Public Comment for Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 23, Second Renewal, Regarding Subsequent License Renewal for Point Beach Nuclear Plant, Units 1 and 2, Second Draft Report for Comment, dated April 2025 - Docket ID NRC-2020-0277

The following comments are intended to inform consideration of a 20-year license extension for the two Point Beach Nuclear (PBN) Reactors, located on the sandy western shore of Lake Michigan. They address climate change impacts, reactor embrittlement, risks associated with radioactive waste storage, the adequacy of emergency power and cooling systems, and public health and environmental hazards.

Climate Change: The Draft Supplemental Environmental Impact Statement (SEIS) includes some updated weather data, but it lacks a rigorous assessment of the most current climate projections for 2030–2055 and beyond. Public input is essential to ensure the Nuclear Regulatory Commission (NRC) addresses this gap.

Over the past two decades, climate change has led to increasingly volatile and extreme weather. Future planning must be based on recent climate patterns and projected future patterns, not outdated historical data like those from 1895. The SEIS must account for how intensified rainfall, wind events, and fluctuating lake levels could affect the structural stability and safe operation of the Point Beach nuclear facility—both reactors and long-term waste storage. Key concerns include:

- Whether site design and infrastructure can withstand projected extreme weather scenarios, including record rainfall and storms such as derechos.
- If water management systems can handle high-volume precipitation without flooding or erosion.
- How shoreline erosion or fluctuating Lake Michigan levels may impact site safety.
- The need for analysis of combined weather events (e.g., heavy rain followed by high winds) and their compounded risks.

The SEIS should reflect the most current climate science, incorporate a margin of safety for uncertainty, and evaluate whether the facility—designed over 50 years ago—is still adequate for today's and tomorrow's climate conditions. A forward-looking, science-based review is essential to protect public health and safety through the 2050s and beyond.

Embrittlement: Point Beach Nuclear Reactor Unit 2 has been identified as one of the most embrittled reactors in the U.S. and is at risk for cracking and causing a radioactive release in the event of a power mishap. The following concerns need to be addressed to protect the surrounding environment:

- Is there a limit to the degree of embrittlement to which the NRC would deem the reactors too embrittled and unsafe to operate?

- What has the NRC learned from materials acquired from aging or decommissioned reactors regarding material degradation and their safety to operate?

Radioactive Waste and Fuel Rods: Radioactive fuel rods remain radioactive for tens of thousands of years and remain a threat to all living things in the environment now and for future generations. Key questions include:

- How is the radioactive waste being monitored for leaks and deterioration of the casks containing the waste?
- How is the radioactive waste being protected from adverse weather events or hostile attacks?
- How are the required backup generators safeguarded and accessible in the event of a power outage that ensures that fuel rods won't melt and cause a core meltdown, a catastrophic event that could contaminate Lake Michigan and the drinking water for 40 million people as well as the surrounding population and land?

Radiation Exposure and Population Sensitivity: Current radiation risk assessments are based on “Reference Man” (a healthy 20–30-year-old male), despite evidence that women, children, and fetuses are more sensitive to radiation. Key concerns include:

- Why are risk assessments not adjusted to reflect the higher vulnerability of women, infants, children, and teens?
- How does the SEIS address these differences in susceptibility within populations living near PBN?

Tritium Discharges and Monitoring: Tritium, a radioactive isotope of hydrogen, is routinely released into air and water from nuclear plants. Although reported levels at PBN are below the outdated EPA standard of 20,000 picocuries/liter, newer research recommends a more protective limit of 400 picocuries/liter, especially for vulnerable populations. Recent leaks at Monticello Nuclear Plant raise concerns about the adequacy of current monitoring and response systems. Main issues are:

- Where and how often is Tritium monitored in air and water at the PBN site?
- Who conducts the analysis, and are results publicly accessible?
- How is Tritium release into Lake Michigan measured and reported?

Microbiological Hazards in Heated Water: PBN discharges thermal effluent into Lake Michigan at temperatures up to 24.3°F above ambient. Rising lake temperatures due to climate change and heated discharges may increase the risk of harmful organisms, such as Naegleria fowleri (a brain-infecting amoeba) and cyanobacteria (blue-green algae), which have been observed in nearby waters. Important concerns include:

- Is the NRC monitoring risks associated with thermal discharges promoting harmful organisms?
- How frequently is discharge temperature measured, and where is this data reported?

- Are there assessments of risks not only to humans, but also to aquatic life and wildlife in the lake ecosystem?