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U.S. Nuclear Regulatory Commission
Environmental Review License Renewal Branch
Division of Rulemaking, Environmental, and Financial Support
Office of Nuclear Material Safety and Safeguards
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SUBJECT: Reauthorizing the Turkey Point Nuclear Generating Station Beyond Its Intended Life Creates Immediate Harm and Manifold Risks

As the traditional stewards of the land and waters that the Station is located within, the federally recognized Miccosukee Tribe of Indians of Florida cannot support the reauthorization of the Turkey Point Nuclear Generating Station. The Nuclear Regulatory Commission works hard to ensure the safety of the nuclear generating stations in the United States. Without exacting regulation, nuclear power generation is a uniquely and inherently dangerous process. Reauthorizing a Station as old and outdated as the Turkey Point Nuclear Generating Station, in a location as ecologically-sensitive and critical to commerce and drinking water supplies in South Florida, in the context of increasing frequency, intensity, and impact of tropical weather systems in the Caribbean, is irresponsible and threatens to irreparably damage public trust in the Commission.

RISKS INHERENT TO AGE

The Nuclear Regulatory Commission (the “NRC”) has acknowledged that operating a reactor beyond a 60-year lifespan poses unique risks related to the degradation of safety equipment and infrastructure. With reauthorization, the Turkey Point Nuclear Generating Station will run for 80 years after its original construction, with almost 100-year-old designs. Over time, the high-intensity radiation may degrade the reactor core’s shroud, and mechanical and other radiation damage can occur throughout the system, increasing the likelihood of reactor meltdown or catastrophic failure. While non-nuclear infrastructure like an old bridge might break and hurt those on or below it, a reactor meltdown could devastate the entire region. Besides the impacts of age on the built infrastructure, as detailed elsewhere in this letter Turkey Point’s original infrastructure (including its seawall and cooling system) is simply outdated and ill-equipped to respond to the challenges of this century.

RISKS WORSENER BY CLIMATE CHANGE

Climate Change will only worsen these impacts. The UN Intergovernmental Panel on Climate Change (in its Sixth Assessment Report) is also predicting another foot of sea-level rise by 2050, shifting the baseline of storm surge threats up another foot, and the same Intergovernmental body predicts that the severity of 1 in 20-year storms will be seen at a frequency closer to 1 in 5 years by the end of the century (in its SREX Report). Increases of rain fall are expected to exceed 7% for every degree Celsius of warming and wind speeds in hurricanes are expected to increase by 5% for every two degrees Celsius of warming. Two degrees Celsius of warming is anticipated by 2050 or not long after. A coastal nuclear

generating station like Turkey Point must take these variables into account when planning for the future, and all of these variables weigh against continued operations.

RISKS RELATED TO EXTRACTION AND WASTE PRODUCTION

Evaluation of nuclear energy's environmental impacts cannot be limited to its point of fission. These impacts begin at extraction. Beyond the waste produced, the mining of uranium and other nuclear fuels has had particularly devastating impacts on our fellow Indigenous peoples living in the Southwest. Our Southwestern relatives were particularly devastated by COVID-19, when preexisting idiopathic pulmonary fibrosis, silicosis, tuberculosis, pneumonia, emphysema, and the tragically-named Navajo neuropathy caused by uranium mining dust left community members vulnerable to the virus. Our Navajo relatives in particular remain unable to access clean drinking water throughout much of their reservation after 94,000,000 gallons of uranium wastewater spilled and infiltrated into their aquifer.

RISKS INHERENT TO LOCATION

The risks that are otherwise evident for nuclear power plants are made all the more substantial when a generating station is located on a low-lying coastal floodplain or wetland, like the Turkey Point Nuclear Generating Station. The Station is located on traditional Miccosukee land at the nexus of critical conserved estuarine and marine habitat with free-flowing and intermingling waters. There are truly few places less suited for an enterprise with such risks.

When the Fukushima Daiichi Nuclear Power Plant was hit by a nearly 50-foot-tall storm surge, the plant's 18-foot sea wall allowed in sufficient seawater to cause a three-reactor meltdown. Over 500 people were killed, and the impacts of the radioactive discharges remain a concern across the Pacific Ocean. Turkey Point Nuclear Generating Station's 20-foot seawall provides little added security, especially when Hurricane Katrina caused a 27.8-foot storm surge, and Hurricane Michael exceeded a 20-foot storm surge less than 5 years ago. Even without direct damage from a storm surge, elevated water levels around the sea wall may isolate the Station as if it were a tidal island and compromise the Station's access to external electricity to operate its cooling pumps, which could have grave consequences similar to direct flooding.

IMMEDIATE HARM ALREADY GENERATED BY THE STATION

The harm contemplated in a review of the Turkey Point Nuclear Generating Station is not limited to speculative concerns. A 2016 study confirmed that the Station had soured Biscayne Bay with more than 200 times the normal levels of tritium, a radioactive isotope linked to nuclear power production. The discharge of coolant water has also elevated seawater temperatures to exceed 100 degrees requiring an NRC waiver. High water temperatures can effectively cook marine and estuarine life, and the saline discharge combined with the impacts of overdrawing water from the canal are causing substantial saline infiltration several miles west of the L-31E canal. This is directly threatening the Biscayne Aquifer and the drinking water supply it provides Miami-Dade County.

Turkey Point Nuclear Generating Station is quite literally the only nuclear plant left in the world that still uses this cooling system. The cooling canals span 5,900 acres of otherwise-intact marine and estuarine ecosystem at a critical ecological nexus between the Biscayne Bay, the Everglades National Park, the Southern Glades Wildlife and Environmental Area, the Biscayne National Park, and the third largest coral barrier reef in the world (and the only such reef in the continental United States), the Florida Reef. Barrier reefs are not only critical for protecting the mainland from storm surge, reefs also begin to suffer bleaching and die off at 1 degree Celsius of warming. The waters off of Turkey Point are home to

many threatened and endangered species, including the threatened American Crocodile whose habitat has already been compromised by increased heat and salinity, as are the wetlands that surround it on every other side. Many of the species present in the immediate vicinity are vital to the location fishing economy, which includes traditional and congressionally-protected Miccosukee fishing rights in the adjoining conserved lands and waters. There are few worse places to disrupt water temperatures and composition so dramatically.

CONCLUSION

The Miccosukee Tribe of Indians of Florida is a federally recognized Native American Tribe that has made Florida its home since time immemorial. We grieve for the destruction of Turkey Point's coastline and the marine and estuarine communities that inhabit it. We worry for the future of our people, our land, and our water if this Station is reauthorized. While we value the generating capacity the Station provides to South Florida, it comes at an unacceptable cost. Held together, the increasing age of the generating station, its precarious location on a low-lying coastal floodplain, and the increasing intensity and unpredictability of major Caribbean hurricanes creates a context in which continued operation of this power plant cannot be justified by a risk/benefit analysis. The Turkey Point Nuclear Generating point has outlived its useful life, and the Nuclear Regulatory Commission should deny its reauthorization.

Sincerely,

Talbert Cypress
Chairman
Miccosukee Tribe of Indians of Florida

CC:

Senator Marco Rubio
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