

# Nuclear Powers America Act of 2019

S. 1134

H.R. 2314

# EXELON: AN INDUSTRY LEADER



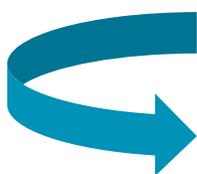
Note: All numbers reflect year end 2017

# AMERICAN NUCLEAR ENERGY PLANTS: ECONOMIC ENGINES THAT SUPPORT GOOD-PAYING JOBS

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## THE NUCLEAR ENERGY INDUSTRY:

SUPPORTS  
**475,000 JOBS**



THAT'S MORE JOBS THAN  
ANY OTHER POWER  
GENERATION SECTOR



ADDS **\$60**  
**BILLION TO**  
THE COUNTRY'S GDP



**THE AVERAGE**  
**NUCLEAR PLANT**  
GENERATES **\$470 MILLION** IN  
SALES OF GOODS AND SERVICES

Sources: "Nuclear Energy's Economic Benefits – Current and Future" Nuclear Energy Institute: <http://www.nei.org/Master-Document-Folder/Backgrounders/White-Papers/Nuclear-Energy-s-Economic-Benefits-Current-and-Fut>; "The Nuclear Industry's Contribution to the U.S Economy" The Brattle Group, July 7, 2015: <http://www.nuclearmatters.com/report-11>

# AN ESSENTIAL COMPONENT OF A DIVERSE, SECURE ELECTRICITY GRID

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The United States must have a diverse fuel supply – we do not want to put our country's economy and national security at risk.

- ➔ **Nuclear plants are the backbone of the nation's diverse energy portfolio** and making up nearly 20% of the electricity supply.
- ➔ Having a diverse fuel supply helps make sure customers get electricity – **nuclear energy is largely immune to fuel disruptions or the impacts of adverse weather conditions.** Plants have 18-24 months of fuel on site.
- ➔ **Nuclear energy plays a significant role in an energy independent future,** a core component of our country's national security.

# CLEAN AIR ENERGY

NUCLEAR AVOIDS OVER  
**1/2 BILLION TONS**  
OF CARBON EMISSIONS  
EACH YEAR.

THAT'S GREATER THAN THE TOTAL  
U.S. POWER SECTOR CARBON  
REDUCTION COMMITMENT IN THE  
PARIS ACCORD



PREVENTS **650,000 TONS OF NO<sub>x</sub>**  
& **1 MILLION TONS OF SO<sub>2</sub> EMISSIONS**

THAT'S 50% MORE THAN SOLAR, WIND,  
HYDRO AND GEOTHERMAL COMBINED

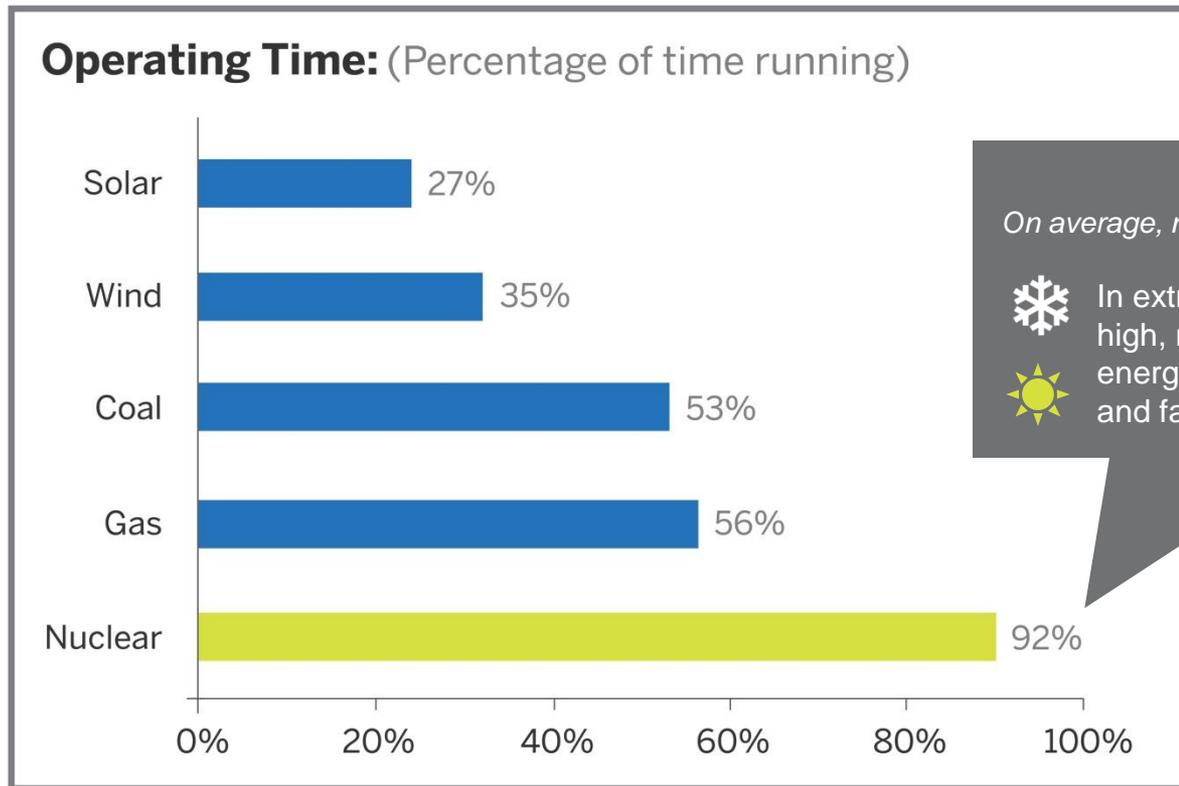


**A SOCIAL COST SAVINGS VALUED AT \$33.4 BILLION ANNUALLY**

Source: "The Nuclear Industry's Contribution to the U.S Economy" The Brattle Group, July 7, 2015: <http://www.nuclearmatters.com/report-11>

# THE INDUSTRY LEADER IN RELIABILITY

Nuclear plants operate with unparalleled reliability, operating over 92% of the time, on average.

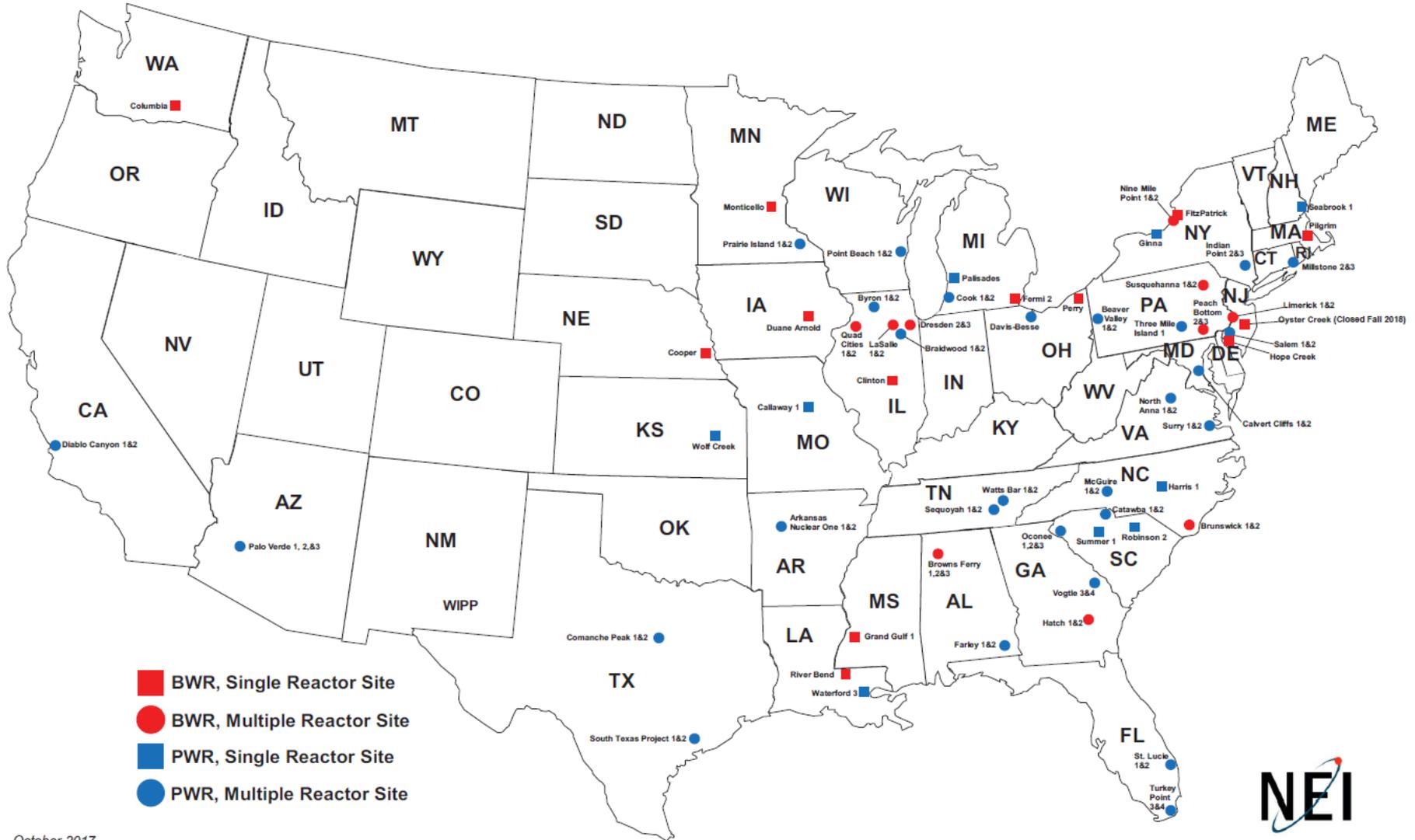


On average, nuclear plants operate **over 92%** of the time.



In extreme weather when energy demand is high, nuclear proves to be the most reliable energy source, as other sources can struggle and fail to meet the critically needed supply.

# NUCLEAR POWER PLANTS BY TYPE



October 2017



# STATE OF THE NUCLEAR POWER PLANT MARKET

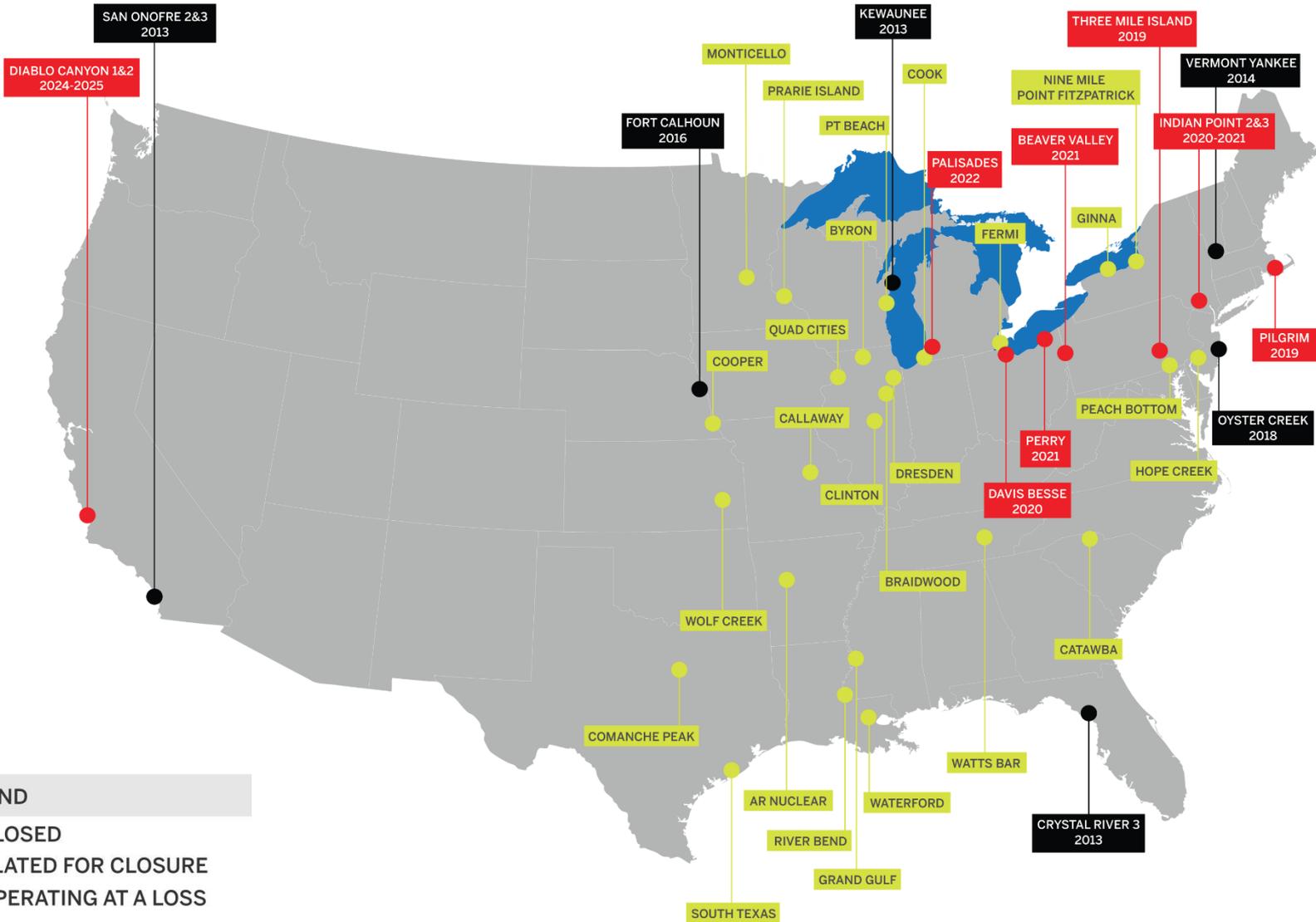
## *The challenges include:*

- **Natural gas production has increased significantly** and prices have declined dramatically. Natural gas frequently sets the marginal price of electricity for all generating sources; its lower price suppresses electricity prices across the market.
- **Federal policies and mandates subsidizing** other clean electricity, primarily wind and solar, distort energy markets causing other clean generators to operate at a loss.
- **Load growth is down or flat - markets are shrinking.** Between 2008 and 2016, the base load market has declined year over year.
- **Transmission constraints and the failure to develop transmission projects** results in significant basis discounts at some of the Midwest and New York plants.



Some nuclear generation is at risk because it does not receive fair and adequate compensation for producing both clean and reliable electricity.

# U.S. NUCLEAR PLANT CLOSURES & CHALLENGED PLANTS



## LEGEND

- CLOSED
- SLATED FOR CLOSURE
- OPERATING AT A LOSS

Source: "Half of U.S. Nuclear Power Plants are Underwater," Bloomberg New Energy Finance, June 2017

# ANNOUNCED PREMATURE NUCLEAR PLANT SHUTDOWNS



## LEGEND

- MEGAWATTS
- LATEST ELECTRICITY GENERATED

# STATES ARE ACTING TO PRESERVE PLANTS

	New York	Illinois	Connecticut	New Jersey
General Description	Under the state's clean energy standard, load serving entities must purchase Zero Emission Credits from NYSERDA who purchases them from the eligible nuclear plants.	Utilities in the state contract with zero emission facilities to procure all of the zero emission credits produced in a year by the facility.	Utilities enter into contracts with zero carbon electric generation resources selected through a Department of Energy and Environmental Protection RFP.	Electric public utilities will purchase Zero Emission Certificates (ZECs) from certified nuclear plants in an amount equivalent to all of the output of the plant.
Vehicle for Passage	Regulatory	Legislative	Legislative	Legislative
Term of Program	12 years (6- two year tranches)	10 years	Between 3 and 10 years for Nuclear	Eligibility is for 3 years at a time
Eligibility Quantity	27,618,000 Mwths; the total output of the 3 eligible plants from July 2015-June 2016.	20,118,672 Mwths - 16% of 2014 electric utility sales	Total annual energy solicited <= 12M Mwths	Not to exceed 40% of total energy consumed in energy year 2017 (June 2017-May 2018), which is ~27,000,000 MWh/year
Annual Purchased Quantity from Eligible Resource	Capped at each facility's annual output from July 2015-June 2016	All of the production from an eligible facility	Contracted amount under the RFP	All of the production from an eligible facility
Price	\$17.48/mwh for 1st period plus ~\$2.3/period thereafter	\$16.50/mwh for 6 years plus\$1/year thereafter	Below forecasted market prices unless nuclear units qualify as "at risk", then they can bid above market	~\$10/mwh for initial 3 years
Beginning Date	April 1, 2017	June 1, 2017	Contracts by Summer 2019	Contracts by Summer 2019
Explicit need requirement for eligibility	Yes	Considered in ranking of applicants	Yes - if nuclear wants to bid above market	Yes
# of Nuclear Plants Participating	3 - Ginna, Fitzpatrick and Nine Mile	2 - Quad Cities and Clinton	2 - Millstone and Seabrook (in NH, owned by Next Era and not an "at-risk" plant)	2 - Salem and Hope Creek

# NUCLEAR POWERS AMERICA ACT of 2019

## PROPOSAL

- Under proposal, Section 48 “energy property” would include “qualified nuclear energy property”.
- Qualified nuclear energy property would include refueling costs and capital expenditures described under Section 263(a) of a “qualifying nuclear power plant”.
- A qualifying nuclear power plant is a nuclear power plant which submitted (or certifies to submit) an application for license renewal to the Nuclear Regulatory Commission before January 1, 2026.
- Facilities for which a taxpayer takes the nuclear PTC under Section 45J would not be eligible for the Nuclear ITC.
- Credit is transferrable by qualified public entities.

## RATE

- Credit would equal 30% of amounts paid or incurred for qualified nuclear energy property for taxable years through 2023.
  - For these purposes, the amount paid or incurred during a taxable year would include amounts properly chargeable to a capital account.
  - Credit would reduce to 26% for amounts paid or incurred during 2024.
  - Credit would reduce to 22% for amounts paid or incurred during 2025.
  - Credit would reduce to 10% for amounts paid or incurred on or after January 1, 2026

# NUCLEAR POWERS AMERICA ACT of 2019

- For the 2018 tax year, Exelon Nuclear had approximately \$1.773 billion of capital expenditures as defined under Internal Revenue Code Sec 263(a) that would have qualified for the nuclear investment tax credit under S 1134 / HR 2314 for its 22 reactors currently in operation at 13 facilities.
  - Approximately \$560 million relates to nuclear property and approximately \$1.2 billion relates to nuclear fuel.
    - The process for manufacturing nuclear fuel assemblies is generally comprised of the following steps:
      - Uranium
      - Conversion
      - Enrichment
      - Fabrication
- The chart below depicts a three-year break down of the total nuclear financial accounting capital expenditures, amounts qualifying as tax repairs\*, and qualified nuclear fuel spend.

	Financial Accounting CapEx	Tax Repairs	Qualifying ITC Eligible CapEx (A)	Qualified Nuclear Fuel (A)	Total Qualifying ITC Eligible CapEx + Fuel (sum A)
2016	723,982,519	(264,612,951)	459,369,568	927,280,528	1,386,650,096
2017	820,141,891	(247,541,969)	572,599,921	950,095,249	1,522,695,171
2018	794,834,818	(234,028,480)	560,806,338	1,212,517,083	1,773,323,421

\* In 2013, Exelon Corporation adopted a method of accounting for deducting repairs pursuant to Sec. 263(a), utilizing the units of property and major components as prescribed by Revenue Procedure 2013-24. As a result, a portion of the costs treated as capital for financial accounting are deducted as a repair under Sec. 162, which would not be a qualifying expenditure for the nuclear ITC.

\*\* The Appendix contains a break-down by facility.

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# APPENDIX

# Examples of Qualifying Nuclear Energy Property under Sec. 263(a) and Repair under Sec 162

Step 3								
Classification	Repair	Capital	Classification	Repair	Capital	Classification	Repair	Capital
Air Compressor	✓		Ductwork - Expansion Joint (XJ)		✓	Roadway		✓
Asbestos Removal / Abatement	✓		EHC Pump	✓		Roof	✓	
ASD (Adjustable Speed Drive)		✓	Electronic Dosimetry		✓	Rotating Element	✓	
Battery	✓		Emergency Diesel Generator (EDG)		✓	Rotor (Non-Specific)		✓
Bearing	✓		Expansion Joint (XJ)	✓		RTU (remote terminal unit)		✓
Belt	✓		FAC (Flow Accelerated Corrosion)	✓		Seal	✓	
Boiler Casing	✓		Feedwater Heater Shell	✓		Sirens	✓	
Bottom Ash Jet Pump	✓		Fukushima		✓	Snubber	✓	
Breaker	✓		Furniture		✓	Spent Fuel Pool Cleanout/up	✓	
Burner	✓		Gas Compressor		✓	Spent Fuel Re-Rack		✓
Bushing	✓		Gear Box	✓		Stator (Non-Specific)		✓
Cable	✓		Headgate		✓	Sump Screen	✓	
Cartridge	✓		Headwork		✓	Switch	✓	
CCVT (capacitance-coupled voltage transformer)	✓		Heater Basket	✓		Tensioner	✓	
Circulating Water Pump		✓	Instrumentation		✓	Torus Recoating	✓	
Compressed Air System		✓	Impeller	✓		Transformer (Non-Specific)	✓	
Condensate Booster Pump	✓		Inverter	✓		Transmitter	✓	
Condensate Booster Pump (Nuclear plants only)		✓	Jet Pump Beam	✓		Traveling Screen	✓	
Condensate Pump		✓	Jet Pump Wedge	✓		Truck (Vehicle)		✓
Condensate Pump Motor	✓		Lighting	✓		Truck Bay		✓
Control Rod Blade	✓		Lower Slope Membrane Panels	✓		Tube	✓	
Control System		✓	Main Power Transformer (MPT)		✓	Turbine Exciter	✓	
Cooling Tower Fill	✓		Mist Eliminator	✓		Turbine Rotor		✓
Crane		✓	Motor	✓		Valve (AOV, VLV, ERV, PORV, MSR)	✓	
Dam Fishway Study	✓		Nuclear Compressor	✓		Waterwall	✓	
Diaphragm	✓		Piling		✓			
Diaphragm Blade	✓		Pin (i.e. tube pins, split pins)	✓				
Dilution Pump		✓	Piping	✓				
Ductwork		✓	Pressurizer Heater	✓				