STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

November 14, 2014

Bruce L. McDermott
UIL Holdings Corporation
157 Church Street
New Haven, CT 06506

RE: **PETITION NO. 1104 –** The United Illuminating Company petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 2.2 MW AC solar photovoltaic facility and a 2.8 MW AC Fuel Cell facility on approximately 22 acres of the former Seaside Landfill located at 350 Waldemere Avenue, Bridgeport, Connecticut.

Dear Attorney McDermott:

By its Decision and Order dated November 13, 2014, the Connecticut Siting Council (Council) ruled that this petition would not have a substantial adverse environmental effect, and pursuant to General Statutes § 16-50k, would not require a Certificate of Environmental Compatibility and Public Need.

Enclosed are the Council's Findings of Fact, Opinion, Dissenting Opinion, and Decision and Order.

Very truly yours,

Robert Stein MAB

Robert Stein
Chairman

RS/RDM/cm

Enclosures

c: Parties & Intervenors

CSC
CONNECTICUT SITING COUNCIL

STATE OF CONNECTICUT)

ss. New Britain, Connecticut : November 14, 2014

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Findings of Fact, Opinion, Dissenting Opinion, and Decision and Order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council

I certify that a copy of the Findings of Fact, Opinion, Dissenting Opinion, and Decision and Order in Petition No. 1104 has been forwarded by Certified First Class Return Receipt Requested mail, on November 14, 2014, to all parties and intervenors of record as listed on the attached service list, dated September 5, 2014.

ATTEST:

Carriann Mulcahy
Secretary II
Connecticut Siting Council

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Petitioner	☒ E-Mail	The United Illuminating Company	Bruce L. McDermott UIL Holdings Corporation 157 Church Street New Haven, CT 06506 203-499-2422 Bruce.mcdermott@uinet.com Thomas Judge The United Illuminating Company 180 Marsh Hill Road Orange, CT 06477 203-926-4772 Thomas.judge@uinet.com
Party (*Approved on August 21, 2014)*	☒ E-Mail	City of Bridgeport	Lee D. Hoffman, Esq. Pullman & Comley, LLC 90 State House Square Hartford, CT 06103 860-424-4315 lhoffman@pullcom.com
Intervenor (Approved 9/4/14)	☒ E-Mail	Enrique Torres 108 Midland Street Bridgeport, CT 06605 Rick.torres@bridgeportct.gov	

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November 14, 2014

TO: Classified/Legal Supervisor
1104141117
The Connecticut Post
410 State St.
Bridgeport, CT 06604-4560

FROM: Carriann Mulcahy, Secretary II

RE: **PETITION NO. 1104 –** The United Illuminating Company petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 2.2 MW AC solar photovoltaic facility and a 2.8 MW AC Fuel Cell facility on approximately 22 acres of the former Seaside Landfill located at 350 Waldemere Avenue, Bridgeport, Connecticut.

Please publish the attached notice as soon as possible, but not on Saturday, Sunday, or a holiday.

Please send an affidavit of publication and invoice to my attention.

Thank you.

CM

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NOTICE

Pursuant to Connecticut General Statutes § 16-50k and 4-176(f), the Connecticut Siting Council (Council) announces that, on November 13, 2014, the Council issued Findings of Fact, an Opinion, Dissenting Opinion, and a Decision and Order, approving a petition from The United Illuminating Company for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 2.2 MW AC solar photovoltaic facility and a 2.8 MW AC Fuel Cell facility on approximately 22 acres of the former Seaside Landfill located at 350 Waldemere Avenue, Bridgeport, Connecticut. This petition record is available for public inspection in the Council's office, Ten Franklin Square, New Britain, Connecticut.

PETITION NO. 1104 – The United Illuminating Company petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 2.2 MW AC solar photovoltaic facility and a 2.8 MW AC Fuel Cell facility on approximately 22 acres of the former Seaside Landfill located at 350 Waldemere Avenue, Bridgeport, Connecticut.	}	Connecticut
	}	Siting
	}	Council
		November 13, 2014

Findings of Fact

Introduction

1. The United Illuminating Company (UI), in accordance with provisions of Connecticut General Statutes (C.G.S.) §16-50k and §4-176(a), submitted a petition (Petition) to the Connecticut Siting Council (Council) on May 27, 2014 for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need (Certificate) is required for the construction and operation of a 2.2 megawatt (MW) solar photovoltaic facility and a 2.8 MW Fuel Cell facility on City of Bridgeport property west of Barnum Dyke in the City of Bridgeport. (UI 1, p. 1, 8)

2. UI provided notice of its petition to all abutting property owners, federal, state and local officials and agencies identified in Regulations of Connecticut State Agencies (RCSA) § 16-50j-40(a). (UI 1, p. 15)

3. In compliance with RCSA §16-50j-21, on August 29, 2014, UI installed three signs that contained a brief description of the project, public hearing information, and Council contact information. The signs were placed in the following locations: at the Seaside Park entrance at the corner of Iranistan and Waldemere Avenues; at the corner of Barnum Dyke and Barnum Boulevard; and at the west end of Seaside Park. (UI 6)

4. The Council and its staff conducted an inspection of the proposed project on September 11, 2014, beginning at 2:00 p.m. (Council Petition 1104 Field Review Notice dated September 5, 2014)

5. Pursuant to C.G.S. §16-50m, the Council, after giving due notice thereof, held a public hearing on September 11, 2014, beginning with the evidentiary portion of the hearing at 3:00 p.m. and continuing with the public comment session at 7:00 p.m. at the Bridgeport City Hall, 45 Lyon Terrace, Bridgeport, Connecticut. The evidentiary hearing was continued on September 30, 2014. (Transcript 1 – September 11, 2014 at 3:00 p.m. [Tr. 1], p. 1; Transcript 2 – September 11, 2014, at 7:00 p.m. [Tr. 2], p. 1; Transcript 3 – September 30, 2014 at 11:00 a.m. [Tr. 3)

6. Pursuant to C.G.S. §16-50m, the Council published a legal notice indicating the date and time of the September 11, 2014 public hearing and field review in the Connecticut Post on July 15, 2014. (Record)

7. The parties to the proceeding are UI and the City of Bridgeport (City). The intervenor is Enrique Torres. (Tr. 1, p. 5)

8. UI is an electric distribution company based in Orange, Connecticut. (UI 1, p. 4)

9. UI is proposing the 2.2 MW solar facility and the 2.8 MW fuel cell facility, two separate projects submitted to the Council in this petition for a declaratory ruling, in response to Public Act 11-80, Section 127, *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future,* that permits electric distribution companies to construct, own, or operate Class I renewable energy facilities. The Act further specifies that each company can manage up to 10 MW of renewable energy with each renewable generating facility rated between 1 MW and 5 MW. (UI 1, p. 5)

10. The State legislature established a renewable energy policy under C.G.S. §16a-35k that encourages the development of renewable energy facilities to the maximum extent possible. (UI 1, p. 12)

11. The Council is required to approve the project by a declaratory ruling as long as the project meets Department of Energy and Environmental Protection (DEEP) air and water quality standards. (C.G.S. § 16-50k(a))

State Agency Comments

12. Pursuant to C.G.S. §16-50j (g), on July 11, 2014 and October 1, 2014, the following State agencies were solicited by the Council to submit written comments regarding the proposed facility: Department of Energy and Environmental Protection (DEEP); Department of Public Health; Council on Environmental Quality; Public Utilities Regulatory Authority (PURA); Office of Policy and Management; Department of Economic and Community Development; Department of Agriculture; Department of Transportation (DOT); and Department of Emergency Management and Public Protection. (Council Correspondence dated July 11, 2014 and October 1, 2014)

13. The DOT submitted a letter indicating they had no comment. (DOT letter dated July 17, 2014)

14. DEEP submitted written comments on September 4, 2014. In its comments, DEEP reviewed the project's location as well as potential environmental impacts and indicated support for the proposal. (DEEP Letter dated September 4, 2014)

15. The Council did not receive comments from any other state agency. (Record)

Municipal Consultation

16. UI discussed and planned the project with the City beginning in 2010. (UI 1, Attachment 1)

17. The City appeared before PURA on April 4, 2012 in support of the project. (UI 1, p. 5, Attachment 1)

18. Public outreach for the petition included a press conference in October 2013, City Council Contracts Subcommittee meetings in January and February 2014, a public community forum in February 2014, a Parks Commission meeting in March 2014, and a City Council meeting in March 2014. (UI 1, p. 14)

Site Selection

19. In addition to the selected Bridgeport project site, UI considered other locations in Fairfield and New Haven Counties including one municipal beach property, three landfills, a water pollution control plant, and four properties owned by UI. (UI 4, Response 2)

20. UI used an analytical model to determine the suitability of a given site to support both the fuel cell and solar field facilities. The model included an examination of topography, available ground space, proximity to critical infrastructure, site availability and current use. (UI 1, p. 5)

21. The Bridgeport site was selected due to its limited potential for other types of development, size, proximity to existing utilities, and the City's support for the location. (UI 4, Response 3)

22. Once the site was selected, UI conducted a fatal flaw analysis to determine the suitability and viability of the proposed solar and fuel cell installations. (UI 1, Attachment 2)

Project Description – Fuel Cell Facility

23. The proposed fuel cell facility would be located on a 2.1-acre parcel owned by the City. It is used for the storage of City Parks Department equipment. (UI 1, Attachment 4; Tr. 1, p. 22)

24. The parcel is bordered by Seaside Park to the south, Barnum Dyke and a helipad to the east, an abandoned parking lot to the north, and City property to the west used for mulch storage and processing. (UI 1, Attachment 4, Attachment 12)

25. The facility itself would be located within an approximate 290-foot by 80-foot lease area south of Cedar Creek Drive, a road that extends west from Barnum Dyke to the mulch processing area. (UI 1, Attachment 4; Attachment 11 B; Tr. 1, p. 22)

26. The main component of the facility would be two molten carbonate fuel cell modules with a combined output of 2.8 megawatts. (UI 1, p. 10; Tr. 1, pp. 53, 96)

27. Other components of the facility are a water treatment skid and two inverters. The facility is approximately 70 feet long by 44 feet wide by 13 feet high. An exhaust stack extends to 24 feet. (UI 4, Response 7, Figure EP-1; Tr. 1, pp. 28. 53)

28. The facility, manufactured by Fuel Cell Energy of Danbury, Connecticut, has a twenty year warranty. (Tr. 3, p. 285)

29. The overall efficiency of the facility is approximately 42 percent. Although the facility produces high temperature waste heat, UI does not propose to use this heat for a thermal heating loop or end use at the adjacent Sikorsky plant given the additional cost needed for supporting infrastructure. (Tr. 3, pp. 297-300)

30. UI would install standard 13.8-kV switchgear equipment that services both the solar and fuel cell facilities to the east of the fuel cell facility. (UI 1, p. 11)

31. The facility and the switchgear would be enclosed by an eight-foot high chain link fence of one-inch mesh design. It would have barbed wire on top for additional security. (UI 4 Response 7; Tr. 1, pp. 24, 67)

32. The facility would only have task lighting and would not be continuously illuminated at night. (Tr. 1, pp. 28, 84)

33. The proposed site has a ground elevation of 9 to 10.5 feet above mean sea level (amsl). (Tr. 1, p. 23)

34. UI would fill and raise the site to an elevation of 14 feet amsl. (Tr. 1, p,. 23)

35. A retaining wall would be installed on the north side of the site to contain the raised area. The other side slopes would be surfaced with gravel. (UI 4, Response 7; Tr. 1, pp. 26-27)

36. The facility would use 26,000 gallons of water per day for process cooling, available from a nearby City water line. It would discharge 13,000 gallons per day of wastewater to the City's wastewater treatment system. (UI 1, p. 16)

Project Description – Solar Facility

37. The proposed solar facility would be located on top of the City-owned former Seaside Landfill, located on a peninsula surrounded by Long Island Sound to the south, Black Rock Harbor to the west, Cedar Creek to the north, and Barnum Dyke, a road, to the west. Seaside Park occupies the south and west edge of the peninsula, outside of the proposed project area. (UI 1, Attachment 12-April 11, 2014 memo; UI 4, Response 6, Response 7, Figure 7b)

38. The landfill is approximately 46 acres in size and is generally elongated- rectangular in shape with steep sloping north and south sides tapering to a flat area along the top. The landfill varies in height with lower elevations at the west and east ends, rising to a height of approximately 80 feet amsl at its center. (UI 1, Attachment 6, p. ES-1; Attachment 12; UI 4, Response 7, Figure 7C; Tr. 3, pp. 337-338)

39. The landfill operated from 1938 to 1991 for municipal solid waste and from 1996 to 2000 for demolition waste. The city closed the main portion of the landfill in 2000. (UI 1, Attachment 6, p. ES-1)

40. A 2-acre former hazardous waste disposal area is located adjacent to the northeast corner of the municipal landfill and is in the process of being closed. This area is outside of UI's project limits. (UI 4, Response 14)

41. UI would lease a 22-acre area on the landfill for a 20-year term with two 5-year renewal increments. (Tr. 3, pp. 284-285)

42. Within the lease area, UI would establish an approximate 11-acre solar field. (UI 4, Response 6)

43. The solar field would consist of 8,550 solar photovoltaic (PV) polycrystalline panels and associated ground equipment. (UI 4, Response 11)

44. The PV panels are rated at 255 watts. They have a service life of 25-30 years and a 14 to 16 percent efficiency rating. Associated electrical components have a service life of 15 years. Electrical equipment would be replaced on an as-needed basis in accordance with an Operations and Maintenance Plan. The overall efficiency of the solar project would degrade approximately 0.5 percent per year. (UI 1, Attachment 2 PV specification sheet; UI 4, Response 12; Tr. 1, pp. 76-77; Tr. 3, pp. 284-285, 374-376)

45. The panels would be installed at a pitch of 20 degrees to maximize the number of panels on the site. Although the optimum pitch for a PV panel is 35 degrees, installing panels at this angle on top of the site would result in shading to adjacent panels, reducing electrical output. (UI 4, Reponses 13; Tr. 1, p. 39)

46. The project would produce the greatest amount of energy during summer peak. (Tr. 3, pp. 371-372)

47. The solar panels would be installed on the landfill using a ballast rack system. Racks to support the panels would be mounted on concrete blocks (ballasts), each measuring six feet by two feet. The racks would raise the panels two feet above ground level at the bottom, 4.2 at the top. The racks would be positioned facing south. (UI 1, pp. 1, 9; UI 4, Response 7 Sheet 7D, Response 11; Tr. 3, p. 306)

48. The ballast system was chosen to avoid significant disturbance to the landfill cap. The cap consists of 24 inches of cover material, rated to a specific impermeability, and supports a vegetative layer consisting of mostly invasive plants and small diameter trees. (UI 1, pp. 7, 9; DEEP comments of September 4, 2014)

49. The existing slopes within the proposed solar field vary, with the top of the landfill being almost level and side slopes reaching a grade of 14 percent. Approximately 75 percent of the solar field area has a grade between zero and eight percent. (UI 4, Response 9; Tr. 3, pp. 292-293)

50. UI would alter the grade as necessary so that each ballast would rest on a maximum grade of 7 percent. To grade the ballast area, UI may excavate up to six inches of cover material and install a gravel base under each ballast. (UI 4, Response 9, Response 10; Tr. 3, pp. 294-295)

51. The solar panel rows would be approximately 5 to 10 feet apart, depending on shading criteria. (Tr. 1, p. 40)

52. The solar field would extend for approximately 2,350 feet along the crest of the landfill with elevations ranging from 40 feet amsl on the east end, rising to 80 feet amsl at the center, and sloping down to 25 feet amsl on the west end. (UI 4, Response 7, Figure 7C)

53. The solar field would include three inverters and four transformers mounted on concrete pads. The installation of the electrical pads would require the excavation of 4 to 6 inches of landfill cover material. (UI 4, Response 7, Figure 7C, Response 10)

54. The inverters would convert the solar-generated power from 600 volts direct current and convert it to 380 volts alternating current (AC). The transformer would convert the AC power to a distribution voltage of 13.8 kV. (Tr. 1, p. 41)

55. Wiring connecting the panels to the inverters would be installed within conduits attached to the panel racking system. (Tr. 1, pp. 40-41)

56. The electrical line from the transformers to the switchgear at the fuel cell facility would be installed underground in a concrete conduit adjacent to the solar field access road. UI would use fill and some excavation of the landfill cover material to install the conduit two feet below grade. The landfill cap would not be disturbed. (UI 4, Response 10; Tr. 1, p. 42)

57. From the switchgear, the electrical connection would extend overhead from the switchgear on new utility poles and transition to underground line along Barnum Dyke and Atlantic Avenue before reaching the existing UI distribution system. (UI 4, Response 7, Figure 7b; Tr. 1, pp. 42-43)

58. The proposed access drive to the solar field would extend from the mulch processing area, ascending the northeast side of the landfill along an existing access way. The proposed drive would extend along the north edge of the solar field, accessing the transformer/inverter pads. (UI 4, Response 7, Figure 7C)

59. The proposed 15-foot wide gravel access drive would be constructed by adding approximately 12 inches of processed stone on top of the existing access way. Remaining areas of the access drive would require some excavation of the landfill cap to create a level surface. Installation of the proposed access drive would require a disruption permit from DEEP specifying road design criteria for allowable load-bearing pressure. (UI 4, Response 7, Figure 7C; Tr. 1, p. 44; Tr. 3, pp. 294-295)

60. The solar field would be enclosed by an eight-foot high chain link fence with two-inch mesh, anchored by concrete ballasts. The fence would not have barbed wire on top. An access gate would be installed at the base of the access drive. (UI 4, Figure 7D; Tr. 1, pp. 36, 67)

61. The fence ballast would require a level surface to support the fence. UI would excavate up to 12-inches of landfill cover and install gravel as necessary to create a level surface. (UI 4, Response 10; Tr. 1, pp. 66)

62. Light fixtures would not be installed around the solar field. (Tr. 1, p. 381)

63. The panels would be cleaned once per year using water. (Tr. 1, p. 57)

64. Snow is expected to slide off the panels or melt. UI would not manually remove snow. (Tr. 1, p. 57)

Environmental Considerations

65. Land use within a half-mile of the project consists of parkland, residential, commercial, and industrial. The nearest residential area to the project is approximately 0.2 miles northwest of the west end of the solar field, across Black Rock Harbor. Several marinas front Black Rock Harbor north and west of the landfill. (UI 4, Response 4, Figure 4; Torres 8; Tr. 3, pp. 229-233)

66. Seaside Park is 195 acres in size with a majority of the parkland occurring east of the site. The landfill area is approximately 41 acres of which 11.3 acres would be used for the solar facility. The fuel cell facility and associated switchgear is 0.38-acres in size. (UI 4, Response 6)

Wildlife and Habitat

67. UI's initial consultation with DEEP regarding state threatened or endangered species at the site identified five bird species listed by the DEEP's Natural Diversity Database (NDDB) that have been recorded in the vicinity of the landfill. (UI 1, Attachment 12)

68. UI performed a habitat review and determined no suitable habitat was present within the proposed project area for these species. (UI 1, Attachment 12, Attachment 14)

69. DEEP reviewed the project again and issued a NDDB determination letter on May 16, 2014 identifying an additional bird species, the horned lark, and three plant species, sickle leaved golden aster, beach needle grass, and sand dropseed, that could occur within the project limits. DEEP recommended field studies to determine the presence of these four species. (UI 1, Attachment 13; Tr. 3, pp. 326-328)

70. UI completed site surveys for these four species in August 2014 and concluded there is no suitable habitat within the project area to support the horned lark, sickle leaved golden aster, and beach needle grass. Marginal habitat is present for the sand dropseed along the existing landfill access way but no individuals of this species were identified. (UI 5)

71. DEEP concurred with the assessment report and further noted that an American Kestrel, a state threatened bird, was observed during the survey work. The habitat report identified a snag tree at the west end of the landfill land, beyond the project limits, as a suitable kestrel nesting site. DEEP recommended that UI establish a 500-foot buffer zone around any nesting kestrels observed during project work. (UI 5; DEEP comments of September 4, 2014)

72. Vegetative cover on the landfill is of low diversity, dominated by mugwort, an invasive plant that is generally three feet in height. Another prevalent invasive plant, the common reed, is found mainly on the northern and southern sides on the landfill. Small stands of trees are interspersed along the landfill with a small grove of mulberry trees at the top. More mature trees are found along the lower north slope of the landfill. (DEEP comments of September 4, 2014; UI 1, Attachment 12)

73. UI would remove all trees within the project area. Other trees or shrubs not in the project area or affecting the project would remain. (Tr. 1, pp. 34-35)

74. UI would cut the existing vegetation to a low height prior to construction. Once construction is completed, UI would mow as necessary to maintain a vegetative height that remains below the solar panels. (Tr. 1, pp. 34-35; Tr. 3, pp. 345-352)

75. Any bare soil that results from construction activities would be seeded with native grasses. (Tr. 3, p. 346)

Wetlands

76. A small wetland, approximately 530 square feet in size, was identified in a depressed area on top of the west end of the landfill and within the proposed solar field. It was formed from settlement of the landfill. (UI 4 Wetland Report; Tr. 1, p. 38)

77. UI would fill the wetland to construct the solar field. A U.S. Army Corps of Engineers wetland permit would not be required for this activity. (Tr. 1, pp. 37-39)

78. The wetland has little biological value as it is dominated by mugwort and path rush. Its soil classification is "dump". (UI 4 Wetland Report)

Historic Resources

79. The project area is located adjacent to the Seaside Park Historic District, a district listed in the National Register of Historic Places. (UI 4, Response 6; Torres 1)

80. The Seaside Park Historic District extends from Soundview Drive at its east end to Fayerweather Island at its west end, a distance of approximately 2.5 miles. The island is connected to the Seaside peninsula by a breakwater. The eastern end of the park was designed by Frederick Law Olmsted. The western end of the park, adjacent to the present day landfill, was added to the park between 1895 and 1912 by filling marshland. (Torres 1; Tr. 3, pp. 251-252)

81. The National Register of Historic Places nomination form included a narrative and an accompanying map to delineate the boundaries of the historic district. The narrative specifically excludes the landfill area from the area encompassed by the National Register nomination. (Torres 1; Tr. 3, p. 274)

82. Two historic buildings dating from 1918, a bathhouse and a stable, are located approximately 0.26 miles east northeast of the edge of the solar field. The stable is approximately 320 feet south of the fuel cell location. (UI 4, Response 26; Torres 1)

83. Barnum Boulevard extends west from Barnum Dyke and serves a one-mile long beach area (west beach) within the historic district. (UI 4, Response 26; Torres 1)

84. The Black Rock Historic District is located 0.3 mile west of the proposed solar field. The district is centered along Ellsworth Street and Seabright Avenue and includes frontage along Black Rock Harbor. (Council Administrative Notice 6; Tr. 3, p. 233; Torres 8)

85. The State Historic Preservation Office, in correspondence submitted to UI, stated the proposed project would have no adverse effect to the Seaside Park Historic District with the condition that the solar field be adequately screened by plants consistent with Olmsted's original design for the park. UI intends to install plantings to screen the fence as necessary, although the type of plants to be used has not been determined. (UI 3; Tr. 1, p. 50; Tr. 3, pp. 316-317)

Other Environmental Considerations

86. The existing grade of the fuel cell site is within the Federal Emergency Management Agency (FEMA) designated 100-year flood zone, using flood hazard mapping dated July 2013. The flood elevation was established at 13 feet amsl. This level includes storm surge. (Tr. 1, pp. 23, 26, 60; Tr. 3, pp. 312-313)

87. FEMA does not use the 500-year flood zone delineation in coastal areas such as the Seaside Park area. (UI 4, Response 25-FEMA flood map, Response 32; Tr. 1, pp. 25-26)

88. UI proposes to raise the ground elevation of the fuel cell location to a height of 14 feet amsl by adding 2,300 cubic yards of fill. UI would be willing to raise the elevation height to 15 feet amsl if the Council imposed such a condition. (UI 4, Response 32; Tr. 1, p. 23; Tr. 3, pp. 310-312)

89. The solar facility is not within the FEMA designated 100-year flood zone. (UI 4, Response 25- FEMA flood map)

90. The solar facility and fuel cell locations would not require storm water control structures or features. (UI 1, Attachment 15; UI 4, Response 7, Sheet EP-1)

91. The tilted solar panels would cause rainwater to flow over a drip edge, but once on the ground the water would be dispersed overland following natural grades. UI is not altering the contours of the existing landfill and intends to retain as much of the existing groundcover as possible. (UI 4, Response 22; Tr. 3, pp. 304-307)

92. The concrete ballasts would create a minimal impervious surface, not altering storm water flow significantly. (UI 1, Attachment 15, p. 6)

93. UI would monitor the solar field for erosion issues at regular intervals. Although not expected, any channelization that occurs could be controlled through the installation of gravel beneath panel drip edges or the addition of organic materials such as wood chips or fiber matting to stabilize eroded surfaces. (UI 4, Response 23)

94. Prior to construction, erosion and sedimentation controls would be installed around soil-disturbing work areas. (Tr. 3, pp. 293-294)

95. UI conducted a settlement study and determined the landfill was settling at an expected rate. Further settlement over a five year period would be by a few inches. (UI 4, Response 16; Tr. 1, pp. 46-49; Tr. 3, p. 341)

96. The weight of the solar equipment may cause another inch or two of landfill cap settlement. The equipment would not cause any breaks in the landfill cap. If necessary, the angle of the panels can be adjusted without disturbing the landfill cap if settlement causes them to move out of the proper angle. (Tr. 1, pp. 48-49)

97. The fuel cell units would not generate noise above background levels to adjacent receptors. (Tr. 1, pp. 28-29)

98. The project would not require a DEEP New Source Review air permit. (UI 1, p. 18; DEEP comments of September 4, 2014)

Visibility

99. The fuel cell unit would be visible along Barnum Dyke. (UI 4, Response 26)

100. Water vapor emissions from the fuel cell may be visible in colder months. (Tr. 3, p. 368)

101. Confining the layout of the solar field to the upper, flatter portions of the landfill serves to limit its visibility. The view from Seaside Park is broken up by trees around the base of the landfill. Views of the landfill across Cedar Creek are from such a low perspective that only the fence along the access road would likely be visible. From that vantage point, solar panels installed on the steep sides of the landfill would increase the solar field's visibility. (Tr. 3, pp. 277-278)

102. The solar field fence and arrays would be visible from limited locations along the west beach area of Seaside Park through gaps in existing vegetation. Areas with visibility to the west and north are across Cedar Creek. (UI 4, Response 26; Tr. 1, p. 63; Tr. 3, pp. 314-315)

103. Portions of the solar field (fence and/or arrays) would be visible from select areas surrounding the site. Specific locations with visibility of the solar field are as follows:

Location	Approximate Distance/Direction to Site	Solar field Visibility (leaf-off conditions)
West Beach Bath House (historic district)	0.08 mile northwest	30% visible
South End of Barnum Ave. (historic district)	0.32 mile northeast	60 % visible
Seaside Park ball field (historic district)	0.56 mile southwest	20% visible
Bostwick Ave. (across harbor)	0.16 mile southeast	75% visible
Captains Cove (across harbor)	0.18 mile southeast	75% visible
Bloodroot Restaurant, Ferris St. (across harbor)	0.38 mile southeast	75% visible
Fayerweather Yacht Club (across harbor)	0.15 mile east	80% visible
Black Rock Yacht Club (across harbor)	0.63 mile northeast	45% visible
Grovers Ave. (across harbor)	0.79 mile northeast	45% visible
Interstate 95	0.85 mile southeast	80% visible
Barnum Dyke	0.29 southwest	25% visible
Sound View Drive near ball field (historic district)	0.53 mile west	10% visible

(UI 4, Response 26, Response 27; Tr. 1, p. 62; Tr. 3, p. 318)

104. Reflective glare would not be a concern to the receptors across the harbor to the north as the panels would be tilted to the south, with the reflective side oriented toward Long Island Sound. (Tr. 3, p. 382)

105. The project would not be a hazard to air navigation. The Federal Aviation Administration examines sun glare as part of its review of solar projects. (UI 2; Tr. 1, p. 52)

Public Safety

106. DEEP has been involved with landfill operations and subsequent closure requirements since the early 1980's. DEEP issued a tentative landfill Stewardship Permit to the City in May 2010. The permit listed obligations the City is required to complete to ensure proper closure of the landfill, including, but not limited to the following: maintenance of the landfill cover, quarterly inspections of the landfill cover, maintenance of the groundwater system, and semi-annual sampling and analysis of groundwater and surface water. (UI 1, Attachment 6, pp. 3-3, 3-7)

107. UI would be responsible for the maintenance of the landfill cap and quarterly inspection requirements within the solar field area. Inspections reports would be submitted to the City. (Tr. 3, pp. 291-292)

108. UI would be required to obtain a DEEP Disruption Permit and an approved Post Closure Use Plan for the solar field facility. UI is developing documentation to satisfy DEEP's requirements. (Tr. 3, pp. 288-289)

109. The fuel cell facility would use natural gas to generate electricity through a chemical reaction and not through combustion. (Tr. 1, pp. 52-53)

110. The Bridgeport Fire Department has previously received fuel cell emergency response training as part of the operations plan for an existing 15.5 MW fuel cell facility located in the City. (Tr. 1, pp. 53-54)

111. The Bridgeport Fire Department as well as other Bridgeport service departments would receive all necessary training for site emergencies. (UI 1, pp. 14, 17-18; Tr. 1, pp. 53-54)

112. Solar field equipment is made out of silica-based panels, concrete and metal and would not combust in the event of a brush fire. (Tr. 1, p. 56; Tr. 3, p. 286)

113. The fire department would be trained for emergency response at the solar field. A health and safety plan and an emergency response plan would be prepared by UI prior to system operation. (Tr. 3, pp. 286-287)

114. The racks, ballasts, and mounts for the solar panels would be designed to withstand 110 mile per hour wind speeds. (Tr. 1, pp. 67, 90-91)

115. The project's electrical systems would be monitored remotely. (Tr. 1, p. 69)

Figure 1: Project location and area features. (UI 4, Response 4)

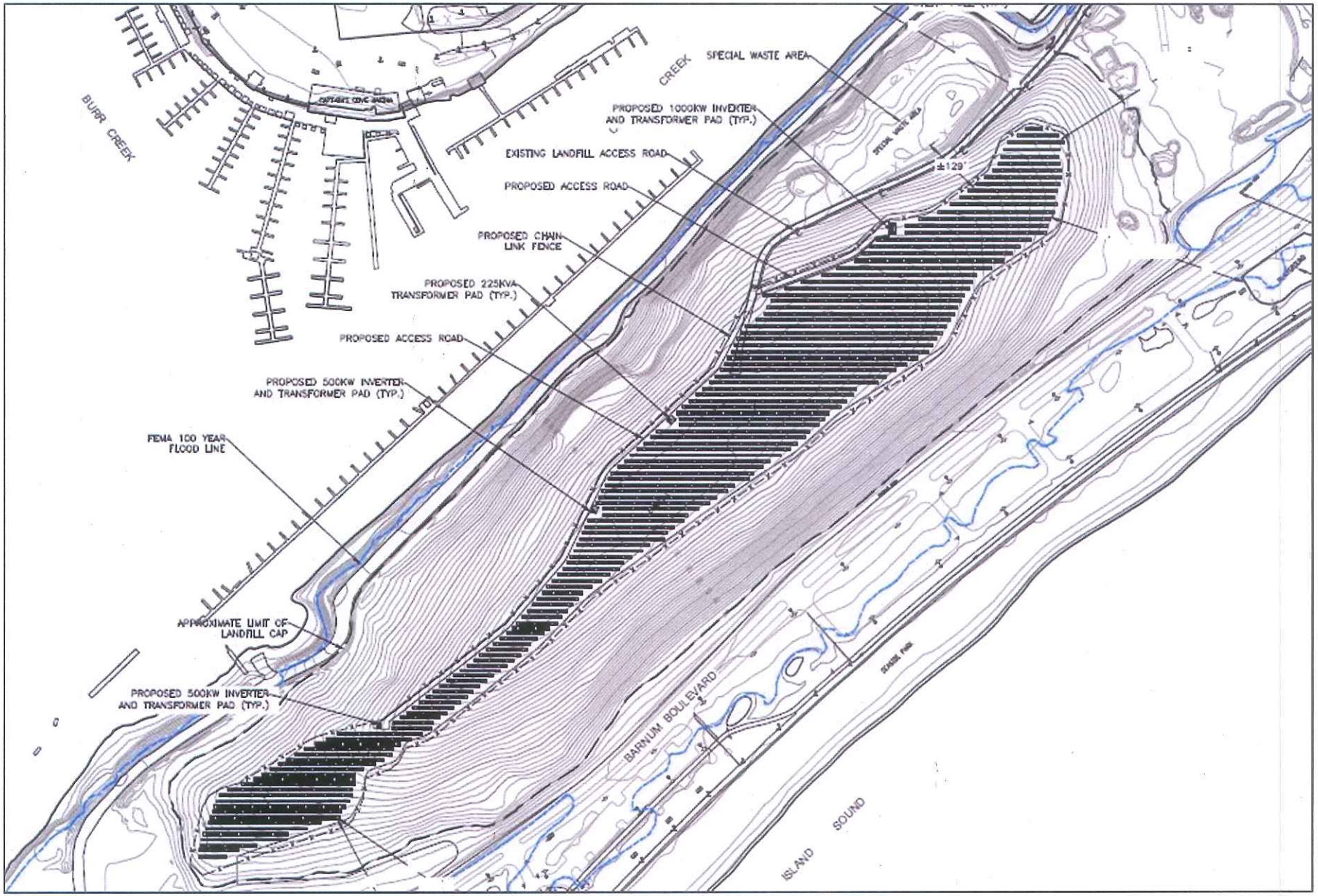

Figure 2: Proposed Solar Field. (UI 4, Response 7)

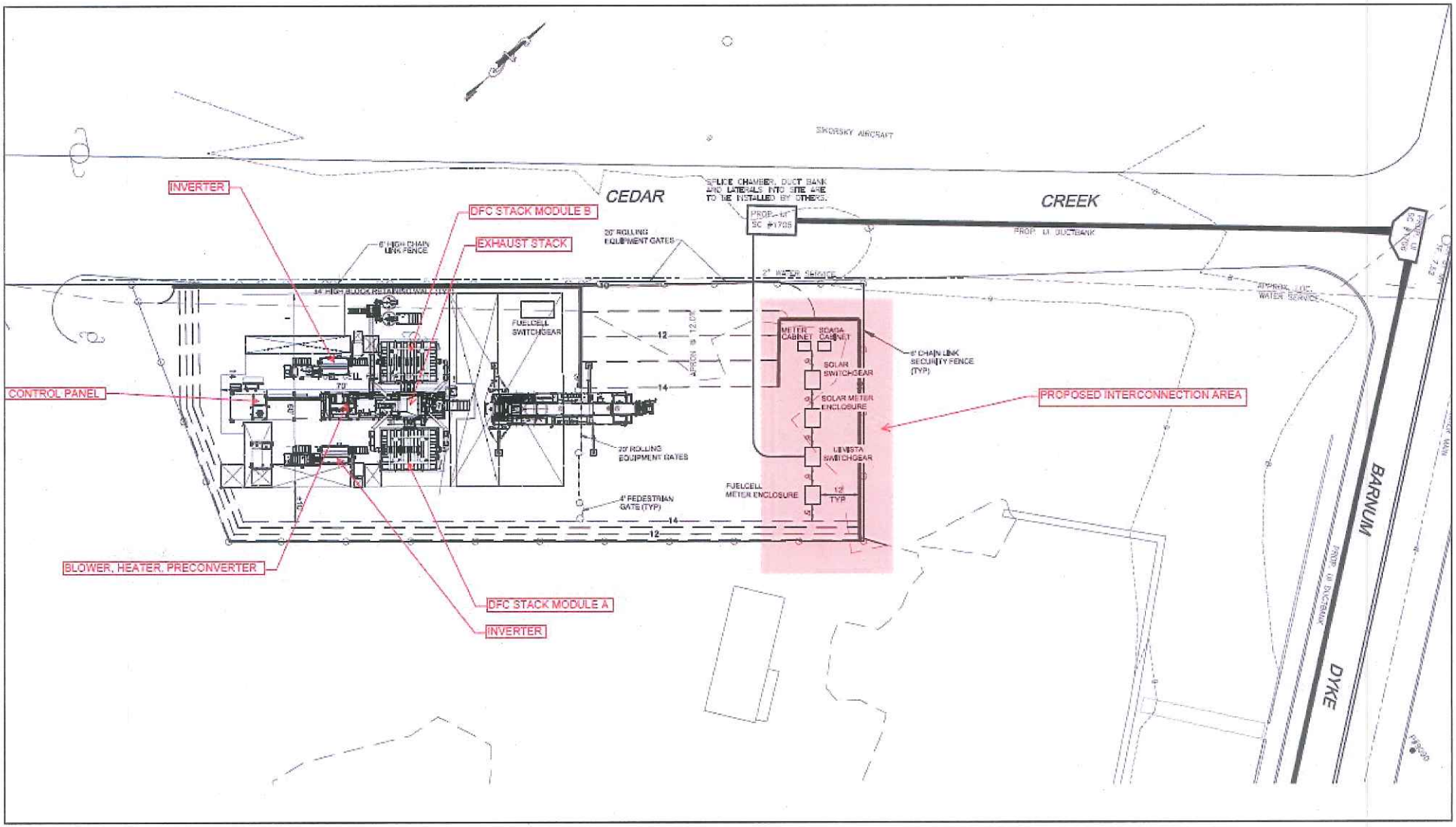

Figure 3: Proposed Fuel Cell layout. (UI 4, Response 7)

Figure 4: Solar field photo-simulation with solar array and chain link fencing depicted on top of landfill. View location is from Barnum Boulevard at west end of Seaside Park. (UI 4, Response 26, photo-simulation 2)

Figure 5: Fuel cell photo-simulation from Seaside Park - west beach entrance on Barnum Dyke. (UI 4, Response 26, photo-simulation 14)

PETITION NO. 1104 – The United Illuminating Company petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 2.2 MW AC solar photovoltaic facility and a 2.8 MW AC Fuel Cell facility on approximately 22 acres of the former Seaside Landfill located at 350 Waldemere Avenue, Bridgeport, Connecticut.	}	Connecticut Siting Council November 13, 2014

Opinion

On May 27, 2014, The United Illuminating Company (UI) submitted a petition to the Connecticut Siting Council (Council) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need (Certificate) is required for the construction, maintenance, and operation of a 2.2 megawatt (MW) solar photovoltaic facility and a 2.8 MW fuel cell facility in the City of Bridgeport.

The project is proposed in response to Public Act 11-80, Section 127, *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future,* that permits electric distribution companies to construct, own, or operate Class I renewable energy facilities. The Act further specifies that each company can manage up to 10 MW of renewable energy with each renewable generating facility rated between 1 MW and 5 MW. The Council is required to approve the project by a declaratory ruling as long as the project meets Department of Energy and Environmental Protection (DEEP) air and water quality standards.

The proposed solar facility would be located on top of the City-owned former Seaside Landfill that was closed in 2000. The landfill is approximately 46 acres in size and is generally rectangular in shape with steep sloping north and south sides tapering to a flat area along the top. The landfill varies in height with lower elevations at the west and east ends, rising to a height of approximately 80 feet above mean sea level (amsl) at its center.

UI would lease 22 acres on the landfill and establish an approximate 11-acre solar field consisting of 8,550 solar photovoltaic panels and associated ground equipment. The solar field would extend for approximately 2,350 feet along the crest of the landfill with elevations ranging from 40 feet amsl on the east end, rising to 80 feet amsl at the center, and sloping down to 25 feet amsl on the west end. DEEP has regulated the landfill since the 1980's and, after the landfill was closed, issued a tentative landfill Stewardship Permit to the City in May 2010. In order for UI to develop the solar field, a DEEP Disruption Permit and a DEEP-approved Post Closure Use Plan would be required.

The solar panels would be installed on the landfill in linear rows using a ballast rack system. Metal frames (racks) that hold the panels would be mounted on concrete blocks (ballasts), each measuring six feet by two feet. The racks would position the panels so that the bottom of each panel is two feet above ground level, extending to 4.2 feet above ground level.

The ballast rack system was chosen to avoid significant disturbance to the landfill cap, which consists of 24 inches of cover material, rated to a specific impermeability, and supports a vegetative layer. Although the top and sides of the landfill close to the top are level enough for the ballast rack system to be installed generally without grading, in certain locations UI would have to excavate some of the cover material and install gravel under the ballasts to make them more level.

The solar facility would be accessed by an existing dirt drive ascending the northeast side of the landfill from the City's mulch processing area. UI would improve access by adding gravel and extending the drive to several transformer/inverter pads that would be located along the edge of the solar field. The solar facility would be enclosed by an eight-foot high chain link fence, anchored by concrete ballasts. The fence would not have barbed wire on top. A gate would be installed at the base of the access drive.

The proposed fuel cell facility would be located within a 290-foot by 80-foot lease area on a 2.1-acre parcel owned by the City and used for the storage of City Parks Department equipment located east of the landfill. The facility would consist of two molten carbonate fuel cell modules, a water treatment skid and two inverters. The facility would be approximately 70 feet long by 44 feet wide by 13 feet high, with an exhaust stack extending to 24 feet. Switchgear equipment for both the solar field and fuel cell would be located adjacent to the north side of the fuel cell facility. The fuel cell facility and the switchgear would be enclosed by an eight-foot high chain link fence topped with barbed wire.

The fuel cell/switchgear area is located within the Federal Emergency Management Agency (FEMA) designated 100-year flood zone, which sets the flood elevation level at 13 feet amsl. UI proposes to fill the area to raise the grade to 14 feet amsl. The Council, seeking further protection of this equipment at a relatively low additional cost in the event of coastal flooding, will order UI to raise the grade to 15 feet amsl.

Flooding would not be an issue for the solar facility, which is not within the FEMA designated 100-year flood zone. To prevent significant changes in storm water runoff from the solar field during construction, UI would leave the existing vegetation, which consists mainly of mugwort, an invasive plant, as ground cover. Instead of being taken down to bare soil, the mugwort would be mowed to a low height and excavated where necessary to support the fence and rack ballasts. Post-construction, UI would maintain the mugwort at a low height, below the solar panels, allowing runoff to filter and drain in a natural pattern.

Land use to the north, east and west of the proposed project overall is a mix of commercial, industrial and residential. The fuel cell facility is relatively small and its visual impact would be similar to other existing industrial use in the surrounding area. Seaside Park, a 195-acre City-owned public park, is listed in the National Register of Historic Places, particularly notable because the park's eastern end was designed by landscape architect Frederick Law Olmsted. However, the State Historic Preservation Office, in correspondence submitted to UI, stated the proposed project would have no adverse effect to the Seaside Park Historic District with the condition that the solar field be adequately screened by plants consistent with Olmsted's original design. UI intends to install plantings to screen the fence as necessary, although the type of plants to be used has not been determined.

Although the solar field would have a large footprint, its visual effect on the park would be minimal, especially during leaf-on conditions when most users would visit the park, since visibility would be limited to areas along Barnum Boulevard serving West Beach. Stands of small trees along the base and south sides of the landfill and the intervening mugwort would block open views of the fence and solar panels from the beach and associated parking areas.

In general, visibility of the project would also be limited from areas east, north and west due to intervening vegetation and existing structures. Although several marinas front Black Rock Harbor across Cedar Creek from the landfill, the low height of the solar field equipment and a row of trees along the base of the landfill would prevent expansive views of the facility. Also, the solar facility is located generally along the top of the landfill rather than on the steep sloping sides: this placement further mitigates the visual effect.

The project would have no adverse environmental effect on air or water quality: it would meet all applicable U.S. Environmental Protection Agency and DEEP Ambient Air Quality Standards and Water Quality Standards. Development of the site would not affect any state or federal endangered or threatened species, or species of special concern. A small wetland is located along the west end of the landfill, formed from landfill settlement. UI would fill the wetland as it has little biological value; indeed, the Council notes, its presence threatens the integrity of the landfill cap. Use of the landfill for this project is consistent with State policy concerning brownfield redevelopment, as a solar project has recently been developed at the former landfill in Hartford and others are proposed elsewhere in the State.

Based on the record in this proceeding, the Council finds that there would be no significant adverse environmental effect associated with the construction of a 2.2 MW solar photovoltaic facility and a 2.8 MW fuel cell in Bridgeport. Furthermore, both proposed components of the project would increase "the use of clean energy and technologies that support clean energy" in accordance with Section 1 of Public Act No. 11-80: *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future.* Therefore, the Council will grant the Petition for a Declaratory Ruling that a Certificate of Environmental Compatibility and Public Need is not required for this project.

PETITION NO. 1104 – The United Illuminating Company petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 2.2 MW AC solar photovoltaic facility and a 2.8 MW AC Fuel Cell facility on approximately 22 acres of the former Seaside Landfill located at 350 Waldemere Avenue, Bridgeport, Connecticut.	}	Connecticut Siting Council November 13, 2014

Opinion, In Part Dissenting

This Petition proposes two separable projects under one application. Each will be discussed in turn.

1. 2.8 MW Fuel Cell A fuel cell is a device which converts hydrogen (from natural gas) into electricity in an electro-chemical reaction. Typically, this process has about a 40% efficiency which can be increased to about 60% if waste heat from the reaction can be utilized. Ideally, then, siting a fuel cell should consider opportunities for optimal use of both electricity **and** waste heat to achieve maximum benefits from this technology. The installation proposed is located a few hundred feet westerly of a medium size industrial facility; but there is no plan to incorporate use of the waste heat from the fuel cell. Given the significant municipal, commercial and industrial facilities in Bridgeport alone, it is very unfortunate that a more thoughtful and beneficial location was not selected where waste heat could be utilized. There is absolutely no compelling technical reason that the fuel cell and the solar installation must be tied together. They can operate quite properly in separate locations if desired. A more advantageous location might also eliminate some of the capital expense for electrical connection to the distribution system.

While the proposed fuel cell is a much less-than-optimal proposal, the question is, does it create a significant adverse environmental effect? The answer to me in clearly "No". It's minimally visible, makes negligible noise, is elevated above all conceivable floods, emits no pollution (except carbon dioxide), and is not a material hazard to adjoining properties. Accordingly, I will reluctantly support this part of the petition.

2. 2.2 MW Solar Photovoltaic Facility The applicant further proposes to construct an 11 acre solar facility on 22 acres of the 46 acre former Seaside Landfill owned by the City of Bridgeport. The facility will consist of 8,550 panels converting sun light into electricity, and related electrical equipment all within a fenced area along the upper portion of the filled area. The facility will be connected to the electrical distribution system at the site of the fuel cell. In contrast with the fuel cell which normally will run around the clock, the solar facility will only produce electricity when light hits it, with its output varying according to the angle of the sun. The big issues affecting this proposed facility are visibility, potential harm and adverse effects on the landfill, and conflicts with the long established Seaside Park.

Visibility from inhabited residential areas is limited to the locations across Cedar Creek north and west of the facility (Burr Creek, Captain's Cove and to the west). It will also be very evident from Seaside Park and Barnum Boulevard, especially below the proposed facility. And, although not emphasized, it will be starkly visible from the adjoining waters of Long Island Sound. Given the public record of the state in protecting and preserving the coastline, it is very surprising that such a proposal is before the Council. In my opinion, this is a giant step backward and directly conflicts with public and private efforts to make the Sound more accessible and to improve coastal appearance. This Council has agonized over numerous facilities that might have small or modest visibility along the coast or from the Sound. They are all negligible compared to this solar proposal.

The likelihood of adverse effects on the landfill have been duly considered and seem to be manageable. Given past use of the land here, it is probable that some settlement of the surface will occur. This has

been acknowledged and correction anticipated. Will any significant problems occur? It seems unlikely.

Seaside Park lies to the east and south of the facility. While the original Olmsted-designed section of the Park may not be significantly impacted, that portion along the shore south of the facility certainly will. As discussed under "visibility", this seems to run completely against public policy of making the coast more attractive and accessible

As with the fuel cell, better locations for a solar facility are very evident. As an example (and given the strong support by Mayor Finch), a major solar facility might well have been proposed for the roof of City Hall, or as a roof over its parking lot (as done elsewhere in the state). That would be a ringing endorsement of the technology!

Because of the very high visibility of the proposed solar project, and because this portion of the project materially impacts Seaside Park, I deem it to have a very significant adverse environmental effect and will accordingly vote to deny approval of this proposed project.

Philip T. Ashton
Council Member

PETITION NO. 1104 – The United Illuminating Company petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 2.2 MW AC solar photovoltaic facility and a 2.8 MW AC Fuel Cell facility on approximately 22 acres of the former Seaside Landfill located at 350 Waldemere Avenue, Bridgeport, Connecticut.	}	Connecticut Siting Council November 13, 2014

Decision and Order

Pursuant to Connecticut General Statutes § 16-50k(a) and Connecticut General Statutes §4-176 and the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a 2.2 megawatt (MW) solar photovoltaic facility and a 2.8 MW fuel cell facility in the City of Bridgeport would not have a substantial adverse environmental effect, would meet all applicable U.S. Environmental Protection Agency and Connecticut Department of Energy and Environmental Protection (DEEP) Ambient Air Quality Standards and Water Quality Standards, would be in accordance with stated goals of Public Act No. 11-80: *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future*; and therefore, would not require a Certificate of Environmental Compatibility and Public Need.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and is subject to the following conditions:

1. The Petitioner shall prepare a Development and Management (D&M) Plan for the project in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the City of Bridgeport for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:

    a) a final plan(s) of site development to include specifications for both the solar facility and fuel cell facility including infrastructure, electrical equipment, equipment compound, access and maintenance roads, utility connections, and landscaping;
    b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended;
    c) consideration of the use of waste heat from fuel cell operations to supply energy to a thermal loop or nearby industrial user;
    d) detail for the installation of the fuel cell facility and adjacent switchgear at a ground elevation of 15 feet above mean sea level;
    e) construction work hours; and
    f) a decommissioning plan.

2. The fuel cell facility shall be constructed in compliance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

3. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within four years of the effective date of this Decision and Order or within four years after all appeals of this Decision and Order have been resolved. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Petitioner shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

4. The Petitioner shall provide the Council with written notice of the commencement of site clearing and completion of construction for each facility.

5. The Petitioner shall submit a first year operating report within three months after the conclusion of the first year of operation that includes a discussion of the number of hours of operation and the amount of energy generated by each facility.

6. The Petitioner shall provide the Council with not less than 30 days written notice that one or both facilities comprising the project will cease operation.

7. The Petitioner, or its successor, shall cause all equipment and appurtenances to be dismantled and removed from the host property within one year after the cessation of operations of one or both facilities comprising the project.

8. Any request for extension of the time period referred to in Condition 3 shall be filed with the Council not later than 60 days prior to the expiration date of said time period and shall be served on all parties and intervenors, as listed in the service list, and the City of Bridgeport. Any such request for extension shall state the reason(s) for which an extension is being sought.

9. This Declaratory Ruling may be transferred, provided both the facility owner/operator/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the facility owner/operator/transferor and the transferee shall provide the Council with a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

10. The Petitioner shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the project under Conn. Gen. Stat. §16-50v.

By this Decision, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding, as listed in the Service List dated September 5, 2014, in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

CERTIFICATION

The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in **PETITION NO. 1104 –** The United Illuminating Company petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 2.2 MW AC solar photovoltaic facility and a 2.8 MW AC Fuel Cell facility on approximately 22 acres of the former Seaside Landfill located at 350 Waldemere Avenue, Bridgeport, Connecticut, and voted as follows to approve this petition:

Council Members	Vote Cast
Robert Stein, Chairman	Yes
James J. Murphy, Jr., Vice Chairman	Yes
Chairman Arthur House Designee: Larry Levesque	Yes
Commissioner Robert Klee Designee: Robert Hannon	Yes
Philip T. Ashton	No - 2.2 MW AC Solar Facility Yes - 2.8MW Fuel Cell Facility
Daniel P. Lynch, Jr.	Yes
Dr. Barbara Currier Bell	Yes
Dr. Michael W. Klemens	Absent
Eileen M. Daily	Absent

Dated at New Britain, Connecticut, November 13, 2014.