



December 30, 2013

The Honorable Allison M. Macfarlane, Chairman  
U.S. Nuclear Regulatory Commission  
Mail Stop O-16G4  
Washington, DC 20555-0001  
(sent via email: [chairman@nrc.gov](mailto:chairman@nrc.gov))

Dear Dr. Macfarlane,

**RE: Jan. 2-3 Storm and Simultaneous Astronomical High Tides at Pilgrim Nuclear Power Station**

We are writing to bring to your attention a significant storm event and simultaneous astronomical high tides expected to impact the Massachusetts coast on January 2<sup>nd</sup> and 3<sup>rd</sup>, 2014, and the unique opportunity it could provide for the NRC to better understand flood risk at the Pilgrim Nuclear Power Station.

Beginning January 2<sup>nd</sup> and continuing into Friday, the Massachusetts coast could be affected by a nor'easter, producing blizzard conditions, high winds, and coastal flooding. According to NOAA, winds (E, N, and NE directions) could occur at speeds of 13-18 MPH, with gusts up to 37 MPH, and approximately 8 inches of snow could fall in the Plymouth area (as of today, Dec. 30<sup>th</sup>).<sup>1</sup> NOAA also predicts the highest tides of 2014 to occur concurrently –12.4 feet on Friday (12:25 pm) and 12.3 feet on Thursday (11:34 am).<sup>2</sup>

A situation where a nor'easter occurs simultaneously with an astronomical high tide is a rare event. This relatively moderate nor'easter and coincidental astronomical high tides could be a valuable opportunity for the NRC to investigate and assess the flooding potential at Pilgrim more accurately. This is particularly relevant now, as Entergy is constructing an ISFSI on-site, close to the shore of Cape Cod Bay.

According to Entergy's Overall Integrated Plan for Pilgrim Nuclear Power Station in response to Order EA-12-049, Pilgrim is a "dry site."<sup>3</sup> However, we disagree with this claim and believe there may be problems associated with various vertical datums used to describe the site (e.g., both NAVD29 and NAVD88 have been used, with NAVD 88 being 0.8 feet lower in elevation than NAVD29). Furthermore, the Massachusetts Congressional delegation recently pointed out flaws with the most current FEMA flood maps. While FEMA maps a 17 ft. velocity zone for flooding at Pilgrim's location, the accuracy of this estimate is unknown since FEMA reportedly used methodology that does not correctly reflect Atlantic flooding conditions. The accuracy of topographical contours with regard to water level elevations at the site is also questionable.

<sup>1</sup> NOAA Hourly Weather Forecast Graph

<http://forecast.weather.gov/MapClick.php?w0=t&w3=sfcwind&w3u=1&w9=snow&AheadHour=50&Submit=Submit&FcstType=graphical&textField1=41.98518&textField2=-70.75253&site=all&unit=0&dd=0&bw=0>

<sup>2</sup> NOAA 2014 Plymouth area tide chart <[http://www.capecodbaywatch.org/wp-content/uploads/2013/12/PLYMOUTH\\_2014\\_tide-chart.pdf](http://www.capecodbaywatch.org/wp-content/uploads/2013/12/PLYMOUTH_2014_tide-chart.pdf)>

<sup>3</sup> Entergy's Overall Integrated Plan for Pilgrim Nuclear Power Station in response to Order EA-12-049. Feb. 28, 2013.

<http://pbadupws.nrc.gov/docs/ML1306/ML13063A063.pdf>



The upcoming storm and simultaneous astronomical high tides provides an opportunity for the NRC to collect real-time observational data and monitor flooding at the Pilgrim site. **Perhaps the NRC (via an onsite, resident inspector) could collect observational notes and photo-document the meteorological and oceanographic conditions, establish a benchmark for the flooding condition, if any, and then make this information available publically.** We believe this is an important step to more accurately predict the likelihood of flooding and the potential for storm surge at Pilgrim, and to better assess site vulnerability to sea level rise as climate change increasingly impacts our region.

Thank you for considering this important matter.

Sincerely,

Karen Vale  
Cape Cod Bay Watch

Pine duBois  
Jones River Watershed Association

cc:

Beth Card, MasDEP, Assistant Commissioner  
Kenneth Kimmell, MassDEP, Commissioner  
Sara Grady, Massachusetts Bays Program  
Bruce Carlisle, CZM, Director  
Richard Zingarelli, DCR, Office of Water Resources  
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