

This CONFIDENTIAL application is for the Zero Emissions Certificate (“ZEC”) program. It is intended to allow any eligible nuclear generation facility to apply for credits that will be issued in the State of New Jersey.

Issued By:  
New Jersey Board of Public Utilities  
November 19, 2018

# Zero Emissions Certificate Application

## I. Generation Applicant Information

Unit Identification (name and/or designation): \_\_\_\_\_

Unit location: \_\_\_\_\_

Organization that owns facility: \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Federal Nuclear Generator I.D. Number and License Number: \_\_\_\_\_

Federal Tax I.D. Number \_\_\_\_\_

New Jersey Tax Identification Number \_\_\_\_\_

*\* If facility is owned by multiple organizations then make note in this section and provide all relevant information on a supplemental page.*

### Primary Contact for Application

Name \_\_\_\_\_

Title \_\_\_\_\_

Company Name \_\_\_\_\_

Daytime Phone Number \_\_\_\_\_ Email \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

### Authorized Applicant Representative (with ability to enter into agreements)

Name \_\_\_\_\_

Title \_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

**II. Generation Asset Information and Operation:**

Unit vintage and year Applicant Unit was established: \_\_\_\_\_

Total number of reactor units at this housing facility: \_\_\_\_\_

Total Unit Capacity/Total Unit Size MW): \_\_\_\_\_

Provide a description of operations, services provided, and customer base served by the Unit. Include load growth projections of markets served by the unit:

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\_\_\_\_\_  
\_\_\_\_\_

Describe the ownership of the Unit and/or statutory authority of the Applicant:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Annual generation by the Unit anticipated over the next five (5) years (per year) (MW & MWh):

\_\_\_\_\_  
\_\_\_\_\_

Average energy the Unit provided into the Energy, Capacity, and Day-ahead Market over the past ten (10) years (MW & MWh):

\_\_\_\_\_

Average Unit bid price in the annual Base Residual Auction (“BRA”) over the past ten (10) years (\$/MW):

\_\_\_\_\_

Total Unit run-time over the past ten (10) years (hours): \_\_\_\_\_

Remaining useful life of the generating Unit: \_\_\_\_\_

Current net book value of the Unit: \_\_\_\_\_

Average annual O&M costs of the Unit over the past ten (10) years (\$):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Actual investment, on-fuel operating expenses, fuel expenses, taxes, other expenses (including but not limited to all allocated and/or overhead costs), as well as revenues, showing earnings for each of the past five (5) years. Provide supporting documentation for all projected cost allocations.

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Estimated O&M costs of the Unit (annual) for the next five (5) years (\$):

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Value in Use ("VIU") for the unit per IAS 36:

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Date of deregulation of the Unit, Net Book Value of the Unit at date of deregulation, stranded costs claimed by the company at deregulation, and compensation received for stranded costs.

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Annual cash flows for each of the past five (5) years and projected cash flows for each of the next five (5) years. Include forecasts of locational PJM capacity and energy market prices for the Unit and include and itemize expected revenues from PJM capacity and energy markets:

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Provide the following current financial information for the Unit: Utility Plant in Service, Plant Held for Future Use, Accumulated Depreciation (linked to plant and depreciation expense), Depreciation Rates, Depreciation Study, Advanced for Construction, Construction Work in Progress ("CWIP"), allowance for funds used during construction ("AFUDC"), Cash Working Capital, materials and supplies, Consolidated Income Tax Benefits, Accumulated Deferred Income Taxes. Also include Rate of Return, capitalization structure, Return on Equity, Cost of Debt.

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Provide the following current information on the Unit's operation: Revenue Normalization & Annualization, wages and salary expense, payroll taxes, Incentive Compensation, SERP (Supplemental Executive Retirement Plan), severance expense, health benefits, pensions (Rate Base and Expense), Post-Retirement Benefits (Rate Base and expense), injuries and damages expense, insurance expense, meals and entertainment expense, advertising expense, gain on Sale of Property, Taxes other than Income Taxes, Property Taxes, outside services (often includes legal expenses), Depreciation Expense (linked to Unit and accumulated depreciation), depreciation rates, Depreciation study, Federal Income Taxes ("FIT"), State Income Taxes ("SIT"), storm costs, Affiliated Transactions (allocation of costs between affiliates), and Interest Synchronization.

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Provide current cost of capital, as well as required cost of capital for each of the next five (5) years plus a detailed accounting of how the cost of capital was determined. If an applicant chooses to use a risk-adjusted cost of capital in completing the rest of this application, the applicant should also provide the methodology used to determine it, along with supporting documentation and industry benchmarks it deems appropriate, and juxtapose this against original cost of capital.

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List any RMR (Reliability Must Run) contracts under which the facility has operated in the past ten (10) years and/or currently operates:

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Plant personnel count for application year and ten (10) years previous (average):

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Previous and anticipated annual subsidies paid for operation of the Unit (Federal, State, Regional Transmission Operator ("RTO") (\$/yr):

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**III. Zero Emission Credit Justification - Financial:**

Explain in detail the reasoning for applying for the ZECs. Include past and future projections of energy sales, cash flow analysis, and anticipated energy market factors. If applicable, discuss how applicant Unit's production of electricity generation will fulfill BPU's Renewable Portfolio Standards ("RPS") requirements and cost effective transmission to a zero carbon supply.

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Provide certified cost projections over the next three (3) energy years, including operation and maintenance expenses; fuel expenses, including spent fuel expenses; on-fuel capital expenses; fully allocated overhead costs; the cost of operational risks and market risks that would be avoided by ceasing operations to demonstrate that the plant is projected to not fully cover its costs and risks, or alternatively is projected to not fully cover its costs and risks, including its cost of capital, or alternatively its risk-adjusted cost of capital. Please further include comparable costs of capital by all other plants owned or partially owned by all owners of the applying plant.

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Demonstrate that the Unit is financially unviable, i.e., if the Unit's revenue and funding outweighs the avoided costs expenses (operations, training, engineering, materials, fuel, etc.) of the Unit, for each year through 2030. Provide all backup documentation.

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Provide projections of energy, capacity, and natural gas prices used by the Applicant in evaluating the financial condition of each Unit for the next five (5) years.

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What are the PJM LMP and BRA Capacity prices for the next five (5) years in the Zone where the Unit is located? (\$/MWh)

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Provide a projection of subsidy requirements (\$/year) by Unit and MWh produced, in each of the next five (5) years, to maintain minimum revenue requirements required to fully cover all costs, including risk-adjusted cost of capital.

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Please provide all revenue projections over the next five (5) years, including hedges, relevant fuel price forecasts, capacity market revenues at the locational clearing price for the Unit in the Base Residual Auction regardless of whether the Unit cleared in the PJM capacity market auction, relevant PJM forward power market curves, and price forecasts. In forecasting power prices, please show the underlying natural gas price forecasts, load forecasts, and forecasts of the entry and exit of resources in the PJM market.

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**IV. Zero Emission Credit Justification - Environmental**

Provide an explanation for how the Unit makes a significant and material contribution to air quality in New Jersey by minimizing emissions that result from electricity consumed in New Jersey, by minimizing harmful emissions that result from electricity consumed in New Jersey, by minimizing harmful emissions that adversely affect the citizens of New Jersey, and an explanation as to how a retirement would significantly and negatively impact New Jersey's ability to comply with State air emissions reduction requirements.

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Provide a detailed description of the avoided Green House Gas ("GHG") emissions avoided by this Unit's operation and inclusion into the energy and capacity markets. Include what emission sources that will be displaced by this Unit.

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**V. Impact of the Unit's Deactivation:**

Provide the cost of market risks avoided by closing the Unit's operation:

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Provide the costs that would be incurred by the company to shut down the Unit, including decommissioning funds:

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Provide the decommissioning funds allocated for the Unit as of the date of the application:

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Demonstrate the impact on ownership and operating company's earning during each of the next five (5) years, assuming that the Unit shuts down. Include any financial impact(s) to the Parent Organization:

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Please explain the avoided costs to the Applicant if the Unit is deactivated. Please include fuel, salary, O&M, capital improvement projects, permitting, and all factors involved. Provide backup documentation.

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**VI. Miscellaneous**

Provide an explanation of how the Unit makes a significant and material contribution to the diversity and resiliency of the energy resource mix for electricity delivered in New Jersey.

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Please explain whether receipt of the ZEC will have any impact on the Unit's participation in the wholesale markets. If so, how? (Response must be both quantitative and qualitative and include discussion of anticipated impact on the BGS auction and a comparison of costs and benefits.

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Explain whether receipt of the ZEC may force New Jersey ratepayers to “double pay” for capacity, i.e., 1) paying ZEC-eligible Units for the environmental attributes while 2) not retaining the benefit of their capacity requirement, and therefore paying other units to fulfill New Jersey’s PJM capacity commitment.

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## **VII. Supplemental Submissions with the Application:**

1. A certification that the nuclear power generation Unit will cease operations within three (3) years unless the nuclear power plant experiences a material financial change. This certification must specify the necessary steps required to be completed to cease the nuclear power plant's operations.
2. A certified copy of the Unit's Federal operating license demonstrating that the Unit is licensed to operate through 2030 or later.
3. A certification that the nuclear power Unit does not receive any direct or indirect payment or credit under a law, rule, regulation, order, tariff, or other action of this State or any other state, or a federal law, rule, regulation, order, tariff, or other action, or a regional compact, despite its reasonable best efforts to obtain any such payment or credit, for its fuel diversity, resilience, air quality, or other environmental attributes that will eliminate the need for the nuclear power plant to retire.
  - a. Please provide information on all payments received that do not eliminate the need for the nuclear power plant to retire.
4. A detailed list and description of any subsidies or grants **received** from Federal, State sources, or other governmental agency for the applicant Unit. Include the monetary amount received, exemptions for capacity bidding, and/or tax incentives. Include any RTO incentives received in the past ten (10) years.
5. A list and description of any subsidies or grants **anticipated** from Federal, State sources, or any other governmental agency for the applicant Unit. Include the monetary amount received, exemptions for capacity bidding, and/or tax incentives. Include any RTO incentives anticipated to be received in the next five (5) years.
6. A spreadsheet showing the rate impacts of the applicant Unit receiving ZECs to NJ customers across all rate classes.
7. Federal forms: SEC 10-K and 10-Q for the Unit.
8. Copies of certified Base Residual Action ("BRA") bids by the Unit for the past ten (10) years.
9. Copies of information provided by the Unit's owner/operator to the Securities Exchange Commission ("SEC") over the past five (5) years.
10. Copies of all data provided by the Unit's owner/operator to the Federal Energy Regulatory Commission ("FERC") over the past five (5) years.
11. Updated version of the data specific to the Unit and facility provided to the Nuclear Energy Institute ("NEI") when responding to their latest survey.
12. Copies of all data provided by the Unit's owner/operator to the U. S. Environmental Protection Agency ("EPA") over the past five (5) years.
13. Copies of all filings by the Unit's owner/operator with the U. S. Nuclear Regulatory Commission ("NRC") over the past five years,

14. Copies of submissions of documentation (permits, enforcement actions, etc.) by the owner/operator regarding the Unit to the DEP to demonstrate all standards and limits are being met should be required.
15. Transcripts of all analyst calls along with other information provided to investors or analysts over the past five (5) years regarding the Unit.
16. A spreadsheet detailing annual output/supply of the Unit to all markets over the past ten (10) years, broken down by year and market.
17. A list of active and anticipated contracts for energy supply by the Unit. Include capacity contracted, type of market, length of obligation, and customer.
18. Five-year capital improvement plan for the Unit, equipment, and operations.
19. A list of the incidents, by hours, over the past five (5) years when an energy bid from the Unit was not accepted into PJM Markets.
20. A spreadsheet showing MWhs produced by the Unit over each of the past five (5) energy years and projected for the next five (5) energy years.
21. Supporting air dispersion modeling results and supporting files regarding the assertion that the Unit makes a significant and material contribution to the air quality in New Jersey.
22. A detailed projection of energy resources that would supplement the lost capacity in PJM if the Unit were to shut down.
23. Current and historical financial analyses conducted by the Unit's owner/operator for each Unit for the past three (3) years, including supporting workbooks and input assumptions.
  - a. Cost of generation
  - b. Cost of capital
  - c. Discounted cash flow analysis
24. Results from internal or commissioned dispatch modeling of the impact of the Unit's retirement scenarios.
  - Include all assessments of avoided emissions, based on differential (with and without each Unit claimed for ZECs) scenario modeling
  - Include all work papers and modeling inputs and outputs
  - If no such modeling has been conducted, include an explanation and computation of avoided emissions from retention of the Unit.
25. Status of decommissioning funds for the Unit, including decommissioning status reports filed with the NRC.
26. Amount of shortfall on decommissioning funds resulting from early retirement.
27. Planned refueling outages for the Unit over the next three (3) years.
28. Projections of fuel, operating, long term fuel storage, and capital costs, including uranium fuel pricing for the Unit through 2030.

29. Payroll spending for the Unit's onsite employees.
30. Copies of hedges or other financial instruments used by the Company to mitigate market exposure of the Unit.
31. A listing of Capacity payments received from PJM for the Unit over the past ten (10) years.
32. A detailed five (5) year O&M plan and expenses.
33. Shareholder payout over the past ten (10) years.
34. Certification that all equipment located at or servicing the nuclear power Unit must be as stringent as the standards and emission limits in N.J.A.C. 7:27 et. seq.
35. A list of all environmental permits, investigations, and remedial actions planned, ongoing and completed.
36. A list of all audits performed by internal employees, commissioned, or performed by any governmental agency on the Unit over the past five (5) years.
37. A list of any enforcement or legal actions taken at the Unit's facility.
38. Certification of accuracy of application by applicant Company Officer.