the exact level of output, by month and time of day.

    b. HMLP had no idea that the Facility's output was declining, and would not have recognized the declining output.

    c. If GRS had provided HMLP with a prescient forecast of the Facility's energy output, HMLP would have sought a long-term firm power-purchase agreement with a power marketer, such as Select.

    d. If HMLP had approached Select and other power marketers, it would have secured a ten-year contract at prices similar to those in the claimed Select contract, but with provisions allowing HMLP to change the energy quantity as the Facility's output declined.

40. Mr. Seavey does not provide any evidence that any of these four conditions was satisfied. With respect to the first condition, Mr. Seavey does not assert that GRS could or would have predicted the rate of decline of energy output from the Facility more accurately than HMLP could, let alone the "accurate forecast of the output of the facility" (¶70) that he says would have saved HMLP $4.3 million.

41. The same actual data on electric production—hourly, daily and monthly energy output and the SCCs—were available to HMLP and GRS. These data showed substantial declines in output after commercial operation by early 2001. Output for each month of 2001 was below the lowest monthly output in 2000, with the average in the first seven months of 2001 20% below the average for 2000. This contradicts Mr. Seavey's arguments that "The decline in generation from the Facility would not have been apparent from the output data until at least 2004…" (¶65), "The decreases in output on a monthly and

annual basis were relatively small year-to-year" (¶66), and "From 2000 through 2004 the annual decrease was less than 15%" (¶67).

42. The second condition also did not apply. While Mr. Seavey says "The decline in generation from the Facility would not have been apparent from the output data until at least 2004…" (¶65), HMLP actually became aware very rapidly of declines in the Facility's capacity. The Facility first reported that its capability had fallen to 1,600 kW in May 2004. By August 2004, four months later, when HMLP started listing the capacity of its resources on its web site, it reported that the Facility's capacity was 1,600 kW. In May 2005, the Facility's SCC fell to 1,200 kW; four months later, HMLP's web site reflected that decline.

43. The earlier declines in capability were similar to the 400 kW decline in the Facility's capability in 2005. For example, Mr. Seavey uses a 2,850 kW capability in his Exhibit 2, apparently as his estimate of the capability he believes HMLP should have expected to receive. The Facility's capability had fallen 400 kW below that level by April 2001. The Facility's capability had fallen 400 kW below the maximum 2,670 kW by April 2002. There is no reason to suppose that HMLP would have been unaware of the previous revisions in the Facility's capacity.

44. The third condition did not apply, either. From 1999 through 2005, HMLP did not add any new long-term power-purchase agreements, even though its requirements were growing, it lost a couple thousand MWh annually from termination of the Vermont Yankee purchase, and its purchases from Manchester Street, Stony Brook, Potter 2 and Cleary 9 fell dramatically, from a total of 50,600 MWh in 2002 to 10,500 MWh in 2005.

45. HMLP's short-term energy purchases from ISO-NE (described in Mr. Seavey's ¶55) had risen to 102,400 MWh annually, 56% of its energy requirements. There is no evidence that HMLP would have changed its policy and initiated a long-term power purchase based on information about anticipated declines in the 13,000 MWh of energy that HMLP received from the Facility in 2002. While Mr. Seavey reasonably describes prudent utility planning in his ¶¶57–58, it does not appear that HMLP was engaged in those activities in the period 2000–2005.

46. Finally, Mr. Seavey does not demonstrate the accuracy of the fourth condition. In Exhibit 2, Mr. Seavey assumes that, if it had a perfect forecast of the Facility's output, HMLP would have entered into a purchased-power agreement with Select in late 2001 or early 2002, with prices fixed for April 2002 through at least 2011, or nearly ten years, with quantities varying by hour and by year. These assumptions, or any other set of specific assumptions, regarding what HMLP might have done under slightly different conditions cannot be supported, in the absence of a contemporaneous documentary record of HMLP's supply-planning and decision-making process.

47. More specifically, contracts for power that allow the buyer to take varying amounts of power by year, month, and day are almost always more expensive than fixed delivery patterns. Mr. Seavey appears to have used the price of fixed contracts as a proxy for the cost of a more expensive variable contract. When HMLP actually entered a power-purchase agreement in 2005 with Integrys, the contract provided a fixed 10,000 kWh in each hour, not the varying supply assumed in Mr. Seavey's Exhibit 2.

48. Nor is the assumption that HMLP would have signed a ten-year contract supported by actual experience. HMLP's power-purchase agreement in 2005 with Integrys covers 2006 through 2010 (Hingham Municipal Lighting Plant, Financial Statements, December 31, 2008 and 2007, Note 20), a period of five years. A similar contract with Select in 2001 would have covered 2002–2006, for some fixed amount, rather than 2002–2011 for varying amounts. The Reading Municipal Light Plant signed a contract with Select in March 2002 for delivery of energy and capacity in April 2002 to October 2005, three and a half years (Select Electric Quarterly Report to the Federal Energy Regulatory Commission, December 2003).

49. Mr. Seavey does not provide any evidence that the third condition applied. While some municipal utilities appear to have entered into long-term contracts with Select in roughly the period Mr. Seavey describes, he does not provide any documentation establishing that other utilities were able to obtain the pricing he assumes, on the schedule he assumes, or the availability of additional power from Select at similar prices, had HMLP sought such power. In addition, Mr. Seavey does not establish that the contracts between

Select and other utilities (on which he may have based his estimate of the prices HMLP could have obtained) allowed the purchasers to take different quantities of power in each month, as he assumes in Exhibit 2, rather than a fixed supply every month. In general, flexibility in power contracts results in higher prices.

Signed under the pains and penalties of perjury this 7th day of May, 2010.

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Paul L. Chernick