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CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
FINAL ENVIRONMENTAL IMPACT REPORT

PROJECT NAME : Salem Harbor Station Redevelopment
PROJECT MUNICIPALITY : Salem
PROJECT WATERSHED : North Coastal
EEA NUMBER : 14937
PROJECT PROPONENT : Footprint Power, LLC
DATE NOTICED IN MONITOR : April 10, 2013

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62I) and Section 11.08 of the MEPA regulations (301 CMR 11.00), I have reviewed the Final Environmental Impact Report (FEIR) and hereby determine that it **adequately and properly complies** with MEPA and its implementing regulations.

Project Description

As described in the FEIR, the project consists of demolition of an existing coal-fired power plant, remediation of the site, and construction of a new 630 megawatt (MW) nominal electrical generating facility and associated infrastructure and equipment on a 65-acre site in Salem. The facility will be fired by natural gas and include "quick-start" capability (ability to generate 300 MW within 30 minutes of start-up and 630 MW within 60 minutes). Use of duct-firing under summer conditions, will increase capacity by 62 MW for a total of 692 MW. The project will have the capacity to generate 5.1 million megawatt hours (MWh) annually. The facility will be constructed on approximately 20 acres of the northwestern portion of site. The facility stacks will be contained in a common collar with a height of 230 feet.

The project includes construction of several buildings comprising approximately 115,000 square feet (sf) with heights ranging from 25 feet to 125 feet. The 8,188-sf Administration Building will be integrated into a landscaped berm along the western edge of the property. The 10,282-sf Operations Building will be incorporated into the Steam Turbine Generator (STG) Building and will include an office, maintenance shop and locker rooms. The existing guard house, located adjacent to the access drive, will be retained as a guard house. In addition, an existing building located along the northern access drive will be repurposed as a visitor's center. A continuous landscaped berm is incorporated into the project design. On the western and southern sides of the facility it will rise to 25 feet and will provide a landscaped buffer and acoustic barrier between the street and the facility. On the eastern edge, the berm will have a height of 15 feet and will provide a visual buffer from the ocean side.

The Proponent will operate the existing power plant until its scheduled shut down on June 1, 2014. Construction is proposed to begin in June 2014 and will extend for approximately 23 months. Demolition will include removal of all above-ground features of the existing facility, including power plant buildings and equipment, stacks and precipitators, coal handling equipment, storage tanks and associated appurtenances such as spill prevention berms; and intake screen and pumphouse structures. The facility will include two quick-start natural Gas Turbine Generators (GTG); two STGs; two heat recovery steam generators (HRSG), including pollution control equipment; administrative/warehouse/shops space; a service bay; an auxiliary bay; a water treatment facility; step-up transformers; an ammonia storage tank; two water tanks; and, air cooled condensers (ACC). The facility is not dual-fueled and, therefore, does not have the potential to use significant amounts of diesel fuel. It will include a diesel-fueled back-up generator.

The design includes a 34,000 gallon above-ground ammonia (NH_3) storage tank to the east of the building structures and shielded from street view. The single-wall construction steel tank will contain 19 percent aqueous (NH_3) used for pollution control processes. The tank, ammonia transfer pumps, valves and piping, will be located within a concrete containment structure (dike). The diked area will be located within another enclosure.

The FEIR identifies changes in the project design and layout, including: a 4,095-sf increase to the STG building to house operations previously included in the Administration Building; addition of landscaped areas and paths; elimination of a row of ACCs; addition of acoustic walls near the transformers; addition of a demineralized water pump and relocation of associated trailer parking area; repurposing of an existing building into a visitor's center; elimination of new parking area and access drive; retention of existing guard house; relocation of the facility switchyard to the south of the National Grid (NGRID) switchyard; relocation of gas line connection from south side of the facility to the east side; and, addition of a hydrogen trailer area.

The facility requires an interconnection with the NGRID switchyard located in the northeast corner of the site. The Proponent will construct a new facility switchyard, a 115 KV underground cable connection from each of the step-up transformers to the new facility switchyard, and overhead 115 kV transmission lines between the facility switchyard and the NGRID switchyard on three 95-foot high steel poles or, alternatively, subsurface feeder connections.

The FEIR indicates that natural gas will be delivered to the site from the HubLine pipeline in Salem Sound. The pipeline will be owned and operated by Spectra Energy. Spectra will conduct the federal, state and local approval and permitting process for the pipeline. A 16-inch pipeline will enter the

site in the vicinity of Derby Street and Webb Street and extend to an on-site metering and regulator station in the southeastern corner of the facility, east of GTG #2. The Proponent will install a pipeline from the meter station to the GTGs, HRSG duct burners, and the auxiliary steam boiler.

Vehicular access to the site will be provided via Fort Avenue. The existing access road will be retained for primary access. Secondary access will be provided from the northwest corner of the site. New on-site access roads will be constructed to and around the new facility. This will include more than 2,500 linear feet (lf) of paved roads with widths of 20 feet to 30 feet. Turning radii will be designed to facilitate access by trucks, equipment and emergency vehicles.

The project does not include redevelopment of the remaining 45 acres of the site. Information provided in previous MEPA filings and the FEIR is limited to construction of the new facility and demolition and remediation necessary to support it. The Proponent indicates that redevelopment will be guided through consultation with the City of Salem and stakeholders. Redevelopment of the site will be addressed in a subsequent Notice of Project Change (NPC).

Project Site

The 65-acre site is located at 24 Fort Avenue in northeast Salem. It is bordered by Fort Avenue and the South Essex Sewerage District (SESD) wastewater treatment plant to the north, Salem Harbor and Cat Cove to the east and northeast, the Blaney Street Ferry terminal and several mixed-use buildings to the southeast, and by Derby Street and Fort Avenue to the west. Residential neighborhoods and the Bentley Elementary School are located west of the site across Fort Avenue and Derby Street. The majority of the site is zoned Industrial and within the Salem Harbor Designated Port Area (DPA). A small area on the northeastern edge of the site is not included in the DPA. Another small area (less than two acres) on the northwest corner of the site is zoned Residential Two-Family.

The site has been used for power generation since 1951. Since 2005, the Salem Harbor power plant was owned and operated by a subsidiary of Dominion Resources, Inc. Units 1 and 2 were removed from service on December 31, 2011. Units 3 and 4 are scheduled to be shut down on June 1, 2014. Major facilities associated with power generation operations include a power house building (including Units 1 through 4, fan house, boiler room and turbine room), an aboveground fuel oil tank farm and associated piping transfer system, a coal storage pile and coal moving equipment, a marine terminal, and a wastewater treatment system. Three small warehouse buildings are located north of the power plant building. West of the power plant building, the site includes a 10-acre easement for a 115 kV switchyard, substation and power lines. The switchyard and power lines are owned by NGRID. Primary access to the site is provided via a driveway from Fort Avenue just north of the Fort Avenue/Memorial Drive intersection.

The facility uses once-through cooling and is permitted to withdraw approximately 119,000,000 gallons per day (gpd) of water from Salem Harbor. Treated effluent is discharged to Salem Harbor, as authorized by the existing National Pollutant Discharge Elimination System (NPDES) Discharge Permit. An additional 100,000 gpd of water is provided from the municipal system for process and potable water needs. Sanitary waste and laboratory drains discharge to the SESD wastewater treatment facility.

The site includes approximately 45 acres of filled tidelands. Wetland resources on-site (or directly adjacent to it) include: DPA, Land Subject to Coastal Storm Flowage (LSCSF), Coastal Bank, and Rocky Intertidal Shores. A portion of the site is located in the City of Salem Flood Hazard Overlay District. The perimeter of the site (primarily the jetty area) is designated as a high hazard area (V-zone) which is subject to wave action.

The site does not contain any historic resources but several Historic Districts and National Historic Landmarks are located within the vicinity, including the Derby Waterfront Historic District, the Salem Willows Historic District, the Winter Island Historic District, the Fort Pickering Historic Landmark, the Fort Lee Historic Landmark, and the House of Seven Gables Historic Landmark.

Jurisdiction and Permitting

The project is undergoing MEPA review and is subject to preparation of a Mandatory EIR pursuant to 301 CMR 11.03 (7)(a)(1) because it requires State Agency Actions and entails the construction of a new electric generating facility with a Capacity of 100 or more MW. The project requires an Approval to Construct from the Energy Facilities Siting Board (EFSB). It requires a Major Comprehensive Air Plan Approval and Prevention of Significant Deterioration (PSD) Review, an Air Operating Permit, a Chapter 91 (c.91) License, an Underground Injection Control Permit and an Industrial Sewer Use Permit from the Massachusetts Department of Environmental Protection (MassDEP). In addition, it may require a Beneficial Use Determination (BUD) from MassDEP. It requires an Aboveground Storage Tank Permit from the Department of Public Safety. This project is subject to review under the May 2010 MEPA Greenhouse Gas Emission Policy and Protocol (GHG Policy). The project may require Federal Consistency Review by Coastal Zone Management (CZM).

The project will require multiple permits and reviews by the City of Salem, including a Special Permit (Essential Use) and Height Variance from the Salem Zoning Board of Appeals and Site Plan Review and a Special Permit (Wetlands and Flood Hazard Overlay District) from the Salem Planning Board. Also, it will require an Order of Conditions from the Salem Conservation Commission (or a Superseding Order of Conditions (SOC) from MassDEP in the event the Order is appealed).

The project requires a NPDES Construction General Permit and a NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity from the U.S. Environmental Protection Agency (EPA). It requires a Notice of Proposed Construction or Alteration to the Federal Aviation Administration (FAA).

The project is not seeking Financial Assistance from the Commonwealth. Therefore, MEPA jurisdiction is limited to the subject matter of required State Agency permits. The numerous permits and approvals required, and the broad scope of the EFSB review, confers broad scope jurisdiction and extends to all aspects of the project that have the potential to cause Damage to the Environment, as defined in the MEPA regulations.

Environmental Impacts

Potential environmental impacts are associated with demolition of the power plant, site remediation, construction, and operation of the new facility. The project will reduce impervious surfaces

by 5.8 acres. It has the potential to emit (PTE) 214.1 tons per year (tpy) of carbon monoxide (CO), 158.6 tpy of nitrogen oxides (NO_x), 39.6 tpy of volatile organic compounds (VOC), 31.5 tpy of sulfur dioxide (SO₂), 109.9 tpy of particulate matter (PM) (including PM₁₀), and 109.6 tpy of PM_{2.5}. It indicates the project has the potential to generate a maximum of 2.5 million tpy of carbon dioxide (CO₂). Actual emissions of CO₂ will be lower. The project includes permanent alteration of 8.5 acres of LSCSF and temporary alteration of 15.5 acres.¹ Compared to the existing facility, the tallest stack will be reduced by 270 feet for a maximum height of 230 feet and the tallest building will be reduced by 50 feet for a maximum height of 125 feet. Generation of average daily vehicle trips (adt) will decrease by approximately 192 adt for a total of 100 adt. The elimination of once-through cooling will decrease average water withdrawal by 119,000,000 gallons per day (gpd). The FEIR notes that the current volume of water discharged from Salem Harbor Station when operating at full capacity is 359,000,000 gpd. Water demand is estimated at 238,500 gpd and is associated primarily with process uses. Sanitary and industrial wastewater generation is estimated at 186,624 gpd and is associated primarily with industrial wastewater.

Measures to avoid, minimize and mitigate potential impacts associated with remediation of the site, construction of the facility, and operation of the facility include: location and design of the facility to minimize potential impacts to residential neighborhoods; state-of-the-art combustion technology, emission controls and reporting equipment to minimize air emissions; noise mitigation including siting of equipment to maximize distance between receptors and noise-producing equipment, enclosing equipment where possible, and use of equipment silencers; elimination of once-through cooling and associated water withdrawal; design and construction of a stormwater management system that incorporates Low Impact Development (LID) techniques; demolition and remediation of site; and, measures to reduce construction period impacts. In addition, the project includes measures to avoid, minimize and mitigate GHG emissions, including fuel choice and technology, installation of a solar photovoltaic (PV) array, and incorporation of energy efficiency measures into the design of the Administration and Operations buildings.

Review of the FEIR

General

The FEIR includes a detailed project description that identifies all major project components (buildings, access roads, equipment, air pollution control and monitoring equipment, water and steam piping systems, tanks, auxiliary equipment, water treatment facilities, etc.) and operating parameters. It includes plans (existing and proposed conditions) for the project site and identifies changes proposed since the filing of the DEIR. It includes an Alternatives Analysis (Section 2.0), Air Quality and Noise analyses and supplemental information (Appendix D and E), a revised GHG Analysis (Section 3.0 and Appendix C), a Subsurface Investigation Report (Appendix L), a Responses to Comments Section (Appendix B) and a Mitigation Section including Draft Section 61 Findings (Section 12.0 and 13.0). It identifies State Agency Actions, including permits and approvals, required for the project and addresses the project's consistency with associated regulatory standards and requirements. It addresses the project's consistency with State environmental and energy policies, including the Global Warming Solutions Act (GWSA) and the Massachusetts Clean Energy and Climate Plan.

¹ This represents an increase of 1.5 acres of permanent impact and reduction of 1.5 acres of temporary impact compared to estimates provided in the DEIR.

The January 25, 2013 Certificate on the DEIR identified three primary issues that warranted additional analysis in the FEIR. These included: identification of environmental impacts associated with a Redevelopment Alternative; amplification of the project's consistency with c.91 and the 2008 Salem Municipal Harbor Plan (MHP); and additional information regarding the natural gas pipeline, potential routes, and associated environmental impacts. The FEIR provides additional information and analysis of each of these issues.

Project Segmentation/Notice of Project Change (NPC)

The MEPA regulations include anti-segmentation provisions to ensure that projects, including any future expansion, are reviewed in their entirety. Proponents cannot evade, defer or curtail MEPA review by segmenting one project into smaller ones that, individually, do not meet or exceed MEPA thresholds. In determining whether work or activities constitute one project, the Secretary must consider whether the work or activities comprise a common plan or independent undertakings, regardless of whether there is more than one proponent, the timing of work and activities, and whether the environmental impacts caused by the work or activities are separable or cumulative.

The DEIR indicated that the pipeline would undergo separate MEPA review and that Spectra Energy would acquire all permits and approvals. The Certificate on the DEIR identified the pipeline as part of a "common plan" and directed the Proponent to either coordinate MEPA review through a joint filing with Spectra or provide additional information in the FEIR, including potential routes and environmental impacts associated with alternative routes. The purpose of this directive was to ensure that the scope and scale of potential impacts associated with the gas pipeline are understood within the context of the power plant review, to identify trade-offs between alternatives, and to identify whether routes would limit alternative site designs or potential land uses that could more effectively avoid, minimize and mitigate environmental impact.

The FEIR describes coordination between the Proponent and Spectra Energy, identifies several potential routes for the pipeline, identifies and describes environmental impacts associated with each, and provides supporting plans. The alternative routes are described in more detail in the Alternatives Analysis Section of this Certificate. The FEIR indicates that Spectra Energy will initiate the permitting and project review process this summer with a request for a pre-filing review to the Federal Energy Regulatory Commission (FERC) followed by submission of a draft resource report that identifies the universe of viable alternatives for a pipeline route. It indicates that, upon conclusion of the pre-filing review process in early 2014, Spectra will apply for FERC Certification and initiate MEPA review.

The information included in the FEIR is provided at a conceptual level of detail and is not intended to substitute for MEPA review of the pipeline project, nor does it represent specific alternatives that will be proposed by Spectra. This information, including actual alternative pipeline routes, will be fully developed in a subsequent MEPA filing which may be filed jointly by the Proponent and Spectra as a NPC or filed as a separate ENF.

Other aspects of the project may warrant additional MEPA review, in the form of an NPC. Impacts associated with redevelopment will vary significantly depending upon proposed uses (i.e.

industrial, commercial, retail, office, residential, etc.). As noted previously, redevelopment of the remaining 45 acres of the site will be identified and analyzed through a subsequent NPC.

In addition, the project construction will include use of a "marshaling" site where major equipment components can be stored and assembled prior to delivery to the project site by barge. This is proposed to reduce impacts on regional and local roadways. The FEIR provides criteria that will be employed to select an appropriate marshaling site; however, a site has not been selected. Criteria include existing deep water industrial facilities, access to intermodal transportation links including highway and rail, adequate laydown areas for material storage and sorting, existing Maritime Security perimeter, and adequate infrastructure including electrical power, water and sewerage. It identifies the Port of New Hampshire, Port of Providence (ProvoPort) or existing private industrial facilities that are either underutilized or shuttered as possibilities. The FEIR asserts that use of an existing industrial site with adequate infrastructure will avoid environmental impacts. To the extent that an underutilized or shuttered facility is employed, it could shift impacts on regional and local roadways to another location. If these impacts are significant and/or require additional State Agency Actions, they may warrant additional MEPA review. The Proponent should consult with the MEPA Office when it has developed a viable list of alternative sites to determine if additional review is warranted.

Alternatives Analysis

The FEIR includes an updated Alternatives Analysis. It carries forward the same alternatives from the DEIR (No-Build Alternative, Off-Site Alternatives, a Redevelopment Alternative, and the Preferred Alternative). As directed in the Scope on the DEIR, it provides additional information on the Redevelopment Alternative consisting of a maximum build-out scenario based on zoning and state regulatory requirements. The purpose of this directive was to provide a comparative baseline for assessment of relative project impacts. In addition, it provides an assessment of environmental impacts associated with the proposed extension of a gas pipeline to the site to support the Preferred Alternative.

The Alternatives Analysis is supported by an overview of project goals and siting criteria including size, proximity to electric load, availability of natural gas, availability of interconnection, compatibility with local zoning and uses, redevelopment opportunities, and ability to minimize environmental impacts. It emphasizes that the Proponent's business model is based on repowering and redevelopment of existing shuttered facilities. In addition to specific site characteristics, it indicates that the Salem Harbor Station site was selected based on the availability of revenue from short-term operations, existence of a professional staff to manage decommissioning and redevelopment, and community support for continued energy generation and redevelopment.

The maximum build-out scenario is guided by the Site Assessment Study on Potential Land Use Options at the Salem Harbor Power Station Site (SAS) (January 2012) and based on zoning and environmental constraints. Impacts are based on maximum building coverage of 45% or 28.35 acres represented by a 923,842 sf building footprint with a maximum height of 45 feet (or 2,771,526 gross sf) and the existing structures associated with the NGRID substation easement. It indicates that the Salem Zoning Ordinance would require 3,032 parking spaces for a 2,771,526-sf industrial building with 500 employees and 10 company vehicles. New impervious surfaces are estimated at approximately 50 acres consisting of 923,842 sf of building coverage, 909,600 sf of parking, and 350,000 sf of paved roads and walkways. Traffic Generation is estimated at 19,400 adt based on Institute of Transportation Engineers

(ITE) land use trip rates. Wastewater and water use are estimated at 10,000 gpd and 11,000 gpd, respectively. Wetland impacts would likely be similar to those presented by the Preferred Alternative, consisting primarily of impacts to LSCSF, unless the redevelopment included improvements to, or addition of, marine infrastructure that required in-water work (piers, wharves, dredging, seawall repair).

Compared to the Preferred Alternative, redevelopment would likely have higher amounts of impervious surfaces (45 acres maximum) and trip generation. Wastewater and water demand would be lower. In addition, it would not include air emissions of level of GHG emissions associated with the power plant, although it would include emissions associated with building energy use and traffic generation. The FEIR identifies constraints associated with development of this alternative including economic infeasibility, infrastructure constraints, and lack of sufficient marine industrial users. In particular, roadway infrastructure would be a limiting factor on any proposed redevelopment scenario as the infrastructure is constrained. Any significant increase in traffic generation would require capacity improvements. It emphasizes that the primary reason the Redevelopment Scenario was not selected is because it is not consistent with the Proponent's goals and objectives for the site.

The FEIR asserts that a major public benefit of the project is to meet energy demands and improve reliability within the Northeastern Massachusetts/Boston (NEMA) load zone, and provide quick-start capability that will complement intermittent wind energy resources. It includes additional information regarding energy demand within the NEMA load zone, including the ISO New England Forward Capacity Auction (FCA) Results Filing (Appendix F) and the Department of Public Utilities (DPU) Order 12-77, dated March 15, 2013 (Appendix G). The FCA indicates that NEMA/Boston would not meet its Local Sourcing Requirement without the new capacity proposed by Footprint (the project). DPU Order 12-77 was required by legislation and assesses the need for additional capacity in the region and the advisability of issuing long-term contracts. The Order agrees with conclusions of the FCA and indicates that "The results of FCA #7 show that, absent Footprint, there is a need in NEMA/Boston for additional capacity resources beginning in the 2016/17 capacity year. Thus, based on the FCA #7 results and the latest market information, we find there is a need for additional capacity sources in NEMA/Boston by the 2016/17 capacity year...". This document also identifies measures that could be employed by ISO-NE to ensure reliability in the event that capacity associated with Footprint is not available.

Comments on the FEIR from State Agencies do not identify issues that warrant analysis through additional MEPA review; however, they do identify aspects that must be developed in more detail to during project permitting. Comments from the City of Salem support the proposed project while acknowledging both the significant benefits and impacts associated with it. Comments from Mayor Kimberly Driscoll identify issues that are of particular importance to the City, including redevelopment of the remainder of the site and support for water-dependent industries and management of construction period impacts. Comments from CLF request additional analysis of several issues, including the project's consistency with the Clean Energy and Climate Plan and a more detailed Redevelopment Alternative that explores feasible development activities, including measures to avoid, minimize and mitigate associated environmental impacts.

MEPA review and assessment of alternatives is required within the context of State policies and guidelines, regulatory requirements and standards and the Proponent's project purpose. It is designed to ensure that the State Agencies and the public, including municipalities, understand the environmental

impacts associated with the proposed project and to ensure that alternatives that could avoid, minimize and mitigate these are analyzed. The Redevelopment Alternative was provided for comparative purposes to understand the type of impacts associated with it and the maximum envelope of those impacts. The Proponent could develop and propose a Redevelopment Alternative that would minimize impacts beyond those identified in the FEIR; however, the purpose of this project is not strictly economic development of the site but, rather, remediation and re-development of a portion of the site as a power plant. Given the stated project purpose, I find that additional analysis of a Redevelopment Alternative in the form of a Supplemental FEIR is not warranted.

Pipeline Route Alternatives

The FEIR presents a conceptual level of information regarding four pipeline routes (marine and on-shore), including identification of existing conditions and environmental resources. These routes are summarized below. They do not represent specific routes proposed by Spectra but, rather, are provided for illustrative purposes. Options 1, 2 and 3 provide a connection to the existing pipeline at or near the juncture of the Algonquin Hubline and Maritimes and Northeast Pipeline (Figure 2-1). This location is identified as an area where the pipeline has the least amount of cover and the water depth is minimal. Options 2, 3 and 4 are located within the South Essex Ocean Sanctuary and, therefore, must be developed consistent with the Ocean Sanctuaries Act (302 CMR 5.00). The FEIR indicates that all of the routes are consistent with, and can be accommodated by, the design and layout of the facility, as currently proposed.

Option 1 – The On-Shore Only Pipeline Alternative consists of a 2.36-mile (12,500 linear feet) (lf) pipeline extending from the Maritimes pipeline to landfall in the vicinity of the Kernwood Country Club. It extends along municipal and state roadways to the project site. This alternative avoids all impacts to coastal resources. It includes significant construction-related impacts (e.g., noise, traffic, dust) and will impact recreational/open space uses (e.g. golf course), residential uses, and business uses.

Option 2 – The Marine and On-Shore Alternative with Shortest Distance to Landfall begins at the existing pipeline, extends to the south-southwest approximately 1,100 lf to the nearest landfall at the LNG Terminal and then extends approximately 800 lf across the NGRID LNG Terminal site. It extends approximately 4,300 lf through local roadways (East Collins Street, Webb Street, and Derby Street) to the Site. It crosses 520 lf of Shellfish Suitability Area (SSA) for blue mussel. This route is partially located in the South Essex Ocean Sanctuary. It does not impact tidal flats, marshes or bog. This alternative could impact LNG Terminal operations and would require approval by the property owner. A portion of the roadway route contains or is adjacent to areas and points listed on the National Register of Historic Places.

Option 3 – The Marine and On-Shore Alternative with Shortest Distance of Landfall to the Site extends from the existing pipeline to the south-southeast approximately 790 lf and then to the south approximately 3,080 lf where it reaches landfall at the southeast corner of Collins Cove. The pipeline would then extend approximately 2,300 lf over municipal roadways (Szetela Lane and Webb Street) in residential areas to the Site. The marine portion of the route is within the South Essex Ocean Sanctuary, runs close to a 10-acre area of seagrass, extends 2,100 lf through

tidal flats and terminates in an area that may constitute beach/dune. The pipeline travels through SSA for blue mussel, soft-shelled clam, European oyster and quahog.

Option 4 – The Marine-Only Pipeline Connection to the Site requires a connection to the HubLine where ocean depth is approximately 10-15 feet and would require approximately 2 to 3 miles of new pipeline. The route would likely require deeper excavation than the other routes. The FEIR identifies this alternative as prohibitively expensive; however, construction costs are not identified.

The intensity of the impacts on land and coastal resources will vary depending upon construction methods. Potential impacts include alteration of coastal resources (wetlands, shellfish beds, eel grass and water quality) and secondary impacts from sedimentation and turbidity and traffic impacts for in-roadway work. The FEIR includes a general discussion of construction techniques, including cut and cover/trenching or horizontal directional drilling (HDD).

The information provided in the FEIR adequately identifies potential environmental impacts associated with various pipeline routes for the purpose of this review. It demonstrates that the facility design does not preclude alternatives that would avoid, minimize and mitigate impacts and identifies impacts and considerations that must be balanced as alternatives are developed by Spectra. Comments from the City of Salem and DMF identify Option 2, or some variation of this alternative, as the Preferred Alternative and HDD as the preferred construction method. Comments from MassDEP and CZM note that HDD is associated with significantly fewer impacts to marine resources (i.e. eelgrass, shellfish habitat, tidal flats, and cultural resources) and strongly recommend that HDD be used as a construction technique.

Greenhouse Gas Emissions

The GHG analysis addresses the project's consistency with State and regional GHG policies and goals, identifies GHG emissions associated with power generation, and provides a GHG analysis that is generally consistent with the GHG Policy and Protocol. It identifies emissions associated with the generation of electricity, emissions associated with other on-site combustion sources (auxiliary boiler, emergency diesel generator, and emergency diesel fire pump), and mobile source emissions. The FEIR identifies project design and mitigation measures to avoid, minimize and mitigate potential increases to project-related GHG emissions. The project is subject to Best Available Control Technologies (BACT) for GHGs because it is considered a major source of GHGs under the Prevention of Significant Deterioration (PSD) program. The FEIR includes a BACT analysis for GHG emissions.

The FEIR addresses comments on the GHG analysis included in the DEIR, including comments from the Department of Energy Resources (DOER) regarding use of average emissions rates from the ISO-NE Marginal Emissions Report 2010 and comments from others regarding site design to address sea level rise and storm surge. Additions to the FEIR include analysis of energy use associated with the Operations Building and analysis of emissions offsets associated with incorporation of a solar PV system into the project design.

The Massachusetts Clean Energy and Climate Plan for 2020 identifies the Commonwealth's plan to reduce GHG emissions 25% below 1990 levels by 2020. The Plan identifies a potential 1.2 million ton reduction in GHG emissions by 2020 associated with more stringent power plant regulations. It assumes the shut-down of Salem Harbor Station and Somerset Power Station and displacement of this

power generation by natural gas-fired plants. The Plan also identifies the role of the Regional Greenhouse Gas Initiative (RGGI) in meeting state goals. RGGI establishes a regional emissions cap, providing for a 10 percent reduction in CO₂ emissions across the 10-state region by 2018. RGGI does not identify any specific limit on emissions deriving from the power plants in a particular state. The Plan acknowledges that implementation of RGGI in concert with State policies for electrical energy efficiency and renewable electricity will result in significant CO₂ reductions.

As noted above, both the introduction of more stringent regulations for power plants and implementation of RGGI are expected to result in significant reductions of GHG emissions through *displacement of energy from older, less-efficient plants with energy produced from cleaner burning fuels and higher efficiency combustion technologies, as well as renewables.* The DEIR included an analysis of the impact of the project on regional GHG emissions (Appendix C) which estimates reductions in annual regional GHG emissions reductions as 457,626 tpy of CO₂.

Facility emissions are limited primarily by the choice of fuel (natural gas), efficiency of the power generating equipment and system operations (*efficient combined cycle gas turbines*), and cooling process (ACCs). Advanced combustion turbine-combined cycle technology represents the most efficient commercially available technology for producing electric power from fossil fuels. Projection of GHG emissions associated with electricity generation is based on the same assumptions as those for calculating maximum potential annual air emissions for MassDEP permitting purposes. These assumptions include operating characteristics (*both turbines at 100% load for 8,040 hours per year with maximum supplemental duct firing and inlet air cooling for 720 hours per year*), fuel source and technology. Based on this assessment, electricity generation has the potential to produce a maximum of 2.5 million tpy of GHG, which represents approximately 98% of the overall project GHG emissions. Because the facility is expected to operate at 80% efficiency, actual emissions may be closer to 2.0 million tpy. Based on this analysis, approximately \$4 million in CO₂ allowances will be required to comply with RGGI offset requirements (assuming 2 million tpy at \$2/ton).

Direct emissions associated with an auxiliary natural gas boiler (31,247 tpy), an emergency diesel generator (180 tpy) and an emergency diesel fire pump (66 tpy) are lead to an additional 31,493 tpy associated with the project. Maximum total direct emissions are identified as 2,499,564 tpy. Emissions from the auxiliary boiler are subject to BACT and are reduced through the use of clean burning natural gas, state-of-the-art combustion controls, and limitations on annual operation. The auxiliary boiler will meet the natural gas emission limits listed in 310 CMR 7.26(33)(b). BACT is included in the baseline design and, therefore, no additional mitigation is identified in the Preferred Alternative. Emissions will be controlled through the use of ULSD, good combustion practices and limited annual operation. Unless the units are required during an emergency, the units will typically not operate more than one hour per week for testing and maintenance purposes.

Because the facility will generate its own power, building energy use for electricity is included in the direct emissions associated with the power plant. Energy modeling software (eQUEST) is used to quantify projected energy usage from stationary sources and energy consumption and was updated for the FEIR. It includes an analysis for the Administrative Building and the Operations Building. The analysis calculates and compares GHG emissions associated with: 1) a Massachusetts Building Code-compliant baseline and, 2) the Massachusetts Energy Stretch Code (adopted by the City of Salem). The

analysis indicates that the stationary source GHG emissions associated with these buildings will be reduced from 193 tpy to 136 tpy for a total reduction of 57 tpy, or a 29.4% reduction.

The Administrative Building has been designed to meet the Stretch Code and is designed to meet the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) at the Platinum level. The inventive design incorporates the building into the landscaped berm that is proposed around the facility. It incorporates the following measures to reduce the GHG impacts of the structures: a green roof, geothermal heat pumps for heating and cooling; variable volume ventilation fans, increased insulation to minimize heat loss; lighting motion sensors, climate control and building energy management systems; a 10% reduction for lighting power density (LPD) (and identifies the potential for larger reductions); and water conserving fixtures that exceed building code requirements.

The Operations Building includes the following measures to reduce GHG impacts: green roof, geothermal heat pumps for heating and cooling; increased insulation to minimize heat loss; daylighting; lighting motion sensors; climate control; building energy management systems; a 10% reduction for lighting power density (LPD) (and identifies the potential for larger reductions); a high albedo roof; and water conserving fixtures.

The FEIR includes a commitment to incorporate a solar PV array, with the potential to offset 175 tpy of GHG. It will be mounted on approximately 50,000 sf of the roof on steam generation plant.

Mobile source emissions are estimated at 157.6 tpy of and are limited to employees and truck deliveries. Measures to reduce GHG emissions associated with transportation include anti-idling measures including turning off construction equipment when not in use and limiting idling to five minutes or less. It indicates that all diesel-powered non-road construction equipment and vehicles greater than 50 brake horsepower will have engines that meet EPA emissions standards or emission control technology certified by manufacturers to meet or exceed emissions standards.

Climate adaptation strategies will be incorporated into the project design, based on potential impacts associated with sea level rise. The analysis assumes an expected sea level rise of 15 inches over a 40-year design life. Based on existing conditions, an elevation of between 12.6 feet and 14.6 feet was established as a range where the probability of storm surge overtopping the site would be significantly reduced. A proposed design elevation of 15.85 feet was developed by adding the increase in sea level rise to the upper end of the elevation range. Based on this analysis, a minimum elevation of 16.0 feet is proposed for building floors, crowns of roadways and equipment foundations. Exceptions include the existing parking area, guardhouse and building that will be repurposed as a visitor's center. Potentially hazardous materials will be stored inside of the berm and gabion walled perimeter and at elevations above 16.0 feet. Elements of the facility exposed to possible storm surge will be protected by a gabion berm and cladding with appropriate materials.

As required, the FEIR includes a discussion regarding the potential for unintended impacts of the design such as redirection of flood waters or storm surge impacts that could adversely affect adjacent development, including the existing switchyard, the SESD and future redevelopment areas. It provides a grading plan for the entire site including the NGRID switchyard, and identifies grades at the adjacent property lines. The site south of the CCG Facility and landscaped berm area will remain at the existing grade which varies between 8.7 feet near the intersection of Webb Street and Derby Street to 9.9 feet.

The FEIR suggests that redevelopment of this area would also be required to address impacts of flood zone and sea level rise on the site and, therefore, may be constructed to the same elevations as the Facility depending on future uses and, therefore, the proposal will not present impacts that preclude future development on the remaining parcel.

Comments from CZM continue to identify concerns associated with the potential for the berm, which will include cladding with appropriate materials to provide protection from erosion, to reflect and redirect storm energy and overland flow. CZM recommends that this potential impact be further evaluated during the Wetlands Protection Act permitting process.

The GHG analysis is generally consistent with the GHG Policy. The FEIR provides the data required by the GHG Policy and Protocol; however, as noted by MassDEP and CLF, this information is not summarized in a single table or tables that clearly identify and compare GHG emissions for the baseline and Stretch Code, nor does it clearly identify reductions in tpy or percentages. The GHG analysis for this project is distinct from the majority of projects reviewed pursuant to the GHG Policy because direct emissions from the facility and the auxiliary boiler are the major source of GHG emissions and, the mitigation case (BACT) is the baseline. The information included in the Certificate has been derived from the data included in the FEIR and is summarized above. The FEIR includes commitments to significant mitigation measures, including innovative building design to minimize energy use, installation of a solar PV array, a commitment to conduct GHG analysis for redevelopment of the remainder of the parcel and a commitment to provide a Certification to the MEPA Office indicating that all of the measures proposed to mitigate GHG emissions, or measures that will achieve equivalent reductions, are included in the project (Section 3.0 and Response to Comments Cert-21). However, the Draft Section 61 Findings do not include these commitments. A communication from the Proponent indicates that this was an oversight and includes a revised Draft Section 61 Finding for MassDEP that details all of the GHG mitigation measures.²

Comments from CLF assert that a Supplemental FEIR should be required to address the project's consistency with the GWSA and the GHG Policy. I do not agree that a Supplemental FEIR is warranted. The project that is proposed consistent with air quality regulations and GHG policies, the FEIR demonstrates consistency with BACT for GHGs, it includes innovative building designs and a renewable energy component. The proposed solar PV system has the potential to offset the energy use associated with the Administration and Operations buildings. To ensure that the GHG emissions and associated mitigation commitments are clearly understood, I am directing the Proponent to provide a revised summary of GHG emissions (Table 3-1) to the MEPA Office and the distribution list. It should clearly identify GHG emissions (tpy) for the baseline, Stretch Code/Preferred Alternative; identify emissions reductions (tpy) for each category of emissions; and, identify percentage reductions for each source and for total emissions. In those instances where the baseline and Preferred Alternative are identical, it should provide a brief explanation. In addition, the Proponent should provide revised Draft Section 61 Findings that correct the omission of key GHG mitigation measures, including the commitment to a GHG analysis for redevelopment and a Certification to the MEPA Office. This information should be provided by June 10, 2013 so that it may be considered prior to issuance of a Public Benefit Determination (PBD).

² Email communication from Lauren Liss, Rubin and Rudman, on May 17, 2013.

Air Quality

The project will require a Major Comprehensive Air Plan Approval, PSD Review, Non-Attainment New Source Review (NSR), and New Source Performance Standards (NSPS). It also requires an Air Operating Permit from MassDEP. The DEIR identified regulatory requirements and standards, identified how the project is designed to meet standards and provided a summary of air quality modeling results. The FEIR includes supporting data and analysis, including BACT and include Lowest Achievable Emission Rate (LAER) analyses (Appendix D). Requirements include LAER for NO_x, and BACT. Attainment of these standards will be achieved primarily through choice of generating technology and fuel. The facility will employ high-efficiency combustion turbines fueled with natural gas and will incorporate advanced pollution control and monitoring equipment. The following design and mitigation measures are the foundation for meeting air quality standards:

- Use of natural gas will limit emissions of PM, SO₂ and hazardous air pollutants compared to other fossil fuels.
- Use of a high-efficiency advanced turbine combined cycle technology will minimize all pollutants.
- Use of dry low-NO_x (DLN) turbine combustors in combination with Selective Catalytic Reduction (SCR) will reduce NO_x emissions. In addition, 200 tpy of NO_x Emission Reduction Credits (ERC) will be obtained to meet NSR offset requirements.
- Advanced combustor design, combustor practices, and use of a catalytic oxidation system in the HRSG will reduce emissions of CO and VOCs.

Continuous emissions monitors (CEMs) will sample, analyze, and record flue gas flow rates, NO_x, CO and NH₃ concentrations levels, and the percentage of oxygen in the exhaust gas from each of the two HRSG exhaust flues. Samples also will be taken in the turbine exhaust upstream of the SCR system to provide data to the ammonia injection control systems. This process will generate reports of the emissions data consistent with anticipated permit requirements and will send alarm signals to plant supervisory and control systems when emissions approach or exceed limits.

Dispersion modeling analysis was employed to identify whether any criteria pollutants would exceed significant impact levels (SILs) established by EPA and MassDEP. Modeled levels of PM and NO₂ exceeded the SILs, requiring additional evaluation of background emissions and project emissions. Ambient air quality modeling indicates that the project will not cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS), the Massachusetts Ambient Air Quality Standards (MAAQS), or PSD.

Noise

The FEIR includes a noise impact analysis (Appendix E) that identifies all sources of sound associated with the proposed facility, evaluates consistency with state and local requirements, identifies noise specifications of specific equipment and identifies measures to minimize noise impacts. The analysis identifies 12 sensitive receptors in the project area and evaluates impacts at these locations from increased noise levels. MassDEP regulations governing noise (310 CMR 7.10) prohibit an increase in the broadband sound pressure level of more than 10 dBA above ambient conditions or a "pure tone" condition. The analysis indicates that the facility will increase the lowest background sound levels at

night by 0 to 6 dBA at the closest receptors in Salem and Marblehead and, therefore, will comply with MassDEP noise policy. In addition, it will not exceed a 10 dBA impact at property lines abutting industrial users.

The following strategies are incorporated into the project design to mitigate noise impacts: siting of facility equipment to maximize distance between receptors and noise-producing equipment; acoustical treatment of combustion and steam turbine buildings; locating equipment within enclosures or buildings that provide noise attenuation through layers of insulation and siding; and, use of equipment silencers. Specific measures are identified in the Mitigation Section.

The FEIR identifies the Proponent's consultation with MassDEP regarding comments on the noise analysis included in the DEIR. The FEIR indicates that many of the issues identified in the MassDEP comment letter on the FEIR were clarified, including consistency of the analysis with prior MassDEP permitting of electric generation facilities and EFSB review. In addition, the Proponent has committed to provide additional information in its permit application.

Waterways

The proposed facility is located within filled tidelands and a DPA. Development of the site is guided by the Salem MHP and the Waterways Regulations (310 CMR 9.00). Uses eligible for licensing in the Industrial Port District section of the DPA are water-dependent industry, marine industrial parks, and temporary uses as defined in the waterways regulations. The FEIR indicates that the Proponent will seek a variances from the Waterways Regulations including Section 9.21 (2)(a)(2) which prohibits non-water dependent use of filled tidelands in a DPA, Section 9.34 (2) which requires conformity with MHPs, and Section 9.54 which requires non-water dependent projects to establish consistency with the policies of the CZM Program. The FEIR identifies the criteria for a variance and describes how the project meets the criteria. The project is subject to the provisions of An Act Relative to Licensing Requirements for Certain Tidelands (2007 Mass. Acts ch. 168) and the PBD regulations (301 CMR 13.00). Accordingly, the FEIR identifies the project's consistency with the PBD regulations.

Municipal Harbor Plan

The MHP establishes the City of Salem's objectives, standards, and policies for guiding public and private utilization of land and water within c.91 jurisdiction. The June 24, 2008 Secretary's approval of the MHP approved the City's request to amplify the provision of Section 310 CMR 9.32(1)(b) of the Waterways Regulations to require that, if uses on site were to change during the 10 year term of the Plan, "Any proposed new use(s) for this site beyond energy production, marine industry, and temporary uses as defined in 310 CMR 9.02 will require a renewal or amendment to this Harbor Plan." Comments from CZM indicate that the project meets the intent and the substantive provisions of the Plan and the MHP approval and does not require an amendment. Comments from Mayor Kimberly Driscoll also identify consistency with the intent and substantive provisions of the Plan.

CZM comments regarding consistency with the MHP are limited to the proposed energy facility as identified in the FEIR. Proposed uses associated with redevelopment of the remainder of the site that do not meet the requirements outlined in the approval document will require an amendment to the MHP.

Variance Request

As required by the DEIR Scope, the FEIR identifies how the project meets the criteria for a variance and, in particular, how the project provides an overriding public interest. Specifically, the regulations applicable to this project will require that the project demonstrate: (a) there are no reasonable conditions or alternatives that would allow the project to proceed in compliance with 310 CMR 9.00; (b) the project includes mitigation measures to minimize interference with the public interests in waterways and that the project incorporates measures designed to compensate the public for any remaining detriment to such interests; and, c) the variance is necessary to accommodate an overriding municipal, regional, state or federal interest.

Upon completion of the MEPA review process, the Proponent will file a c.91 application. The project will be reviewed by MassDEP as a nonwater-dependent Infrastructure Facility (NIF) and will be subject to the standards found at 310 CMR 9.55. MassDEP review of the project's application will include a public hearing and consideration of the project's consistency with the Waterways Regulations and the criteria for a variance. The information provided in the FEIR, in particular the Alternatives Analysis, is intended to support this application. More detailed information may be required as part of the c.91 application.

The FEIR addresses each of the criteria for a variance. It indicates that there are no reasonable conditions or alternatives that would allow the project to be developed compliant with the regulations or to better achieve the goals or protect the interests of c.91. It notes that the construction of the facility will produce energy with less environmental impacts while reclaiming a portion of the site for redevelopment to support marine industrial users and for public access. In addition, it indicates that a variance is necessary to meet state and municipal public interests. These include provision of a reliable source of electricity necessary to meet energy demand in the NEMA region, redevelopment and remediation of an industrial site and continuation of the site as a critical part of the City's tax base.

The FEIR describes the project purpose, alternative sites, as well as alternative site designs that would limit development within tidelands. Challenges include: the limited size of the development area (7.5 acres because of the existing substation) and that meeting the identified capacity shortfall in NEMA by 2016 requires construction of the new CCG Facility to begin prior to the shutdown of the existing Salem Harbor Station in June, 2014.

The FEIR indicates that the project will result in minimal, if any, detriments to the interests of the public in waterways associated with the Site. Because public access is not typically encouraged within a DPA and the site does not currently provide access, there are minimal public access interests at the Site that would be adversely affected by the project. Compensation for any identified detriments to public interest, which are required as part of the variance request as well as for consistency with the provisions as a NIF, include demolition and remediation of this industrial site and provision of public access. The removal of all of the above-ground structures associated with the existing power plant, including the storage tanks, power plant buildings, stacks, and coal conveyor and remediation of identified contamination will support long-term redevelopment of the site by eliminating significant costs and providing a clean site. To minimize impacts to tidelands and preserve opportunities for DPA uses, the facility is limited to a 20-acre portion of the Site, is setback from the waterfront and provides opportunities for redevelopment of the wharf area.

Public access includes paths within the landscaped berm along Derby Street and a path that extends from Derby Street towards the Harbor. The design will also support a view corridor from Derby Street to the Harbor. Comments from the City of Salem identify provision of pedestrian and vehicular access to the remainder of the site as an important goal for redevelopment. The setback of the facility from the Harbor will also support future provision of public access along the site's entire waterfront.

As noted in the Alternatives Analysis Section, the project will fill an identified capacity shortfall identified in the NEMA region. In addition, the FEIR cites Section 42 of Chapter 209 of the Acts of 2012 as evidence of the Commonwealth's interest in the site's development. The legislation established a plant revitalization task force to "implement a plan, adopt rules and regulation and recommend necessary legislative action to ensure the full deconstruction, remediation and redevelopment or repowering of the Salem Harbor Station by December 31, 2016." Further, it indicates that the project schedule is designed to meet the goals and deadlines of the legislation and to ensure the facility can meet the energy demand in 2016.

The facility will meet stringent air quality standards. Its design and operations are proposed consistent with the goals of RGGI and other state and federal programs designed to minimize GHG emissions and offset other, less efficient generation. MassDEP comments do not identify alternative technologies, processes or fuels that warrant additional MEPA review or are necessary to demonstrate compliance with regulatory standards.

It identifies the significant loss of tax revenues for the City presented by the closure of the Salem Harbor Station, citing the \$4.75 million in taxes paid by Dominion in fiscal year 2010. It notes that Dominion was the largest contributor of tax revenue in the City and also references legislation (M.G.L. c. 21A, § 22) that provides that the City of Salem be reimbursed the difference between the \$4.75 million of tax revenues collected from Dominion in fiscal year 2010 and the reduced tax revenues associated with a full or partially decommissioned Salem Harbor facility for a five-year period.

Comments from MassDEP indicate that the information provided in the FEIR will support MassDEP review of the variance request and permit application while noting that supporting documentation may be required during permitting, particularly if additional issues are identified during the review. The Waterways Regulations require that projects subject to an EIR must include information required pursuant to the provisions of 310 CMR 9.21(2)(a)(1) through (2)(a)(7) in the EIR. Because the FEIR addresses the criteria for a variance and I have found that the analysis of alternatives is adequate, the MassDEP Commissioner shall presume that the description of alternatives contained therein satisfies the requirements of 310 CMR 9.21(2)(a)(2). This finding does not preclude MassDEP from requesting additional information regarding the alternatives that are presented. In addition, I note that the permitting process may result in development of mitigation or project changes that are not identified in the FEIR. For instance, infrastructure repair or improvements and/or dredging projects could be proposed to compensate for impacts to public tidelands. The Proponent should consult with MEPA Office regarding any proposed changes to determine whether a NPC may be warranted.

Public Benefits Determination

The FEIR clearly identifies the purpose and effect of the project, identifies tidelands affected by the project, identifies impacts on abutters and the surrounding community and identifies public benefits of the project. A summary of the public benefits associated with the project are identified in the FEIR. The project will enhance the property and facilitate its redevelopment through demolition of existing structures associated with the former power plant and remediation of contaminated areas. Redevelopment will not be hindered by significant demolition and remediation costs and the project design will support water-dependent industry, or other appropriate uses, by limiting site development to 16 acres and providing setbacks from the Harbor. The project includes repurposing of an existing building to provide a visitor's center and public access improvements. The DEIR and FEIR describe and detail potential environmental impacts and measures to avoid, minimize and mitigate environmental impacts. In addition to remediation of the site, the design and operation of the facility and associated environmental commitments will support public health and safety. Finally, the facility responds to an identified demand for reliable source electricity within the NEMA zone, and will continue to serve provide a major tax base to the City of Salem.

Comments from MassDEP indicate that proposed benefits appear to be generally consistent for the purpose of the PBD (and will be evaluated during permitting for adequacy with variance criteria) and note that the standards for obtaining a variance require a determination that the project serve an overriding public interest and provide mitigation and compensation for impacts to public interests in tidelands. If the variance were approved by MassDEP, it follows that the project would provide adequate public benefits in accordance with the PBD Regulations. The comments specifically highlight the benefits associated with remediation and preparation of the site to support water-dependent industrial uses.

Consistent with the PBD Regulations, a PBD will be issued on or before June 17, 2013.

Wetlands and Drainage

Wetland resource areas are associated with LSCSF, Rocky Intertidal Shore and DPA. The Salem Conservation Commission will review the project and proposed activities for compliance with the Wetlands Protection Act and associated regulations and performance standards, including stormwater management standards. The project will permanently alter approximately 8.5 acres. This alteration is associated with raising the elevation of the facility area above the floodplain and accommodating sea level rise. Approximately six feet of fill will be placed within the berm area. Additional fill will be placed in conjunction with the acoustic landscaped berm and other vegetated areas, including the southwest corner in the landscaped area. Minor regrading is proposed for the remaining land to the south of the CCG Facility to facilitate sheet flow runoff to the site interior. In addition, transitional grading will occur between the landscaped area and the remaining southern parcel. All areas disturbed during demolition and construction activities will be stabilized with a combination of loam and seed and/or stone. On the remaining land to the north, minor regrading will occur in conjunction with installation of catch basins to direct sheet flow from the existing paved surfaces.

As required by the Scope, the FEIR includes a stormwater management plan to demonstrate consistency with stormwater standards. The stormwater management system consists of four

components: the facilities area inside of the berm; the existing parking area and access roadway; the landscaped area; and the remaining 40 +/- acres to the north and south of the CCG Facility. Stormwater in the area inside the berm, the existing parking area and access roadway, and the landscaped area will be conveyed to a new tide gate structure and discharged to Salem Harbor through the existing discharge channel outfall. The remaining land to the north of the CCG Facility will be conveyed to a new tide gate structure and discharged to Salem Harbor through the existing discharge tunnel. The remaining land to the south of the CCG Facility will discharge to an existing overflow spillway and into Salem Harbor. No new discharge points are proposed.

Runoff from the paved access perimeter roadway, gravel surfaces and grassed area will be collected in a series of catch basins, routed through water quality structures and conveyed to a new tide gate structure and discharged to Salem Harbor via the existing discharge channel outfall. Runoff from portions of the main access driveway and the existing parking area to the north of the proposed redevelopment will be upgraded with a series of deep sump/hooded catch basins, manholes, storm drainage pipes, and water quality structures prior to discharge to Salem Harbor via the existing discharge channel.

LID techniques incorporated into the project design include extensive landscaped areas, a green roof, and reuse of clean storm water. The facility will include pervious surfaces consisting of a layer of clean washed stone underlain with filter fabric and placed in all areas not occupied by buildings, the access roadway and supporting facilities. The project will include approximately 7 acres of vegetation consisting of native species of trees, shrubs, perennials, grasses, seeded lawn and an upland wildflower meadow. The Administration Building includes an 8,100-sf green roof. The roofs of the HRSG, CTG and STG Buildings (approximately 100,000 sf) will be designed to collect and pipe rainwater to a 30,000 cubic foot underground tank. The water will be used for irrigation.

Comments from MassDEP identify concerns with the stormwater management system's consistency with Standards 3 (groundwater recharge), 4 (80% removal of total suspended solids (TSS)) and 6 (critical areas). I encourage the Proponent to address these comments and revise the stormwater management plan prior to submitting a Notice of Intent (NOI) with the Salem Conservation Commission.

The FEIR notes that demolition and remediation of the site will replace impervious surfaces with stabilized pervious surfaces in the non-developed portion of the site to the south. It includes a statement that "Accordingly, any future build out development of the remaining 40 +/- acres will assume that the pre-demolition state of the site is the existing condition. That is, any site work that is conducted in connection with the proposed Project would be considered an interim step in any future development of the remaining 40 +/- acres." In terms of MEPA review, the redevelopment will require a NPC and, therefore, the amount of impervious surfaces will not be a factor in determining whether MEPA review is required. No comments were provided on this issue by MassDEP or the City of Salem. To the extent that this issue needs to be addressed during permitting of the project, the Proponent should consult with local and state agencies regarding this assertion and obtain a clear understanding regarding the application of regulatory requirements and standards that will be applied to the redevelopment.

Wastewater

The project will generate 186,624 gpd of industrial wastewater. Wastewater will be conveyed to the SESD wastewater treatment plant for treatment and discharge. The project includes on-site water treatment systems. Systems will include filtration and chemical dosing to achieve water characteristics necessary for proper operation of the facility process equipment and pretreatment of discharge from the HRSG blowdown, evaporative coolers blowdown, reverse osmosis reject water, and wastewater from oil/water separators prior to discharge to the SESD wastewater treatment facility. Selection of closed cycle air cooling technology significantly reduces the facility's water use compared to once-through cooling and eliminates the current discharge of cooling water to Salem Harbor.

No additional information was required regarding wastewater; however, I note that Mayor Driscoll identified coordination with the SESD to explore reuse of graywater as an important opportunity for the project.

Remediation, Demolition, and Materials Management

The FEIR includes a Subsurface Investigation Report (Appendix L), a summary of findings and additional analysis or clean-up resulting from the study. The FEIR also addresses MassDEP comments regarding work within an area that includes an Activity and Use Limitation (AUL) and incorporation of clean utility corridors into the facility design.

The report provides a broad-based assessment of soil and groundwater conditions across areas of the site that may have been affected by historic activities and power plant operations. Testing included the installation and sampling of 78 soil borings and 25 groundwater monitoring wells and excavation of 40 shallow test pits at the Site to provide additional evaluation of shallow soil conditions. Soil and groundwater samples were analyzed for a variety of parameters including heavy metals, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and petroleum-related carbon compounds. In addition, 30 surficial soil samples were analyzed for asbestos.

The analysis suggests that conditions for most of the site would meet applicable standards for commercial uses at the site. The FEIR indicates that no compounds were detected in groundwater samples at levels above applicable Massachusetts Contingency Plan reporting thresholds. Elevated concentrations of select metals, polycyclic aromatic hydrocarbons (PAHs) and petroleum-related carbon compounds were detected in some soil samples that appear consistent with the previously document conditions on the site. Specific exceedances of MCP reporting thresholds that are not necessarily attributable to past closed releases were reported to MassDEP and a Release Tracking Number (RTN) was assigned. These included: elevated concentrations of arsenic, nickel, vanadium and PAHs in the vicinity of the coal storage stockpile; lead detected above the MCP RCS-1 reportable concentration and above the expected background level at two discrete locations at the southwesterly limits of the Site; evidence of a non-petroleum related VOC in a location beneath a former bulk fuel oil storage tank B-5; and, arsenic, nickel and vanadium reported above anticipated background levels and reportable concentrations throughout the site. Additional evaluation and risk assessment will be conducted prior to demolition and construction, including testing to determine the extent of oil or hazardous material (OHM) in the oil ash section of the coal pile, and additional remediation will likely be required.

The FEIR also identifies facility construction within an area subject to an existing AUL. It indicates that the AUL was placed primarily to minimize worker contact with soils impacted with select metals, in particular nickel and vanadium. Additional sampling will be completed prior to demolition or construction and a site specific Soil Management Plan and Health and Safety Plan will be developed for work in this area.

Construction Period Impacts

The FEIR includes a discussion of construction period impacts (erosion and sedimentation, noise, vibration and dust). It proposes measures to avoid, minimize, and mitigate these impacts during demolition and construction and to comply with MassDEP Solid Waste and Air Quality Control regulations. Measures are detailed in the Mitigation Section below. Commencement of construction is targeted for June 2014 and will extend for approximately 23 months. General sequencing plans are included in the FEIR and identify construction laydown areas and equipment storage, gated construction access near the intersection of Webb Street and Derby Street, parking for construction workers and on- and off-site construction access routes.

Decommissioning

The DEIR identified a general approach to decommissioning and asserted that decommissioning of the facility would not include challenges associated with older power plants, including Salem Harbor Station, such as releases of coal and oil or remediation of lead based paints or asbestos. Based on this assessment, the FEIR concludes that it is unlikely that substantial funds need to be set aside for future site assessment and remediation. In addition, it indicates that the value of the materials that make up the components of the CCG Facility are likely to exceed the costs associated with future of demolition and, therefore, the salvage value of the demolished building materials should provide adequate funding for the costs of demolition for decommissioning.

Given the history of site and the emphasis on remediation and clean-up of current site, it is unclear why a more detailed section on decommissioning was not included in the FEIR; however, MassDEP has not requested additional information prior to permitting.

Mitigation

The FEIR includes an updated Mitigation section that identifies all mitigation measures and draft Section 61 Findings for each State Agency that will issue permits for the project. As noted in the GHG section, the Draft Section 61 Findings will be revised to include all GHG commitments, including a commitment to analyze GHG emissions associated with future redevelopment of the site and to provide a Certification to the MEPA Office indicating that all of the measures proposed to mitigate GHG emissions, or measures that will achieve equivalent reductions, are included in the project.

The project includes the following measures to avoid, minimize and mitigate impacts:

- redevelopment of an existing brownfield site;
- demolition, assessment and remediation of the site;
- location and design of the facility to minimize potential impacts to residential neighborhoods;

- elimination of once-through cooling and associated water withdrawal;
- design and construction of a stormwater management system that incorporates Low Impact Development LID techniques including extensive landscaping, a green roof, and reuse of clean rooftop runoff for irrigation; and,
- provision of public access through and within the site.

Air Pollution

- use of a high-efficiency advanced turbine combined cycle technology, emission controls and reporting equipment to minimize all pollutants;
- use of natural gas will limit emissions of PM, SO₂ and HAPs compared to other fossil fuels;
- use of DLN turbine combustors in combination with SCR will reduce NO_x emissions;
- 200 tpy of NO_x Emission Reduction Credits (ERC) will be obtained to meet NSR offset requirements;
- advanced combustor design, combustor practices, and use of a catalytic oxidation system in the HRSG will reduce emissions of CO and VOCs; and,
- quick start capability to minimize all pollutants associated with start-up.

GHG Emissions

- use of combined cycle natural gas turbines;
- \$4 million in CO₂ allowances for RGGI offsets;
- solar PV array with potential to offset 175 tpy GHG emissions;
- Administrative Building is designed for LEED Certification at the Platinum level and includes a green roof, geothermal heat pumps for heating and cooling, variable volume ventilation fans, increased insulation to minimize heat loss, lighting motion sensors, climate control and building energy management systems, a 10% reduction for LPD (and identifies the potential for larger reductions), and water conserving fixtures that exceed building code requirements; and
- Operations Building includes a high albedo roof, geothermal heat pumps for heating and cooling; increased insulation to minimize heat loss, daylighting, lighting motion sensors; climate control, building energy management systems, a 10% reduction for LPD (and identifies the potential for larger reductions), a high albedo roof, and water conserving fixtures

Noise

- siting of facility equipment to maximize distance between receptors and noise-producing equipment;
- acoustical treatment of combustion and steam turbine buildings;
- locating equipment within enclosures or buildings that provide noise attenuation through layers of insulation and siding;
- use of equipment silencers including a gas turbine inlet silencing package; a stack silencing package to reduce sound pressure levels in each flue of the stack structure, silencers on steam system vents and, as permitted by relevant codes, on safety and relief valves that release high pressure steam;
- gas turbines and steam turbines will be fully enclosed;
- steam turbine insulation will be designed to provide thermal and acoustical insulation;

- large pumps in the HRSG enclosure (boiler feed pumps) will be enclosed in additional acoustical structures as necessary;
- location of piping, valving and control systems within enclosures or underground to limit fluid transfer noise;
- larger fans that operate at slower speeds and shielding of fans by cowlings or other acoustical treatments on the ACCs;
- intake filter houses, transformers, fuel gas compressors and boiler feed water pumps will be wrapped in acoustic barriers;
- acoustically designed barrier walls around transformers to shield sensitive receptors from transformer noise;
- gas compressors and gas metering enclosure will be designed with acoustic silencing; and
- construction of a retaining wall and planted berm will be constructed around the western, southern and eastern edges of the facility to deflect sound.

Construction Period

- a minimum reuse/recycling goal of 50 percent, including potential re-use of coated brick and concrete;
- dust suppression methods during demolition will include pre-cleaning of larger surfaces and structural members prior to demolition, water suppression sprays and misting to prevent airborne particulates, and enclosure of areas to prevent the migration of dust;
- dust suppression during earth moving will include use of water trucks to wet ground surface, stabilization of soils, and creation of wind breaks;
- temporary sediment basins and/or sediment traps;
- noise mitigation including construction hour limits, establishment and enforcement of construction site and access road speed limits, mufflers on noise-producing construction equipment and vehicles, siting of noisiest equipment as far as possible from sensitive receptors, and maintenance of engine housing panels in the closed position;
- stabilized construction and exit points;
- stormwater conveyance channels/diversion berms;
- sediment basins/traps;
- storm drain inlet control;
- perimeter stormwater controls consisting of silt fence, fiber roll and/or compost filter socks installed prior to commencing earth disturbing activities;
- concrete washout areas consist of prefabricated or site-built impermeable containment areas sized to hold concrete wastes and wash water;
- prohibition on discharging groundwater or accumulated stormwater;
- installation and maintenance specifications for stormwater controls;
- use of ultra-low sulfur diesel (ULSD) fuel (15 parts per million sulfur) in off-road vehicles;
- anti-idling measures including turning off diesel combustion engines on construction equipment not in active use and limiting idling of dump trucks to five minutes or less;
- vehicles greater than 50 brake horsepower will have engines that meet EPA PM emission standards or emission control technology certified by manufacturers to meet or exceed emissions standards and emission control devices, such as diesel oxidation catalysts (DOCs) or diesel particulate filters (DPFs), will be installed on the exhaust system side of engine equipment;

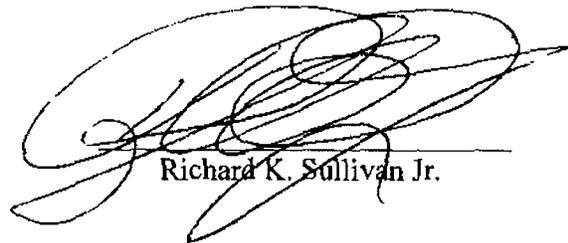
- police detail to mitigate traffic impacts; and,
- delivery of large pieces of equipment or material will be by barge to minimize impacts on local roadways.

Conclusion

Based on a review of the FEIR, consultation with public agencies and a review of public comments, I hereby determine that the FEIR adequately and properly complies with MEPA and its implementing regulations. The project may proceed to State Permitting.

May 17, 2013

Date



Richard K. Sullivan Jr.

Comments received:

5/6/13	Coastal Zone Management (CZM)
5/10/13	Department of Fish and Game (DFG)/Division of Marine Fisheries (DMF)
5/13/13	Massachusetts Department of Environmental Protection (MassDEP)
5/16/13	Mayor Kimberly Driscoll, City of Salem
5/10/13	Conservation Law Foundation (CLF)

RKS/CDB/cdb