



NP-12-0029
July 10, 2012

10 CFR 52, Subpart A

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: Exelon Nuclear Texas Holdings, LLC
Victoria County Station
Early Site Permit Application
Environmental Report – Partial Response to ER RAI Letter No.14
Docket No. 52-042

References: (1) USNRC letter to Ms. Marilyn C. Kray, Environmental Request for Additional Information Letter No.14 Related to Meteorology & Air Quality for Victoria County Station Early Site Permit Application, dated May 31, 2012

Exelon is responding to the following questions contained in NRC Request for Additional Information (RAI) letter No.14 (Reference 1):

- Met-1 (eRAI No.6453)
- Met-5 (eRAI No.6453)

Exelon's responses to the above-referenced RAIs constitute a partial response to NRC RAI Letter No.14. Responses to the remaining questions in RAI Letter No.14 (Met-2, Met-3, Met-4, and Met-6) will be provided no later than July 30, 2012, in accordance with the 60-day response timeframe requested in the letter.

The responses to RAIs Met-1 and Met-5 are provided in Attachments 1 and 2, respectively. Regulatory commitments are summarized in Attachment 3.

If additional information is required, please contact Joshua Trembley at (610) 765-5345.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 10th day of July, 2012.

Respectfully,

A handwritten signature in black ink that reads "Marilyn C. Kray".

Marilyn C. Kray
Vice President, Nuclear Project Development

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Attachments:

- (1) Response to Met-1 (eRAI No.6453)
- (2) Response to Met-5 (eRAI No.6453)
- (3) Summary of Commitments

cc: USNRC, Director, Office of New Reactors/NRLPO
USNRC, Project Manager, VCS, Division of New Reactor Licensing
USNRC, Environmental Project Manager, VCS, Division of New Reactor
Licensing
USNRC Region IV, Regional Administrator
Argonne National Laboratory, Project Manager, VCS
EDMS

Met-1 (eRAI No.6453):

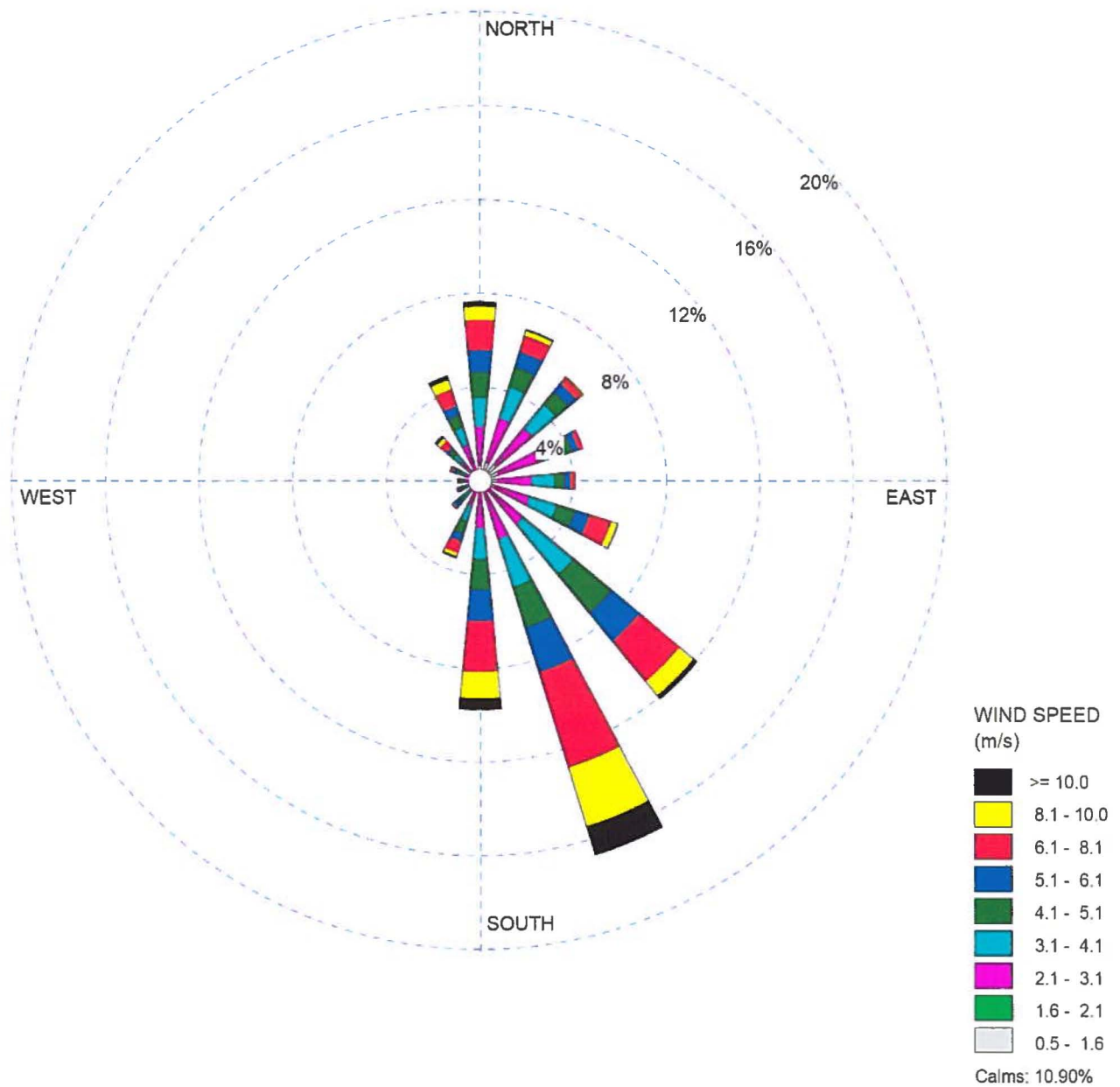
NRC Request:

MET-1 - ESRP Section 2.7 directs the staff to review the applicant's meteorological monitoring program for obtaining data that are representative of the site. Section 2.7 (page 2.7-6) states "at least one annual cycle from the onsite meteorological program should be used to relate local meteorological conditions to local and regional climatology". In order to determine if the measurements taken at the VCS site are representative of the weather in the region, the NRC staff requests that the applicant provide annual and seasonal wind roses for Victoria National Weather Service (NWS) station for the same 2-year period as the onsite meteorological data, for comparison to the 10-meter onsite wind data. Provide annual and seasonal wind roses for Victoria NWS station for the same 2-year period as the onsite meteorological data.

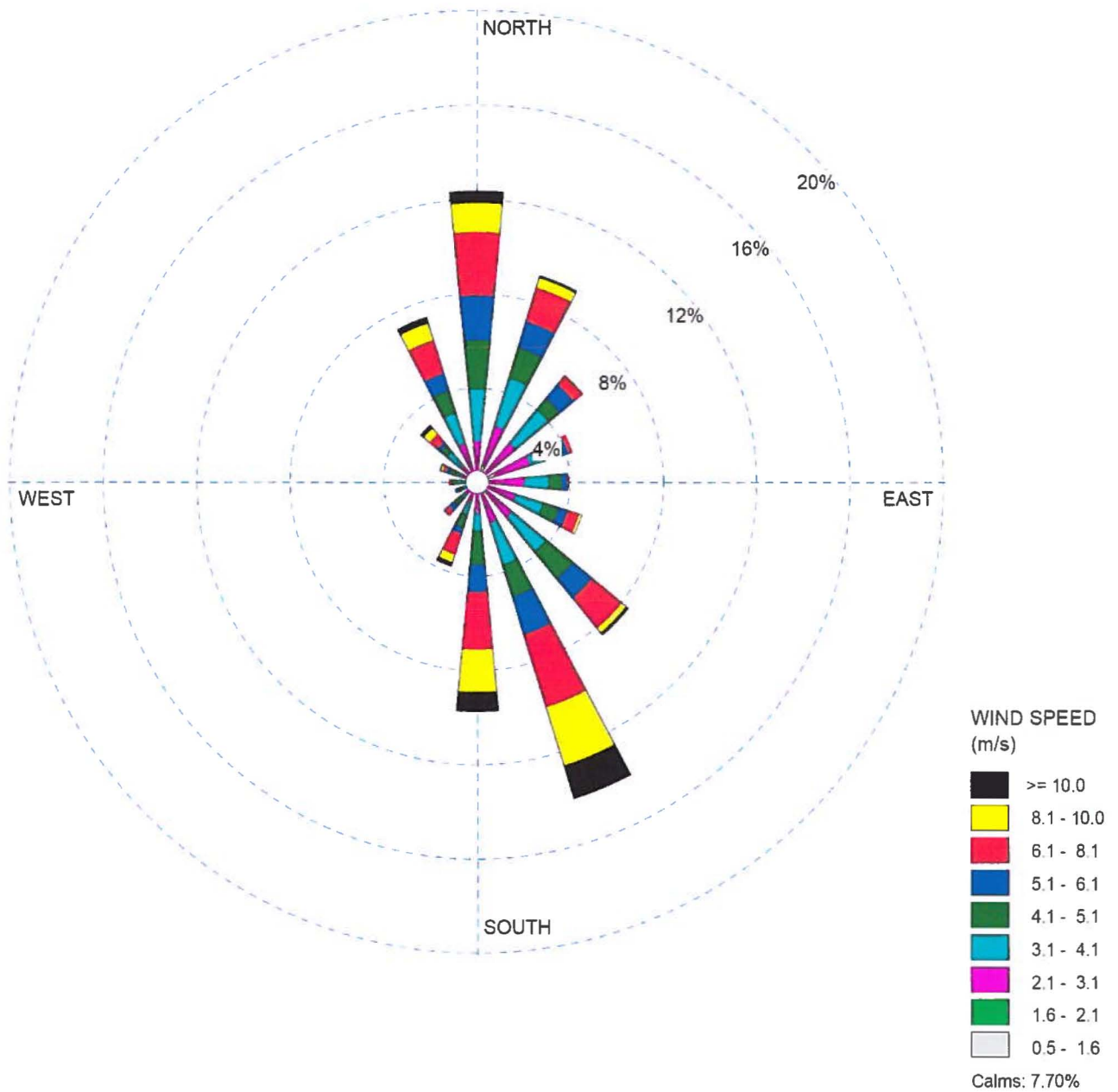
Response:

Two years (July 1, 2007 to June 30, 2009) of data from the National Climatic Data Center's (NCDC) Integrated Surface Hourly (ISH) website (Ref. 1) were downloaded and converted into seasonal and annual wind roses. Annual and seasonal wind roses from the Victoria, Texas, (KVTC) (provided on the following pages) were compared to those in ER Figures 2.7-2 through 2.7-6 and were found to support the conclusion that measurements taken at the VCS site are representative of the weather in the region. The topography in this region is generally flat, so little variation is found between the two sites (ER Fig. 2.7-1).

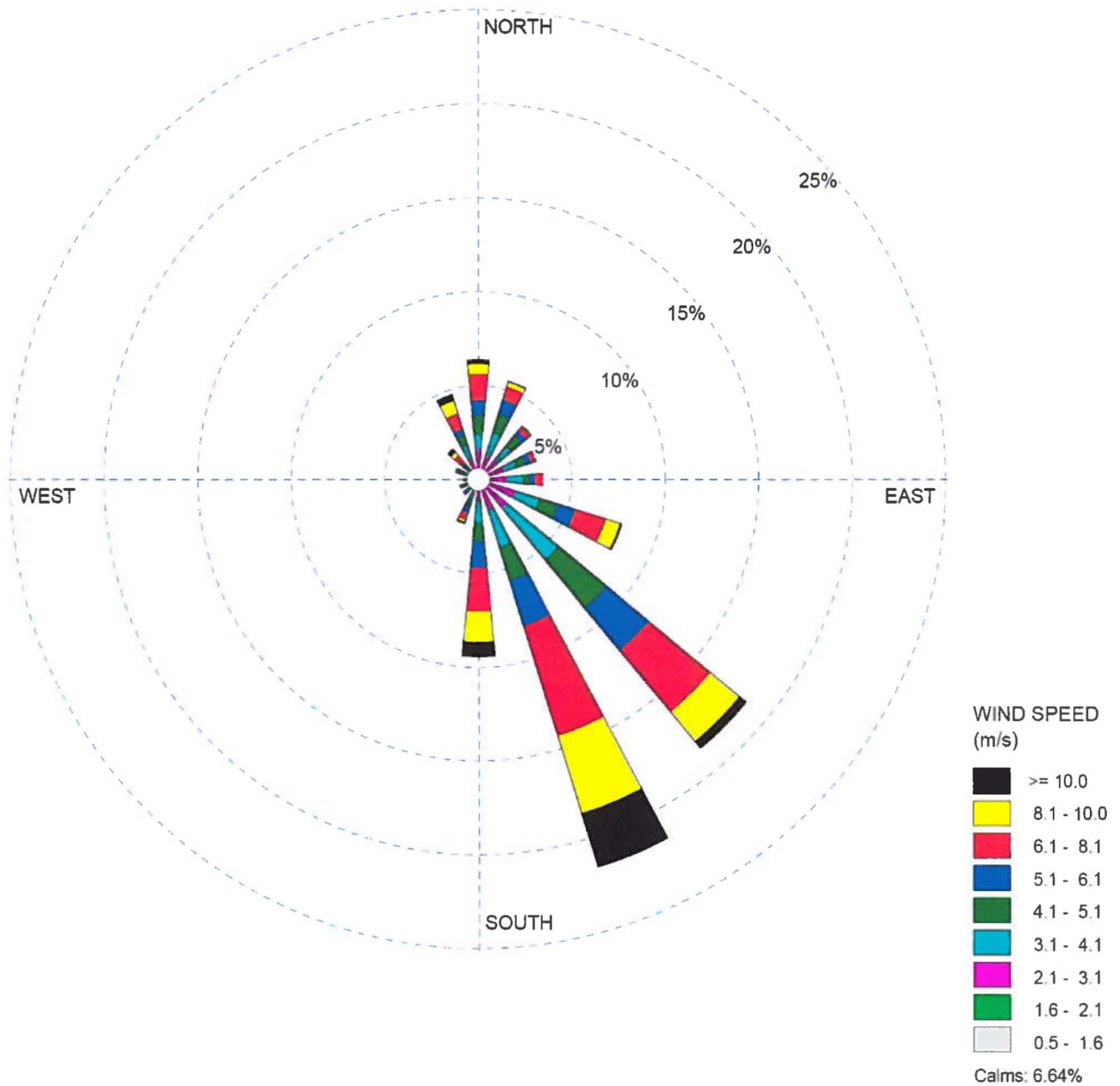
Annual Wind Rose (July 1, 2007 through June 30, 2009)



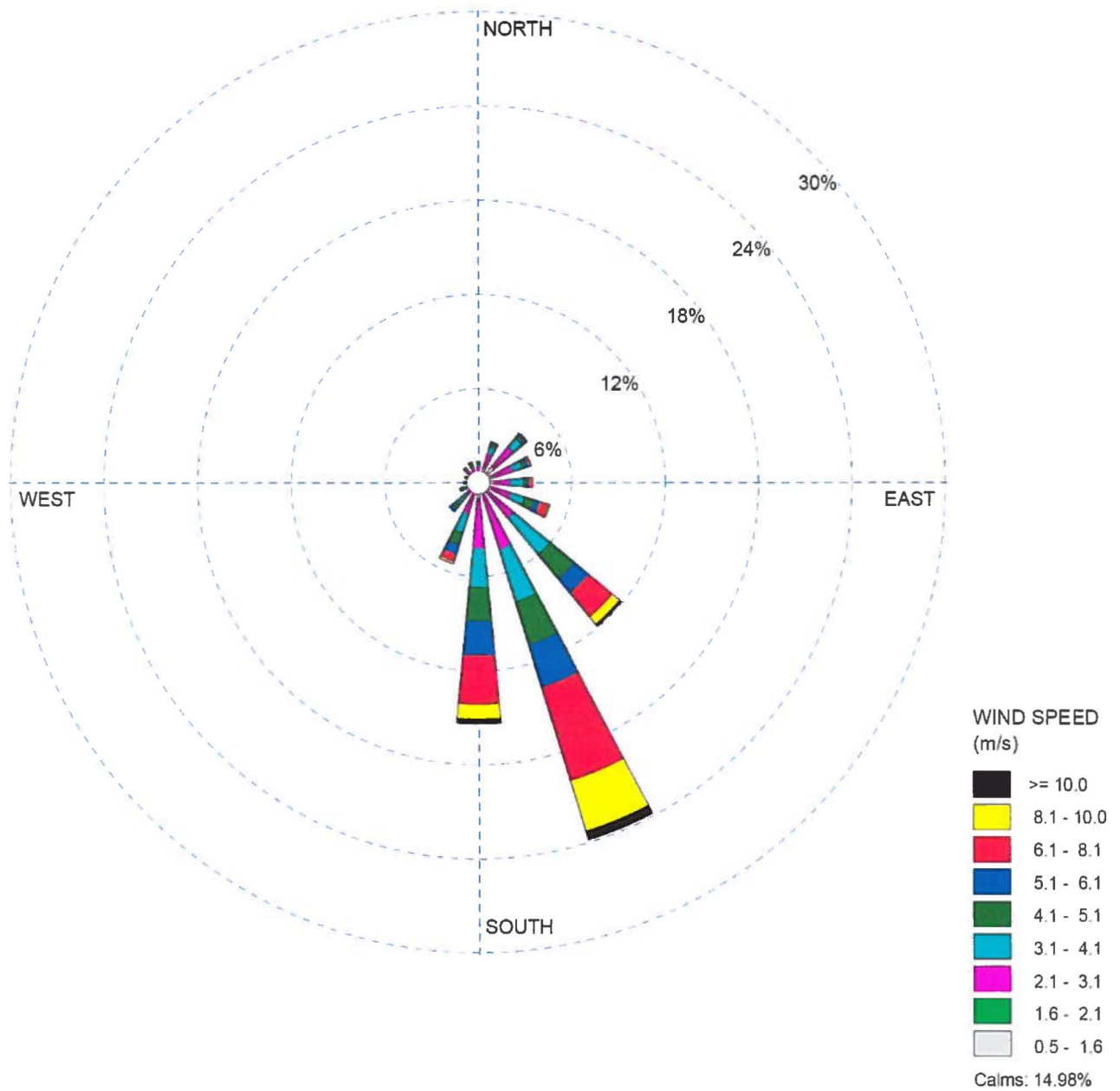
Winter Wind Rose (July 1, 2007 through June 30, 2009)



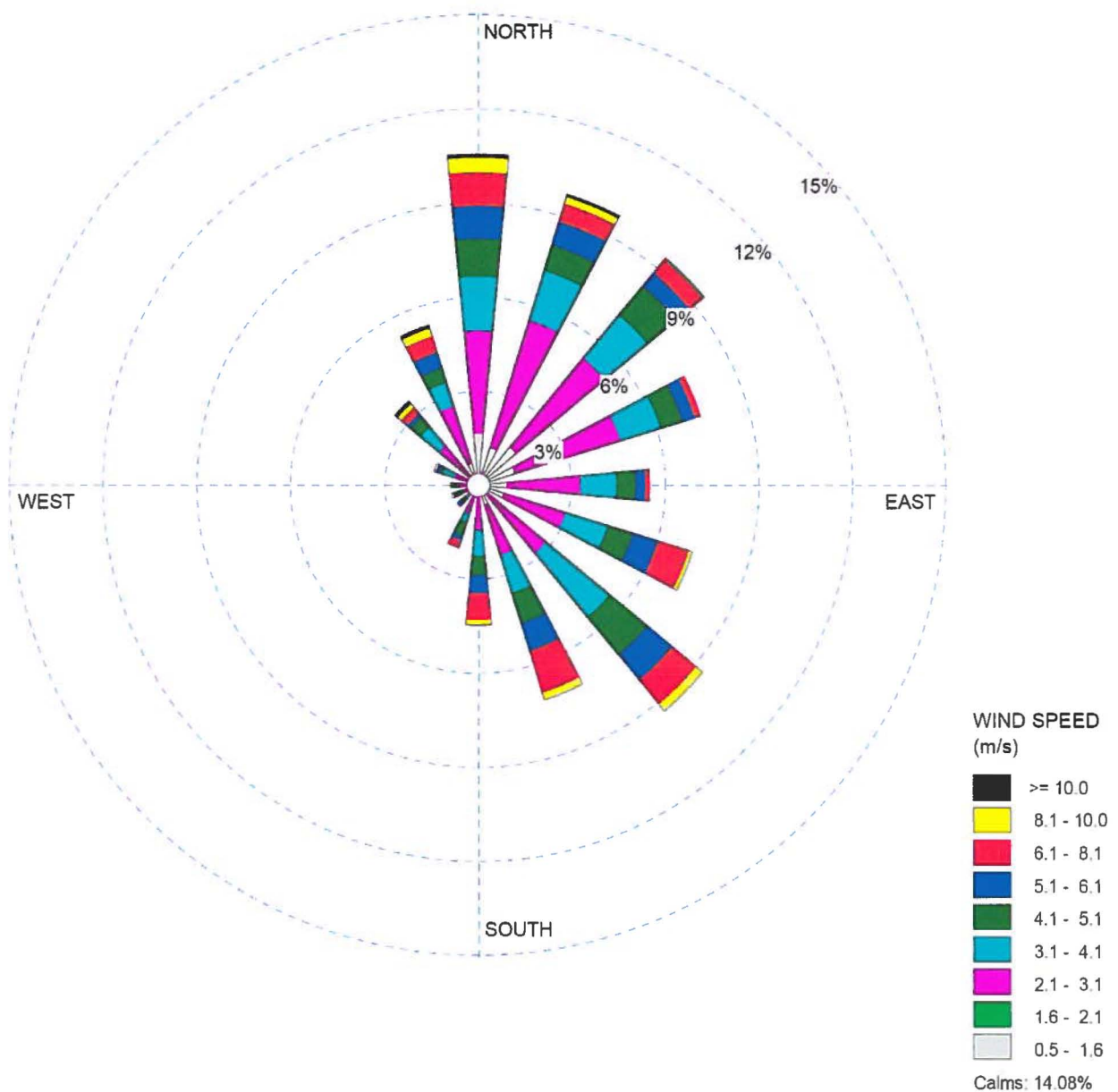
Spring Wind Rose (July 1, 2007 through June 30, 2009)



Summer Wind Rose (July 1, 2007 through June 30, 2009)



Autumn Wind Rose (July 1, 2007 through June 30, 2009)



References:

NCDC ISH Database. <ftp://ftp.ncdc.noaa.gov/pub/data/inventories/ISH-HISTORY.TXT>
accessed on 6/7/2012.

Associated ER Revisions:

There are no ER changes associated with this response.

Met-5 (eRAI No.6453):**NRC Request:**

MET-5 - ESRP Section 3.6.3 directs the staff to review the applicant's description of miscellaneous gaseous effluents released to the atmosphere. The ER Section 3.6.3 includes a discussion of ancillary equipment and provides emissions for all, but the fire pump. Table 3.6-2 should include diesel fire pump emissions. Provide diesel fire pump emissions.

Response:

As described in ER Subsections 3.6.3.1 and 5.8.1.2, VCS could have standby and ancillary diesel generators, auxiliary boilers, combustion turbine generators, diesel driven fire pumps, or other auxiliary diesel-driven equipment. During normal operation of the plant, the operation of this equipment is infrequent and typically limited to periodic testing. The diesel generators, combustion turbine generators, diesel-driven fire pumps, and other auxiliary diesel-driven equipment would operate periodically for testing or during an event that requires their designated use. Likewise, the auxiliary boiler would run only during startup/shutdown of the units. The intermittent operation of the diesel-driven equipment would result in small amounts of gaseous emissions. Emissions will be regulated by permits that will specify the allowable limits and frequency.

Representative emissions for the standby and ancillary diesel generators along with the diesel-driven fire pumps were calculated and are shown below in Table 1. While ER Table 3.6-2 provided representative values for most of these releases, due to the low contribution of emissions from the diesel fire pumps, the projected emissions for the diesel-driven fire pumps were not included in ER Table 3.6-2. ER Table 3.6-2 will be revised to include the calculated emissions for the diesel fire pumps as indicated in Table 1 and the ESPA Changes Section. (Representative emissions for the combustion turbine generators and auxiliary boilers are shown in ER Tables 3.6-3 and 3.6-4, respectively.)

Table 1: Yearly Estimated Emissions from Diesel Generators and Diesel-Driven Fire Pumps

Constituent	Standby Diesel Generators (pounds per year) ^{(a),(b)}	Ancillary Diesel Generators (pounds per year) ^{(a),(b)}	Fire Protection Diesel Fire Pumps (pounds per year) ^{(a),(b)}
Particulates	4,262	398	18.6
Sulfur Oxides	86,676	8,110	931.97 ^(c)
Carbon Monoxide	5,778	540	40.56
Hydrocarbons	8,668	812	11.0
Nitrogen Oxides	115,568	10,814	358.2

^(a) Emissions are based on 4 hours per month of operation for each diesel generator and diesel-driven fire pump. It is assumed that each unit would have two standby diesel generators, two ancillary diesel generators, and two diesel-driven fire pumps (one primary and one yard) per unit.

^(b) Emissions are based on use of diesel fuel oil with a maximum sulfur content of 3% by weight. However, it is anticipated that the sulfur content of the fuel will be much lower. In June 2004 the U.S. Environmental Protection Agency finalized the Clean Nonroad Diesel Rule requiring a reduction in the sulfur content of fuel to 15 ppm in June 2010.

^(c) Sulfur oxide emissions are a function of only the sulfur content in the fuel rather than combustion variables. Therefore, in order to remain consistent, and account for diesel fuel with 3% sulfur content, the emission estimate was based on the emission factor in EPA AP-42, Table 3.4-1 (a power output rating of 200 HP was assumed).

Associated EPA Revisions:

ER Table 3.6-2 will be replaced with a new ER Table 3.6-2 as follows.

Table 3.6-2
Yearly Emissions from Standby Diesel Generators for VCS

Constituent	Emissions (Pounds per year)
Particulates	4,660
Sulfur Oxides	94,787
Carbon Monoxide	9,200
Hydrocarbons	9,479
Nitrogen Oxides	126,382

Notes:

Emissions are based on 4 hours per month of operation of the generators.

Emissions are based on use of diesel fuel oil with a maximum sulfur content of 3% by weight.

Table 3.6-2
Yearly Estimated Emissions from Diesel Generators and Diesel-Driven Fire Pumps

Constituent	Standby Diesel Generators (pounds per year)^{(a),(b)}	Ancillary Diesel Generators (pounds per year)^{(a),(b)}	Fire Protection Diesel Fire Pumps (pounds per year)^{(a),(b)}
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^(b) Emissions are based on use of diesel fuel oil with a maximum sulfur content of 3% by weight. However, it is anticipated that the sulfur content of the fuel will be much lower. In June 2004 the U.S. Environmental Protection Agency finalized the Clean Nonroad Diesel Rule requiring a reduction in the sulfur content of fuel to 15 ppm in June 2010.

^(c) Sulfur oxide emissions are a function of only the sulfur content in the fuel rather than combustion variables. Therefore, in order to remain consistent, and account for diesel fuel with 3% sulfur content, the emission estimate was based on the emission factor in EPA AP-42, Table 3.4-1 (a power output rating of 200 HP was assumed).

ATTACHMENT 3

SUMMARY OF REGULATORY COMMITMENTS

(Exelon Letter to USNRC No. NP-12-0029, dated July 10, 2012)

The following table identifies commitments made in this document. (Any other actions discussed in the submittal represent intended or planned actions. They are described to the NRC for the NRC's information and are not regulatory commitments.)

COMMITMENT	COMMITTED DATE	COMMITMENT TYPE	
		ONE-TIME ACTION (Yes/No)	Programmatic (Yes/No)
ER Table 3.6-2 will be replaced with a new ER Table 3.6-2 incorporating diesel-drive fire pump emissions in a future ESPA revision. [RAI Met-5 Response]	March 31, 2013	Yes	No