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Submitter Information

Name: William Maurer
Address:
140 Gifford St
Falmouth, MA, 02540
Email: wmmaurer@comcast.net

General Comment

Docket ID NRC-2015-0070
March 15, 2016

COMMENT NRC -2015-0070: PROPOSED REGULATORY IMPROVEMENTS FOR DECOMMISSIONING POWER REACTORS

My name is William Maurer and I live at 140 Gifford Street, Falmouth, MA 02540. I'm a retired Construction Project Manager with a BS in Civil Engineering. Retirement has afforded me the time to volunteer with the Cape Downwinders and conscientiously study many of the issues at Pilgrim Nuclear Power Station since 2012. I will keep my comments to brief and to the point.

1. Correct the flawed contribution formula associated with the NRC's Decommissioning Trust Fund (DTF) recommendations, rules and regulations. Current methodology has resulted in inadequate moneys in the Pilgrim and Vermont Yankee DTFs requiring by default a sixty year SAFSTOR mothballing agenda in the hopes the DTF grow enough to decommission at the end of sixty years. Aside: How did the NRC let this happen? Pilgrim's DTF should have reached a level of adequacy in 2012.

2. The NRC needs to ask Congress to craft legislation to finance the complete decommissioning to green fields of plants and sites now at their decommissioning crossroads so that complete decommissioning can be

accomplished in a ten year time frame after shutdown instead of the sixty year time frame.

3. Move all spent nuclear fuel (SNF) stored in pools to dry cask storage immediately upon the cessation of electricity production operations.

4.NRC ISFSI licensing needs to require new Environmental Impact Statements and/or Assessments for dry cask storage.
This needs to be accomplished in the context of onsite storage for an undetermined and open ended time period. Regardless of the labeling (ie.short term, interim, or long term) the past failure of the Waste Confidence Decision road demonstrates that no one can guarantee reliability of any label attached to the time frame of on site SNF storage. The possibility exists that once moved into dry casks onsite SNF storage becomes the acceptable final destination.

5.Therefore hardened dry cask storage should be the preferred goal of onsite storage..

6.The DOE can't pay communities enough to become a federal repositories. This speaks to the street value of that service and land use. Therefore States should be compensated for the onsite storage of SNF. In that same vein one could argue that property owners abutting and close by to an ISFSI should be compensated for its contribution to the destruction of their property values.

7. Continue provision of Emergency Planning rules and regulations that have traditionally been required during electricity production operations until all SNF is moved into dry cask storage.

8. A level of Emergency Management Planning needs to funded, practiced, equipped and administered until decommissioning is completed and all SNF is removed from the site to a Federal Repository.

9. Decommissioning Trust Funds should strictly be used for legitimate decommissioning activities as intended. This does not include any of the costs associated with onsite SNF storage in pools or an ISFSI. Costs of onsite SNF storage should be paid for by the Federal Government (DOE) until the SNF is loaded on a truck, headed for a federal repository when its ownership and title is transferred to the DOE.

10. The ground rules for Local and State participation in and approval of decommissioning planning and activities needs to be formulated. States and Locals should determine which local agencies and stakeholders need to be sitting around that table.

11. For decades Pilgrim's switchyard problems have been keep outside of the public's awareness, gone uncorrected and increased the risk to public safety during severe weather conditions when evacuations were infact impossible. This is nothing less reckless neglect and reckless risk taking. Pilgrim's switchyard needs to be brought up to best practice standards through root cause determination and corrective action planning to remedy its weaknesses and vulnerabilities as long as decommissioning is yet to be completed and SNF remains stored at the site (See Attachment 1).

12. Similarly Pilgrim's radioactive release monitoring stations are arranged in the shape of a horseshoe with the open end facing Easterly creating a blind spot that ignores a significant portion of Cape Cod. The ability to monitor radiation releases in all directions needs to be in place until all SNF is removed from the site (see Attachment 2A, 2B and 3A).

William G. Maurer

Cape Downwinders Volunteer
140 Gifford Street
Falmouth, MA 02540
508-548-6221
wmmaurer@comcast.net

Attachments

Attachment 1 Chronology of LOOP events - Copy

2A Google Map - Zoom out for Monitor Locations

2B Google Map - Monitor Coverage Categories - Blind - Rad - Rad & Met

3A GOOGLE MAP - Zoom out - Coverage Categories with Wind Rose %

Chronology of LOOP Events
Pilgrim Nuclear Power Station

1. Sep 10, 1975 - The reactor automatically scrammed due to a power interruption during a power supply transfer evolution.

2. Sep 13, 1975 - The reactor automatically scrammed when the 345 kilovolt transmission line was lost.
Sep 13, 1975 - The operators were shutting down the reactor when the turbine tripped. During the ensuing in-plant electrical power transfers, blown fuses de-energized the startup and auxiliary 345 kilovolt lines, causing a LOOP and an automatic reactor scram. The emergency diesel generators (EDGs) automatically started and were connected to the safety-related electrical buses. A relief valve (203-2B) opened and stuck open due to steam cutting the pilot valve assembly. The reactor pressure dropped to approximately 300 pounds per square inch gauge.

3. May 1, 1977 - The reactor automatically scrammed on LOOP caused by a forest fire

4. Feb 6, 1978 (Nor'easter/Blizzard - Blizzard of 78) - The reactor automatically scrammed when heavy snowfall caused electrical breakers in the 345 kilovolt switchyard to flashover and trip.
Feb 6, 1978 - The reactor automatically scrammed from 24 percent power when high winds and ice buildup caused all transmission lines to fail (causing a LOOP)..

5. Aug 6, 1978 - The reactor automatically scrammed with LOOP due to a storm.
Aug 6, 1978 - The reactor automatically scrammed from 100 percent power when lightning struck transmission lines causing a LOOP. The emergency diesel generators automatically started and connected to their electrical buses. The operators manually started the reactor core isolation cooling (RCIC) and high pressure coolant injection (HPCI) systems to maintain reactor water level. The operators opened a safety relief valve to control reactor pressure. Offsite power was restored about 30 minutes later.

6. Jul 27, 1979 - The reactor automatically scrammed on LOOP power due to a lightning strike.
Jul 27, 1979 - A lightning strike caused a LOOP.
Jul 31, 1979 - The unit was connected to the electrical grid.

7. Aug 28, 1979 -The reactor automatically scrammed when a lightning strike caused a LOOP.

8. Oct 12, 1982 [Licensee Event Report LER 1982-051] - High winds caused salt accumulation on electrical equipment that led to an electrical fault and a LOOP lasting about 1 minute. (records not on NRC webpage: "salt accumulation" "fault" implies flashover)

9. Feb 13, 1983 (Nor'easter/Blizzard) [LER 1983-007 LOOP] - With the reactor shut down, there was a LOOP.Feb 13, 1983 - High winds caused salt accumulation on electrical equipment that led to an electrical fault and a LOOP lasting about 1 minute. (records not on NRC webpage: "salt accumulation and electrical fault" implies flashover)

Feb 15, 1983 - The unit was connected to the electrical grid to end a 48.2 hour forced outage.

10. Nov 19, 1986 - Ice buildup on electrical equipment caused a fault and a LOOP lasting about 1 minute.

11. Mar 31, 1987 [LER 1987-005] - Heavy winds caused an electrical fault and a LOOP lasting about 1 minute.

12. Nov 8, 1987 - LOOP triggers site stop work order
Nov 9, 1987 - The company halted maintenance activities and sent about 400 contractors home.
Nine separate incidents over the prior three day period, two resulting in radioactive contamination of workers, prompted the decision.
Nov 12, 1987 - NRC dispatches Augmented Inspection Team to site to investigate LOOP event.

13. Nov 12, 1987 [LER 1987-014] - High winds caused salt accumulation on electrical equipment that led to an electrical fault and a LOOP lasting 21 hours and 3 minutes. (records not on NRC webpage: "salt accumulation" suggests flashover)

14. Mar 13, 1989 - The reactor was shut down due to a transformer blackout caused by a solar magnetic storm.
Mar 16, 1989 - The unit was connected to the electrical grid. An administrative order limited the reactor power level to 25 percent.

15. Oct 30, 1991 (Nor'easter/Hurricane: "Perfect Storm") [LER 1991-024] Loss of Preferred and Secondary Offsite Power Due to Severe Coastal Storm While Shutdown] - The operators shut down the reactor when a severe storm blew seaweed into the intake structure, clogging the circulating water pumps, and causing a loss of condenser vacuum.
Oct 30, 1991 - Weather-related LOOP lasting 120 minutes (switchyard flashover reported in LER)

16. Dec 13, 1992 (Nor'easter/Blizzard) [LER 1992-016] Automatic Scram Resulting From Load Rejection at 48 Percent Reactor Power] - The reactor automatically scrammed on a generator load rejection caused by flashovers in the switchyard due to salt deposits during a severe storm.
Dec 18, 1992 - The unit was connected to the electrical grid to end a 116.4 hour forced outage.

17. Mar 13 1993 (Nor'easter/Superstorm/Blizzard - Storm of the Century) [LER 1993-004] The reactor automatically scrammed on a generator load rejection caused by flashovers in the switchyard due to wind-packed snow during blizzard conditions.
Mar 13, 1993 - Weather related LOOP lasting 1 minute.
Mar 17, 1993 - The unit was connected to the electrical grid to end a 84.5 hour forced outage

18. Sep 10, 1993 [LER 1993-022] - The reactor automatically scrammed after lightning strikes caused switchyard breakers to open.
Sep 10, 1993 - LOOP lasting 10 minutes.
Sep 12, 1993 - The unit was connected to the electrical grid to end a 43.7 hour forced outage.

19. Dec 19, 2008 (Nor'easter/Blizzard) [LER 2008-006; LER 2008-007]- The reactor automatically scrammed when a winter storm caused icing in the main switchyard.(switchyard flashover reported in 1/26/15 Supplemental Inspection Report)

20. Feb 8, 2013 (Nor'easter/Blizzard - Nemo) [LER 2013-003]- The reactor automatically scrammed at 9:17 pm when a blizzard caused LOOP. (switchyard flashover reported in 1/26/15 Supplemental Inspection Report)
Feb 9, 2013 - Workers restored offsite power to the site at 6:09 pm.
Feb 10, 2013 - Offsite power to the site was lost at 2:02 pm.
Feb 12, 2013 - Workers restored offsite power to the site at 4:05 am.
Feb 15, 2013 - The reactor was connected to the electrical grid at 10:39 pm to end a 169.37 hour forced outage.

21. Oct 14, 2013 - The reactor automatically scrammed due to LOOP caused by failure of an offsite tower support during modification of one of the 345 kV offsite lines.
Oct 21, 2015 - Reconnected to the grid

22. Jan 27, 2015 (Nor'easter/Blizzard - Juno) Forced Outage due to LOOP. Switchyard flashovers reported.
Feb 8, 2015 - Restarted to 79%; Reached 100% on Feb 10, 2015.

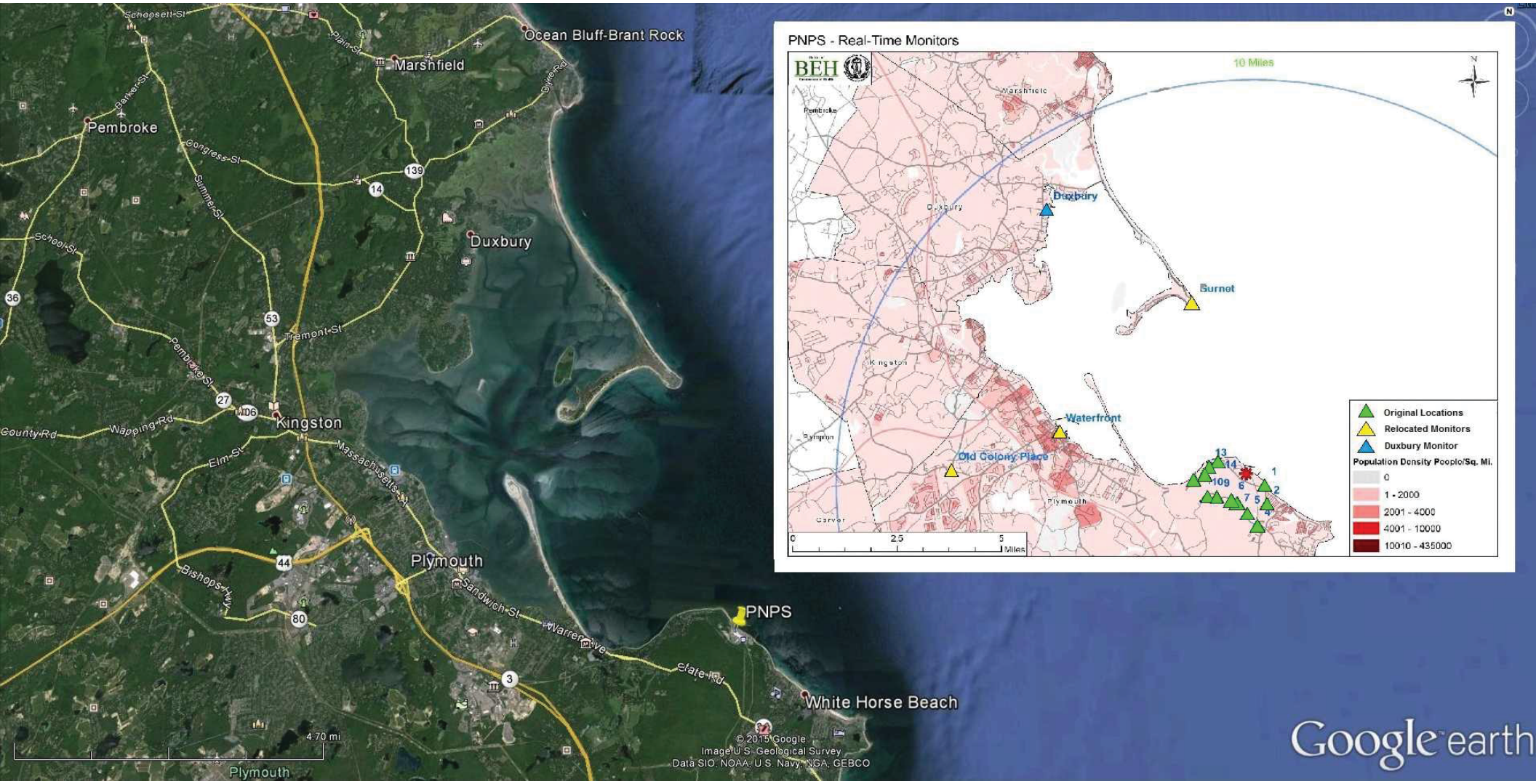
Precautionary Shutdown, no LOOP
Feb 15, 2015 (Nor'easter - Neptune) Precautionary shutdown in advance of Nor'easter Neptune and an anticipated LOOP.
Feb 18, 2015 - Restarted to 18%; Complications delayed ramp up; Reached 100% on Feb 22, 2015.

Summary by cause:

- Power Supply Transfers - 2 times
- Offsite Tower Support Failure - 1 time
- Lightning Strikes - 4 times
- Forest Fire - 1 time
- Solar Storm - 1 time
- High Winds - 3 times
- Nor'easters/Blizzards, Ice, Snow with switchyard flashovers - 8 times
- **Total = 21 times**

- Precautionary shutdown prior Nor'easter/Blizzard - 1 time

The information gathered from the NRC website and "A List of Events" by Dave Lochbaum from 1965 to May 30, 2013 found on the Pilgrim Coalition website under "Shutdown Tracker" Lochbaum Note: This report contains information about events that happened - not events that did not happen. In other words, just because an event is NOT listed in this report does not mean it did not happen. It might be that the ongoing research effort that yielded this report has not yet recorded the event.


Ocean Bluff-Brant Rock
Marshfield
Pembroke
Duxbury
Kingston
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PNPS
White Horse Beach
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Congress St
Summer St
School St
Tremont St
Pembroke St
County Rd
Wapping Rd
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Massachusetts Ave
Bishops Hwy
Sandwich St
Warren Ave
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4.70 mi
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PNPS - Real-Time Monitors
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10 Miles
Marshfield
Pembroke
Duxbury
Kingston
Plymouth
Carver
Duxbury
Burnet
Waterfront
Old Colony Place
Original Locations
Relocated Monitors
Duxbury Monitor
Population Density People/Sq. Mi.
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1 - 2000
2001 - 4000
4001 - 10000
10010 - 435000
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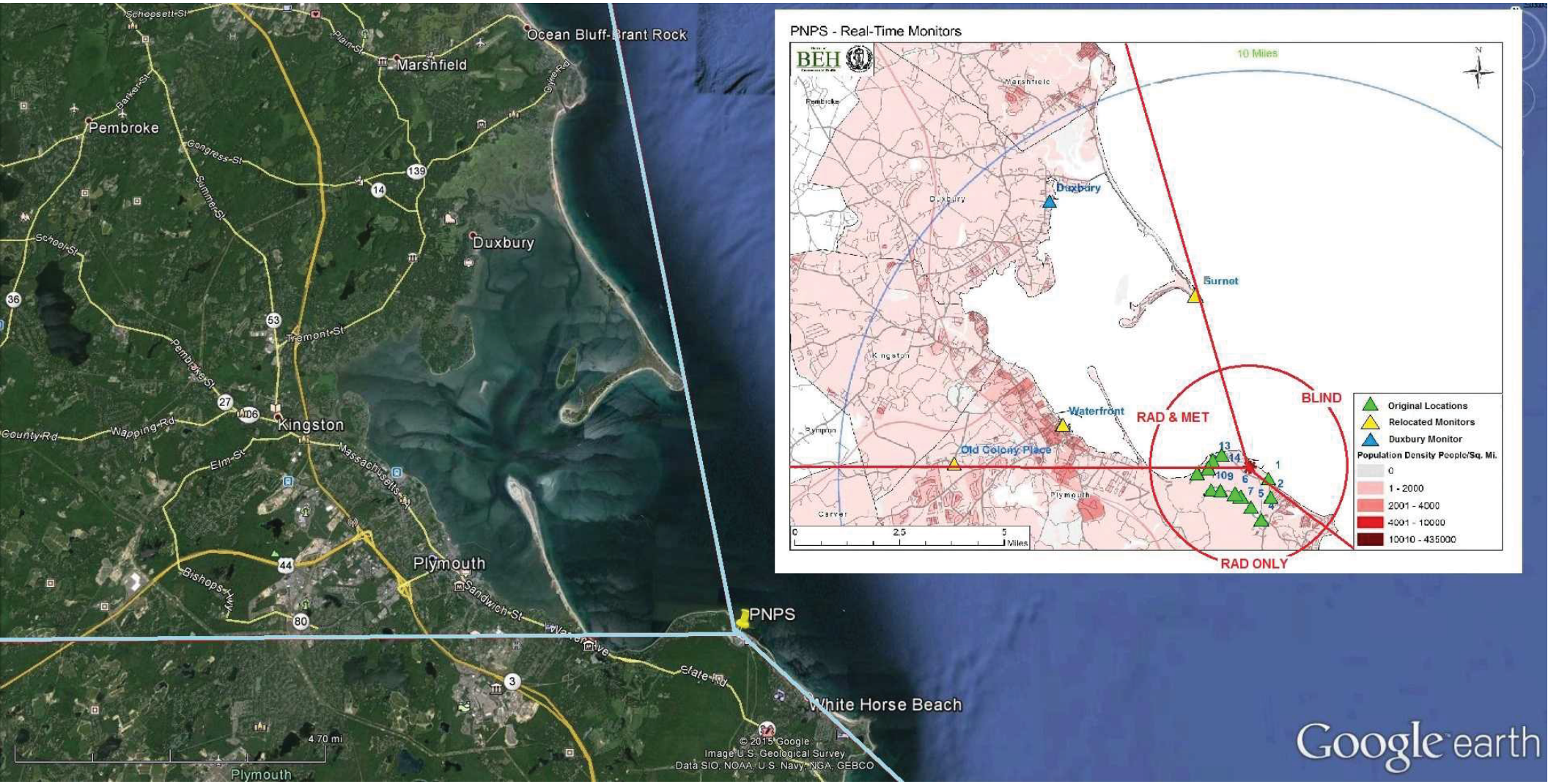
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Google earth
PNPS - Real-Time Monitors
10 Miles
Duxbury
Sunset
Waterfront
Old Colony Place
RAD & MET
BLIND
RAD ONLY
Original Locations
Relocated Monitors
Duxbury Monitor
Population Density People/Sq. Mi.
0
1 - 2000
2001 - 4000
4001 - 10000
10010 - 435000
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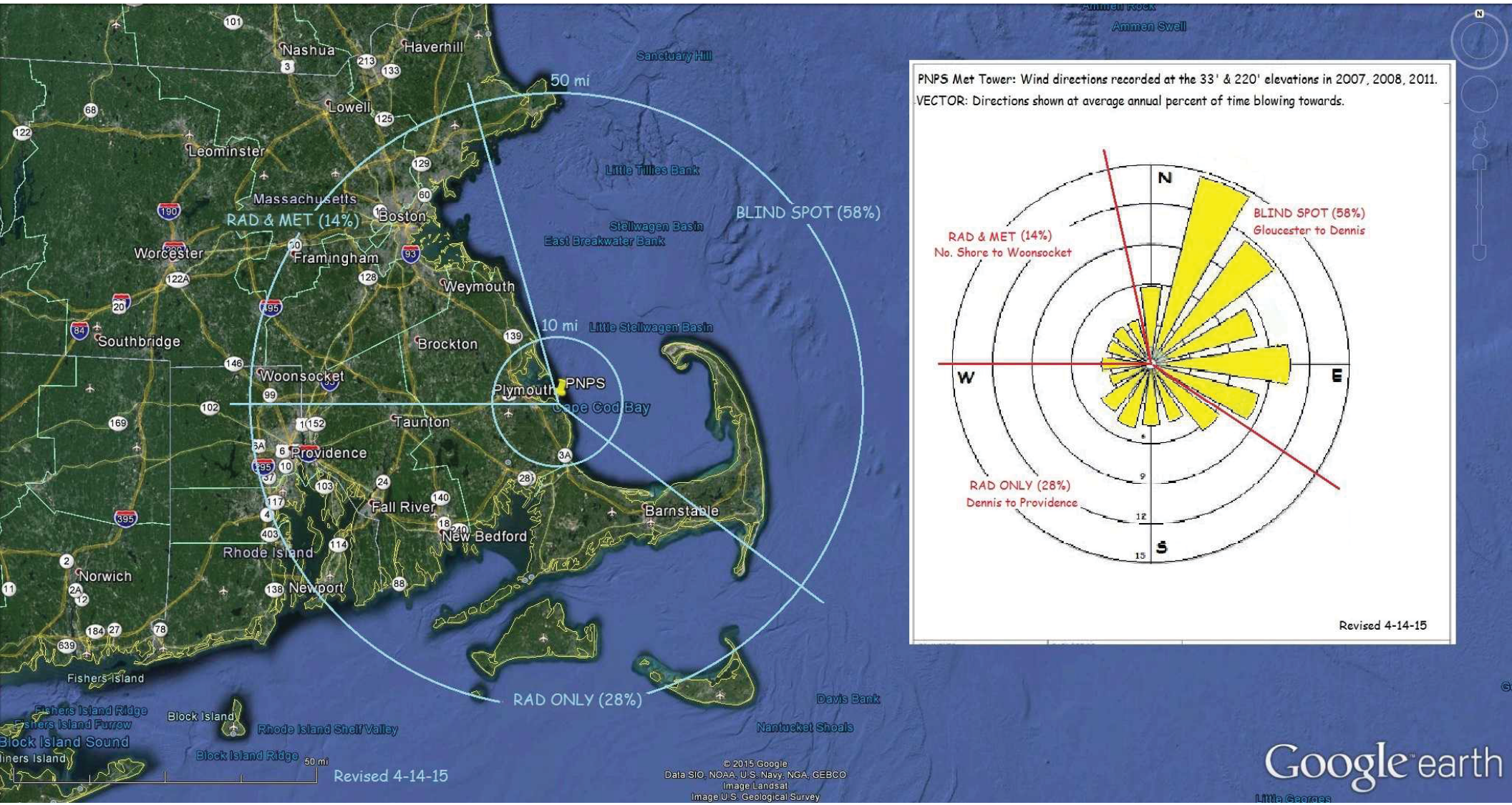
50 mi
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BLIND SPOT (58%)
RAD & MET (14%)
RAD ONLY (28%)
PNPS
Plymouth
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Boston
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Nashua
Haverhill
Lowell
Leominster
Worcester
Framingham
Weymouth
Brockton
Southbridge
Woonsocket
Taunton
Providence
Fall River
New Bedford
Barnstable
Rhode Island
Newport
Norwich
Block Island
Fishers Island
Sanctuary Hill
Little Tillies Bank
Stellwagen Basin
East Breakwater Bank
Little Stellwagen Basin
Ammen Swell
Davis Bank
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PNPS Met Tower: Wind directions recorded at the 33' & 220' elevations in 2007, 2008, 2011.
VECTOR: Directions shown at average annual percent of time blowing towards.
N
E
S
W
BLIND SPOT (58%)
Gloucester to Dennis
RAD & MET (14%)
No. Shore to Woonsocket
RAD ONLY (28%)
Dennis to Providence
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