DOCKET NO. 59

AN APPLICATION OF CAPITOL DISTRICT ENERGY CENTER COGENERATION ASSOCIATES FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION OF A 55 MW COGENERATION FACILITY IN HARTFORD, CONNECTICUT.	:	CONNECTICUT SITING COUNCIL
	:	July 11, 1986

F I N D I N G S O F F A C T

1. Capitol District Energy Center Cogeneration Associates (CDECCA), in accordance with provisions of section 16-50k and 16-501 of the Connecticut General Statutes (CGS), applied to the Connecticut Siting Council (Council) on February 11, 1986, for a certificate of environmental compatibility and public need to construct a 55 MW cogeneration facility on Capitol Avenue in Hartford, Connecticut. The project is known as the Capitol District Energy Center (CDEC). (Record)
2. The fee as prescribed by section 16-50v-1a of the Regulations of Connecticut State Agencies (RSA) accompanied the application. (Record)
3. The application was accompanied by proof of service as required by section 16-501(b) of the CGS. (Record)
4. Affidavits of newspaper notice as required by statute and section 16-501-1 of the RSA were filed with the application. (Record)
5. Pursuant to section 16-50j of the CGS, the Connecticut Department of Environmental Protection (DEP) and the Connecticut Office of Policy and Management, Energy Division, filed written comments with the Council. (Record)
6. The Council and its staff inspected the proposed site on March 20, 1986. (Record)

7. Pursuant to section 16-50m of the CGS, the Council, after giving due notice thereof, held a public hearing at 7:00 P.M., March 20, 1986, in the Hartford Municipal Building, 550 Main Street, Hartford, Connecticut. (Record)

8. On May 9, 1986, the applicant filed a motion for a reopening of the record. Pursuant to section 16-50m of the CGS, the Council, after giving due notice thereof, approved the motion and held a second public hearing at 10:30 A.M., May 28, 1986, at the Council's Meeting Room, 1 Central Park Plaza, New Britain, Connecticut. (Record)

9. The parties to the proceeding are the applicant and those persons and organizations whose names are listed in the Decision and Order which accompanies these findings. (Record)

10. The Council took administrative notice of the following documents:

    State of Connecticut Conservation and Development Policies Plan 1982-1985;

    Connecticut Siting Council Review of Connecticut Electric Utilities' 1985 Ten Year Forecasts of Loads and Resources (CSC Review);

    Connecticut Regulations: Abatement of Air Pollution;

    Cogeneration in Connecticut: Review of Obstacles, Forecasts, and Potential. A report to the Connecticut Siting Council from Energy and Resource Consultants, Inc., May 20, 1985;

    The Northeast Utilities System 1985 Forecast of Loads and Resources for 1985-1994;

    Northeast Utilities Customer Assistance Conversation Programs, March 1983;

    Hartford City Zoning Code;

    Hartford City Building Code; and

    DPUC Investigation into Cogeneration and Small Power Production, "Going Back to the Future," Docket 85-04-16, 12/11/85.

Exhibits submitted by the applicant are as follows:

1. Application dated February 11, 1986;

2. Responses to Pre-Hearing Questions dated March 13, 1986;

3. Copy of Northeast Utilities (NU) responses to data requests, DPUC Docket No. 85-02, buy back rates;

4. Safe yield capacity of Metropolitan District Commission Water Supply System;

5. Analysis of Park River water availability;

6. Verification of flood map source;

7. Comments from State Historic Preservation Officer;

8. Confirmation of height of the existing brick stack and the height of I-84 in relationship to the Aetna Life and Casualty (Aetna) dome and adjacent Aetna Capitol Avenue buildings, and the height of the proposed stack and the top of the fuel tanks on a single elevation;

9. Details on the location of the proposed substation;

10. Federal Aviation Administration permit, when available, specify if painting and lighting of stacks is necessary;

R-1. DEP Air Permit application dated April 7, 1986;

R-2. Answers to questions one through five dated May 23 and May 27, 1986;

R-3. Dollard sketch;

R-4. Six slides by Mr. Dollard with legend;

R-5. Verification of MDC figures of answer to question four;

R-6. Real oil consumption, based on 11% interruption rate for a year, expressed as tank truck loads; and

R-7. FERC certificate.

11. The CDEC would operate the facility as a qualifying cogeneration facility as defined in the Public Utility Regulatory Policies Act of 1978 (PURPA) and in Title 18 Code of Federal Regulations (CFR) Part 292, 1985. (CDEC-2, Attachment 7; CDEC-R-7)

12. The facility would provide a cost effective, environmentally sound source of electric power, steam, and chilled water through a topping, combined cycle cogeneration system. (CDEC-1, pp. 1,6,20,21; Tr. 1, p. 8)

13. Cogeneration is the simultaneous production of useful heat and electrical or mechanical work from the combustion of fuels. This technique offers both thermodynamic and economic advantages over conventional processes for efficiently producing both forms of energy. (CDEC-2, Q. 45, Cogeneration in Connecticut 1-1; CDEC-1, p. 6)

14. Cogeneration technology is supported by Northeast Utilities (NU) as a proven technology to generate electricity while allowing business and government to use efficiently heat that otherwise would be wasted. (CDEC-2, Q. 45, Northeast Utilities System 1985 Forecast of Loads and Resources for 1985-1994, II-5)

15. The project would reduce the consumption of fossil fuels when compared to the existing methods of heating and cooling buildings of the proposed service district. (CDEC-1, p. 22; CDEC-2, Q. 36)

16. The project would serve the public by providing a small, incremental electrical supply that would help forestall the need for new base-load capacity facilities. (CDEC-1, p. 6; CDEC-2, Q. 45, CSC Review, pp. iii, 16,17)

17. The provision of small, privately owned electrical supply facilities would minimize the risks, costs, and time needed to develop large, utility-owned, baseload generating stations. (CDEC-2, Q. 45, CSC Review, pp. iii, 16,17,21)

18. Ownership and control of the facility would be by CDECCA. ANR Venture Management Co., as managing joint venturer for CDECCA, would have the responsibility for design, construction, operation, and management of the facility. (CDEC-2, Q. 33, Q. 34, Q. 35; CDEC-1, p. 8)

19. A heating and cooling system loop would be constructed by Energy Networks Inc. (EN), a subsidiary of Affiliated Resources Corporation, which is a subsidiary of Connecticut Natural Gas, to serve the existing Aetna and Xerox buildings and the new State Legislative Office Building and the armory. (CDEC-1, pp. 1,6,20; CDEC-2, Q. 34)

20. Thermal power produced by the facility would be sold to Aetna in the form of steam and to the district heating and cooling system run by EN in the form of steam and chilled water. (CDEC-1, p. 1; Tr. 1, 8-9, 33-35)

21. The facility would include a gas turbine base-rated at 37,400 KW (International Organization for Standardization) and a steam turbine rated at 22,000 KW. The average gross plant output would be about 57,750 KW. (CDEC-1, p. 5,7,21)

22. Plant auxiliary loads of 2750 KW would leave a total average net output of 55,000 KW. (CDEC-1, p.5,21; CDEC-2, Q. 3)

23. By contract, electricity would be sold to Aetna and NU. (CDEC-1, pp. 20-21; CDEC-2, Attachement 7)

24. The facility would be designed to provide a constant 45 MW to NU. However, NU would have the contractual right to require the facility to operate at either 30 MW off-peak upon 24 hours notice or to shut the generation facility down on two three-day weekends per

year and to operate at 34 MW off-peak upon 24 hours notice. (CDEC-2, Q. 1; Tr. 1, pp. 36-37; CDEC-2, Attachment 7)

25. On weekdays the electrical load to Aetna would vary from four MW off-peak to 11 MW on-peak. The weekend load would vary from four MW off-peak to six MW on-peak. (CDEC-2, Q. 1)

26. As required by contract, a microprocessor plant control system would be used to maintain a constant electrical load to NU and to maintain electrical and thermal loads to Aetna and district loop customers. (CDEC-1, p. 5; CDEC-2, Attachment 7)

27. The facility would have a service life evaluated at twenty years. (CDEC-2, Attachment 7; Tr. 1, p. 70)

28. The facility's generators would use an on-site substation to convert 13.8 KV generated current to 115 KV in order to tie into the 115 KV interconnection line planned by NU. (CDEC-2, Q. 6)

29. The power transformers and their associated switching equipment and lightning arresters would be located in a 5000 square foot fenced-in area next to the existing 23 KV Aetna South Substation. (CDEC-2, Q. 6)

30. The site resembles a right triangle with sides of approximately 245' and 235' and a hypotenuse of 340'. (CDEC-2, Q. 29)

31. The site is owned by Aetna, is zoned C-1 commercial, and is entirely paved with either asphalt or concrete. (CDEC-1, pp. 18, 27,29)

32. The general land use within a one-quarter mile radius of the proposed facility consists of industrial, commercial, office, and residential uses. Predominant land uses include Interstate 84 (I-84) to the north, commercial development to the east, open space along the Park River Corridor to the west, and residential development to the south. (CDEC-2, Q. 26, Attachment 8)

33. The facility would be fueled primarily by natural gas; however, the facility would operate on an interruptible basis with fuel oil when natural gas is not available as is estimated by the Connecticut Natural Gas Company to occur 40 days (11.1%) per year. A scenario involving the use of fuel oil for 120 days per year was used to determine the worst case for DEP air pollution control modeling. The turbine could switch automatically between primary and secondary fuel sources with no noticeable change in turbine operation. (CDEC-1, pp. 1, 5, 13, 14; CDEC-2, Q. 22; Tr. 1, p. 19; Tr. 2, pp. 71, 72, 73, 79-81; CDEC-R-1; CDEC-R-6)

34. Long-term contracts would be used to supply natural gas and fuel oil to the facility. (CDEC-2, Q. 23; Tr. 1, pp. 19-20)

35. The purchase price and supply of natural gas for the project would be based primarily on the tariff rate. (Tr. 1, p. 20)

36. Based on conservative assumptions, approximately 3,550,006,000 cubic feet of natural gas and 3,237,937 gallons of fuel oil would be used annually. (CDEC-2, Q. 22; CDEC-R-6)

37. Natural gas would reach the facility through a dedicated 150 psig gas pipeline. (CDEC-2, Q. 24; Tr. 1, p. 57)

38. Natural gas would be boosted to 300 psig by a 900 hp electric motor driven compressor located within the facility. (CDEC-1, p. 5; Tr. 1, pp. 57-60)

39. When the gas supply is interrupted, the facility's fuel oil consumption would average about 74,000 gallons per day. Delivery of ten or eleven truck loads of fuel oil per day would be required to meet this need. The facility would be designed to unload two

trucks simultaneously to reduce the total unloading time to approximately two to three hours per day. (CDEC-R-5)

40. Five 42,000 to 50,000 gallon above ground storage tanks measuring 12' in diameter and 55' high would store a 48-hour, full-operation fuel supply. (CDEC-1, p. 6; CDEC-2, Q. 21; Tr. 1, pp. 13-14)

41. No. 2 fuel oil would be the primary back-up fuel, but No. 6 fuel oil would be used when necessary. (CDEC-2, Q. 23; Tr. 1, p. 62)

42. Natural gas was chosen as the facility's primary fuel for economic and environmental reasons. (Tr. 1, pp. 18-19)

43. Supplies of natural gas, fuel oil, or liquid hydrocarbon fuel would be adequate for the life of the facility. (Tr. 1, pp. 19-24)

44. Primary air pollutants from the facility would include nitrogen oxides (NO_x), sulfur dioxide (SO_2), total suspended particulates (TSP), carbon monoxide (CO), and hydrocarbons (HC). (CDEC-1, Appendix F, p. 23)

45. The facility would be located in Air Quality Control Region 42 (AQCR42), which has been designated under the National Ambient Air Quality Standards (NAAQS) as non-attainment for TSP (secondary standard), ozone, CO, and lead and as in attainment for TSP (primary standard), nitrogen dioxide (NO_2), and SO_2. (CDEC-1, p. 23; CDEC-2, Q. 8)

46. Air quality control measures would include the use of low sulfur natural gas and fuel oil, modern combustion equipment, and combustion practices. TSP, CO, lead, and ozone would be limited to Lowest Achievable Emission Rates (LAER). SO_2 and NO_2 emissions would be controlled with the Best Available Control Technology (BACT). A steam injection system would be used to control NO_x.

Low sulfur (0.5%) oil and natural gas would be used to control SO_2 emissions. (CDEC-2, Q. 9)

47. CDECCA would conduct air pollution modeling in conjunction with the Connecticut DEP as a component of the DEP air pollution control permitting process. (Tr. 2, pp. 73, 74)

48. The facility would be continuously monitored for pollutants, as required by the Connecticut DEP air pollution control permit. The stack would be monitored for NO_x and possibly opacity. The gas turbine and boiler would be monitored for excess air and CO. (CDEC-2, Q. 11)

49. The height of the emission stack would be determined by good engineering practices as defined by the Connecticut DEP, using a worst case operation scenario and the best SO_2 dispersion without having downwash conditions. Stack heights of 80', 156', and 193' were evaluated for the facility. Screening modeling indicated that the proposed 193' stack provided adequate SO_2 dispersion, an 80' stack would be inadequate, and a 156' stack would be marginal; however, the applicant would construct the 156' stack if allowed by the Connecticut DEP. (CDEC-R-2; Q. 3; Tr. 2, pp. 66-68; Connecticut Regulations: Abatement of Air Pollution, Section 22a-174-1, Definitions)

50. The Federal Aviation Administration has ruled that the stack would not be a hazard to air navigation and would not require obstruction marking or lighting. (CDEC-10)

51. In addition to the stack, prominent features on the facility would include four cooling towers approximately 75' high, a gas turbine air inlet approximately 70' high, five fuel oil storage tanks

approximately 56' high, and the main roof approximately 45 feet high. (CDEC-1, p. 6, Appendix E and F; CDEC-2, Attachment 4, 5 and 6; Tr. 1, p. 51; CDEC-8)

52. Prominent features around the site include the 271' high Aetna dome to the north, a 156' brick stack to the north, I-84 at a height of 48' to the north, and Aetna buildings 29', 55', 89', and 57' high on Capitol Avenue east of the proposed facility. A new 20 story Xerox building and two 25 story residential buildings are rising near I-84 west of the facility. Residential buildings opposite the facility within the Frog Hollow District are listed on the National Register of Historic Places. (CDEC-8; Tr. 1, p. 49; Tr. 2, pp. 18-22)

53. No significant vegetation exists on the site of the proposed facility. No wildlife would be displaced or affected by the proposed project. (CDEC-1, p. 28)

54. No significant effect on historical or archeological resources would occur on the site or within the Frog Hollow National Register Historic District nearby. (CDEC-1, p. 28; CDEC-7)

55. A series of buildings on Capitol Avenue, immediately east of the proposed facility site, were built for industrial uses in the late 1800's and recently have been modified by Aetna for permanent office space. (Tr. 1, pp. 44-50)

56. The facility would be a focal point of the Aetna buildings on Capitol Avenue. The facility and its major mechanical equipment would be highlighted with glass, accent colors, and accent lighting. (CDEC-2, Q. 28; Tr. 1, p. 48)

57. Steam would not be vented from the facility on a regular basis; however, during certain summertime meteorological conditions, steam venting from the cooling towers would produce localized fogging. (Tr. 1, pp. 35, 69; CDEC-2, Q. 18; Tr. 2, pp. 46, 47)

58. A Flood Insurance Rate Map, prepared by the Federal Emergency Management Agency, October 30, 1985, currently in the public comment period, shows the site outside of the 100 year, Zone A flood area. (CDEC-2, Q. 13; CDEC-6)

59. If the Park River conduit pumps failed, the facility might flood, but back-up pumps, emergency back-up generators, and manual override gate valves make this an unlikely occurrence. (CDEC-2, p. 13)

60. Approximately 40 million gallons of water would circulate through the facility each day. (Tr. 2, p. 46)

61. Boiler make-up, cooling water make-up, and domestic water use would total an estimated maximum of 845,000 gallons per day (GPD) in the summer. The estimated maximum water use during the winter would be 594,000 GPD. Average water use is expected to be approximately 75% of the maximum levels. (CDEC-2, Q. 16; Tr. 1, p. 21)

62. Steam augmentation of the gas turbine output on hot days would increase water usage by as much as 172,800 GPD. (CDEC-2, Q. 16)

63. Evaporative losses from the facility's cooling towers would account for the greatest use of water; however, evaporative losses and water usage from some customers on the district heating and cooling loop would be reduced as a consequence of the facility. (Tr. 2, pp. 44-48)

64. The Metropolitan District Commission (MDC) has indicated that its daily system capacity of 110 million gallons could meet the facility's daily peak water use rate without service problems. (CDEC-4)

65. In a typical year, 1983, monthly usage on the MDC system averaged from 51 million gallons per day (MGD) to 72 MGD. A safe yield capacity of the MDC's active water system from the Barkhamsted and Nepaug Reservoirs of 66 MGD is exceeded during a portion of the year. (CDEC-R-5; DEP letter, 5/30/86)

66. Safe yield is a conservative determination defined by the Connecticut DEP as the amount of water that a reservoir system can dependably deliver in the driest year in every 100 years (99% dry year yield). Such a scenario occurred during a drought in the mid-1960's. (CDEC-R-5)

67. Though safe yield is determined very conservatively, MDC is operating close to existing capacity. (DEP letter 5/30/86)

68. The Connecticut DEP is reluctant to see this large volume of treated drinking quality water being committed as cooling water, a purpose for which non-potable sources of water may suffice. (DEP letter 5/30/86)

69. The Connecticut DEP encourages the maximum use of the Park River for a source of cooling water and boiler make-up when and if possible. The use of the Park River would allow conservation of drinking water within the MDC reservoirs that could be used during a drought situation. (DEP letter 5/30/86)

70. The Park River was rejected by CDECCA as a source of non-contact cooling water due to its low, non-constant flow. (Tr. 1, pp. 26-29; CDEC-2, Q. 15)

71. A dry cooling system was investigated and rejected due to the size of an exchanger needed and to physical site constraints. (CDEC-2, Q. 15)

72. Consumption of potable water from the MDC could be reduced if isolation piping from the Park River were to supply water for cooling water and possibly boiler water make-up, with the MDC providing back-up water when needed. At a minimum the MDC would provide water to serve sanitary and drinking purposes. (DEP letter 5/30/86; CDEC-4; Tr. 1, pp. 26-29)

73. The use of the Park River as a partial source of cooling tower make-up water was rejected by CDECCA because of severe engineering difficulties and the expense of piping and controls to keep the two systems segregated. (Tr. 2, pp. 77-78)

74. The Connecticut DEP would require a Diversion Permit if use of the Park River were sought. (DEP letter 5/30/86)

75. A State Discharge Permit would be required for the discharge of wastewater, including stormwater runoff, sanitary wastewater, boiler blowdown, condensate from exhaust gases, and floor drainage. (CDEC-1, p. 26)

76. Wastewater would go through pre-treatment and an oil water separator before discharge to the MDC sewerage system for treatment at the Hartford Water Pollution Control Plant and eventual discharge into the Connecticut River. (CDEC-1, p. 26; Tr. 1, p. 30)

77. The maximum wastewater discharge generated by facility boilers would be 22 gallons per minute (GPM), two to six GPM less if the facility were not to be built and the existing Aetna heating plant were used. (CDEC-2, Q. 15; Tr. 1, pp. 31-32)

78. The MDC sewer and wastewater treatment plant would not be expected to be adversely affected by discharge from the facility. (Tr. 1, pp. 30-31)

79. The primary sources of noise from the facility would be from cooling towers, the gas turbine inlet and exhaust, fuel gas compressors, boiler relief valves, high voltage switch gear, and transformers. (CDEC-2, Q. 19; Attachment 8; Tr. 1, p. 40)

80. Prominent discrete tonal noise would emanate from the transformer and gas turbine inlet. (CDEC-2, Attachment 8)

81. A noise survey was performed to identify the major sources of the existing ambient noise. (CDEC-2, Attachment 8)

82. Noise attenuation measures would be designed to meet State Noise Standards. (CDEC-1, p. 27; CDEC-2, Q. 13; Attachment 8)

83. Noise attenuation measures would include acoustical shielding, exhaust silencers, absorbtive baffles, and the use of special equipment. (CDEC-2, Attachment 8)

84. Noise modeling indicates that local and State Noise Regulations would be met during facility operation and that discrete tonal noise would not be audible at the nearest residential property line. (CDEC-2, Attachment 8)

85. Noise testing would be performed during facility operation to ensure compliance with State Noise Regulations. (CDEC-2, Q. 19)

86. If noise regulations were violated, additional soundproofing would be added to the facility to bring it into compliance with State Noise Regulations. (Tr. 1, pp. 40-43)

87. Site preparation would begin in the summer of 1986, with construction commencing by December 1, 1986. Equipment testing would begin in September, 1987, with commercial operation expected in late November, 1987. (CDEC-1, p. 16)

88. All critical pumps and filters would have dual 100% capacity systems for increased reliability. (CDEC-1, p. 13)

89. Qualified operating personnel would inspect gas turbine equipment every day. Scheduled gas turbine maintenance would include annual boroscope and combustion inspections. A hot gas path inspection and a major inspection/overhaul would be scheduled once every three and six years, respectively. Scheduled maintenance on the steam turbine would include annual bearing and boroscope inspections. Major overhaul work on steam turbines would typically be scheduled on a five-year cycle. (CDEC-1, p. 14)

90. Under a normal operating scenario the facility would have a worst case efficiency of 51%. During an emergency outage, three packaged boilers would be operated at 45% efficiency. The overall plant capability would have a maximum efficiency of 65% to 70%. The first year's average overall efficiency, 58% to 59%, is expected to be lower than the facility's capability due to the varibility of steam and electric loads; however, the overall average efficiency is expected to increase as loads on the district heating and cooling

system increase. (Tr. 2, pp. 51-60; CDEC-1, p. 21; Tr. 1, pp. 64-66; CDEC-R-2, Q. 5)

91. A conventional boiler system producing only electric energy operates at approximately 35% efficiency. A cogeneration system producing process steam and electricity could operate at an efficiency as high as 70%. (CDEC-1, p. 29)

92. The facility's gas and steam turbines would be available at least 95% of the time. (CDEC-1, p. 14)

93. In an emergency outage of the gas turbine and waste heat boiler, three packaged boilers would operate in combination with the steam turbine generator to meet the electrical and/or thermal loads of the district heating and cooling system and Aetna. (CDEC-1, p. 21; Tr. 1, p. 62)

94. Two existing oil/gas fueled boilers at the Aetna boiler plant would provide emergency back-up steam in the event of a total facility outage. (CDEC-1, p. 22; Tr. 1, p. 72)

95. Design, construction, and testing of the facility would be in accordance with all applicable safety and engineering standards, as listed in the application. (CDEC-1, pp. 8-16)

96. A facility shutdown would be triggered by abnormal temperature, vibration, flame failure, boiler over pressure, compressor or gas turbine gas leak, or generator failure. (Tr. 1, pp. 56-57)

97. If an emergency trip signal were to be issued, fuel supply, steam production, and electrical generation would cease. (CDEC-2, Q. 32)

98. A planned shutdown would take approximately 30 minutes from a shutdown command. (CDEC-2, Q. 32)

99. In the event that the facility were down, power to the facility and Aetna would be provided by an NU CDEC/NU interconnect. In the event that both the facility and NU were down, batteries and a diesel generator would provide power to the facility to maintain the control room and to provide safe turn-down and start-up. (CDEC-2, Q. 4)

100. The installed facility cost of $40 to $50 million would include all legal, accounting, and commitment fees and interest during construction of $3.9 million, assuming a 12% interest rate and 100% debt financing. (CDEC-1, p. 16; CDEC-2, Q. 43)

101. In 1988 operation and maintenance costs are expected to be about $2.35 million and would increase at the general rate of inflation. (CDEC-2, Q. 40)

102. In 1988 fuel costs are expected to be about $13 million. (CDEC-2, Q. 40)

103. NU has estimated that interconnecting the facility with the NU system would cost approximately $1.4 million. (CDEC-2, Q. 41)

104. NU would construct, operate, and maintain the facility interconnection. CDEC would reimburse NU for all interconnection costs. (CDEC-2, Q. 41)

105. NU would incur no expenses, risks, or investments for the facility. (CDEC-2, Q. 42)

106. The NU contract specifies electric purchase rates of 8.0¢/KWh for on-peak production and 4.4¢/KWh for off-peak production. These rates would change with the Gross National Product index, starting with the first quarter of 1988. (CDEC-2, Q. 5, Attachment 7)

107. In the early years of the project, NU would purchase electricity from CDEC at a rate expected to be greater than NU's avoided costs. In the later years of the project, NU would purchase electricity from CDEC at a rate expected to be lower than NU's avoided costs. On a cumulative present worth basis, over the 20 year term, NU would pay CDEC 86% of NU's avoided costs. (CDEC-2, Q. 44; Attachment 7)

108. For reliable electric service to NU's ratepayers, it is expected that the facility would provide the same level of electric energy and capacity during the later years of the contract term as during the earlier years of the contract term. (CDEC-2, Attachment 7)

109. The facility would carry comprehensive general liability insurance with written limits no less than $10 million per occurrence for bodily injury and $1 million per occurrence for property damage or a combined single limit of $10 million per occurrence. (CDEC-2, Attachment 7)