Cannonsville Reservoir

Pepacton Reservoir

Neversink Reservoir

Lake Wallenpaupack

Francis E. Walter Reservoir

Beltzville Reservoir

Nockamixon Reservoir

Blue Marsh Reservoir

Marsh Creek Reservoir

Springton (Geist) Reservoir

Edgar Hoopes Reservoir

LEGEND

- PSEG Site
- Dam Locations
- Tributaries

Note: Map shows the seven largest reservoirs within the Delaware River Basin and the four largest reservoirs within 70 miles of the PSEG site.
References 2.4.4-17, 2.4.4-19, 2.4.4-20, 2.4.4-21, 2.4.4-22, 2.4.4-25

N
W E
S

0 20 40
Kilometers

0 20 40
Miles

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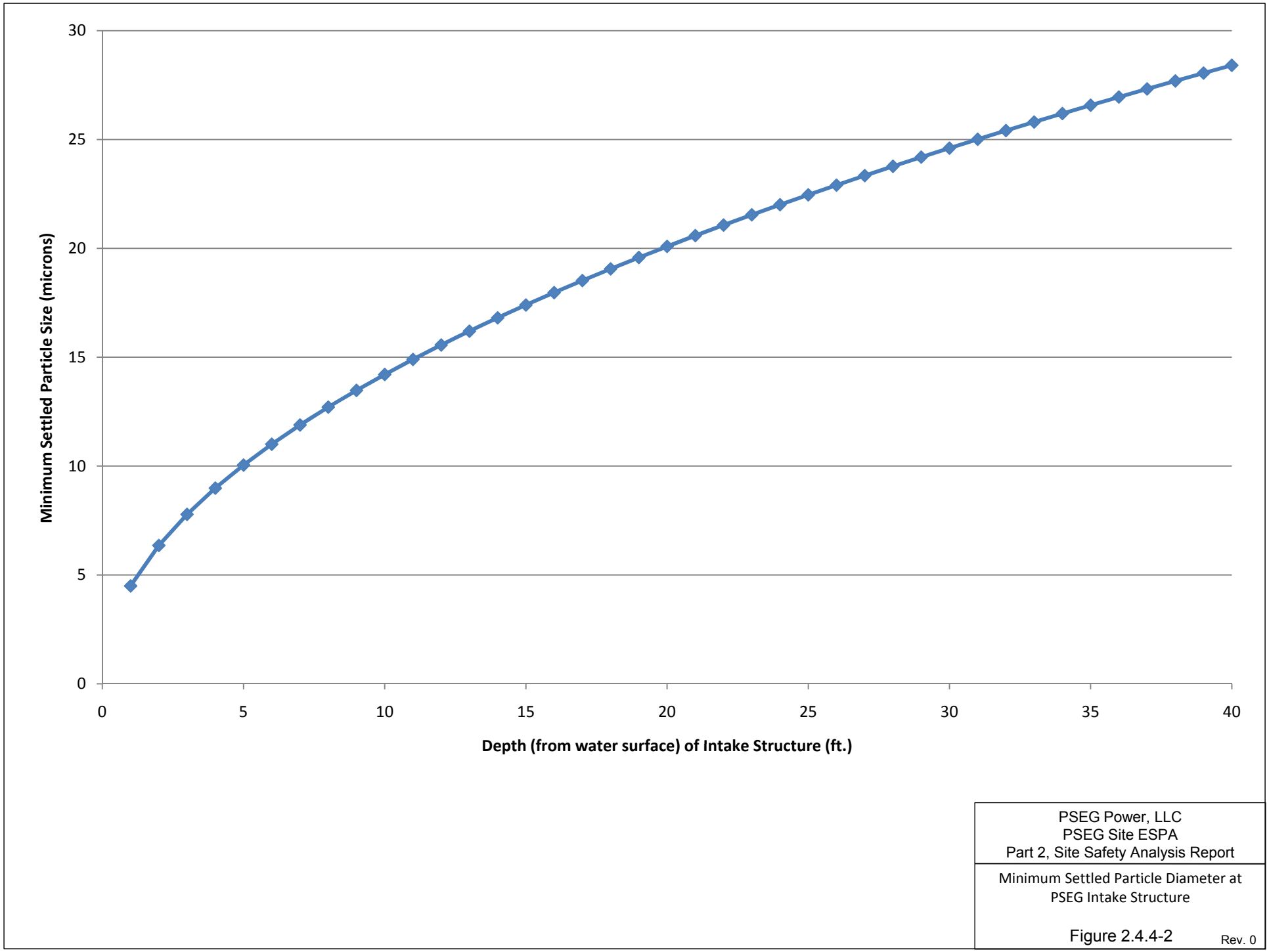
Delaware River Basin Dams
FIGURE 2.4.4-1
Rev. 0



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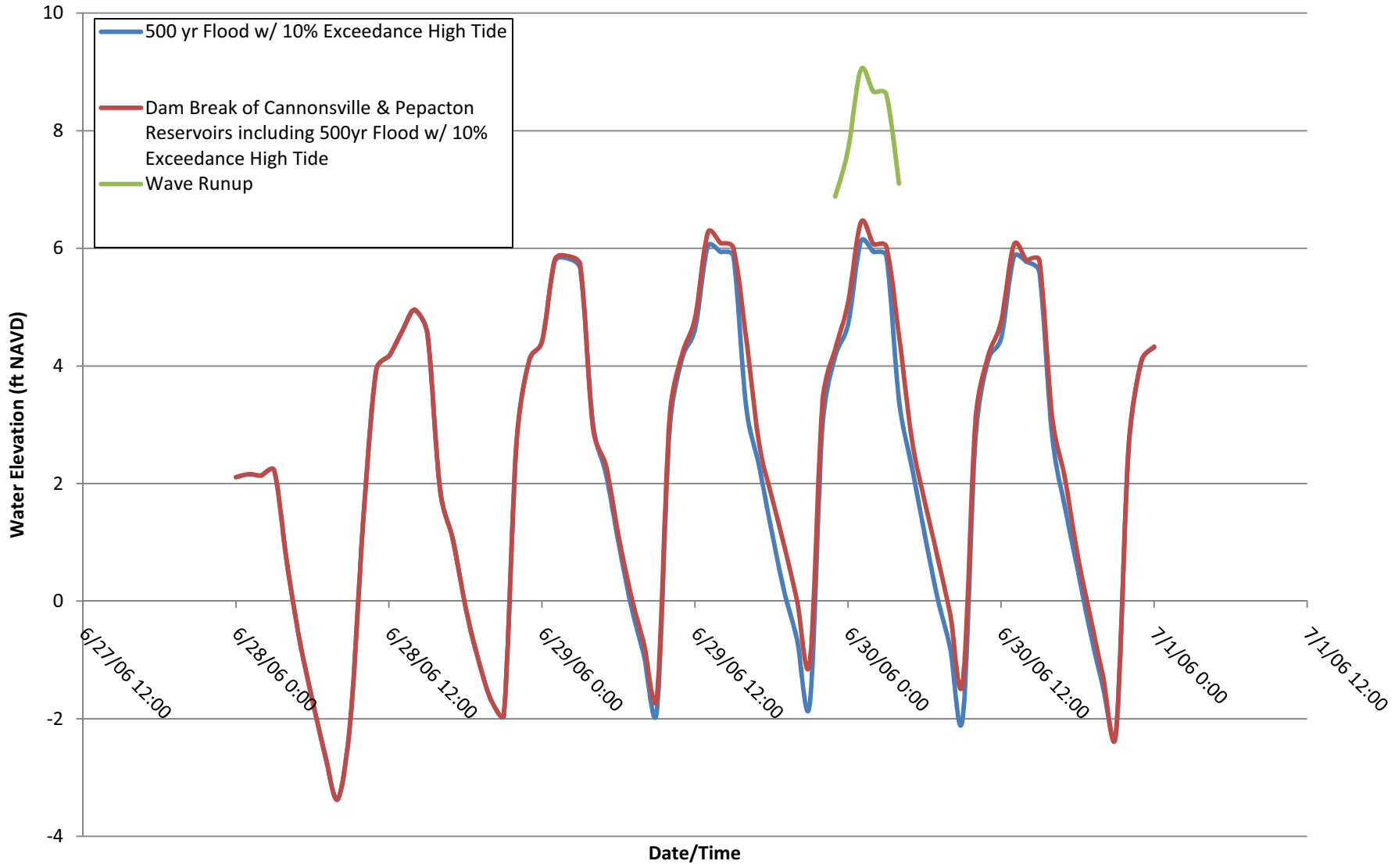
Minimum Settled Particle Diameter at PSEG Intake Structure

Figure 2.4.4-2

Rev. 0



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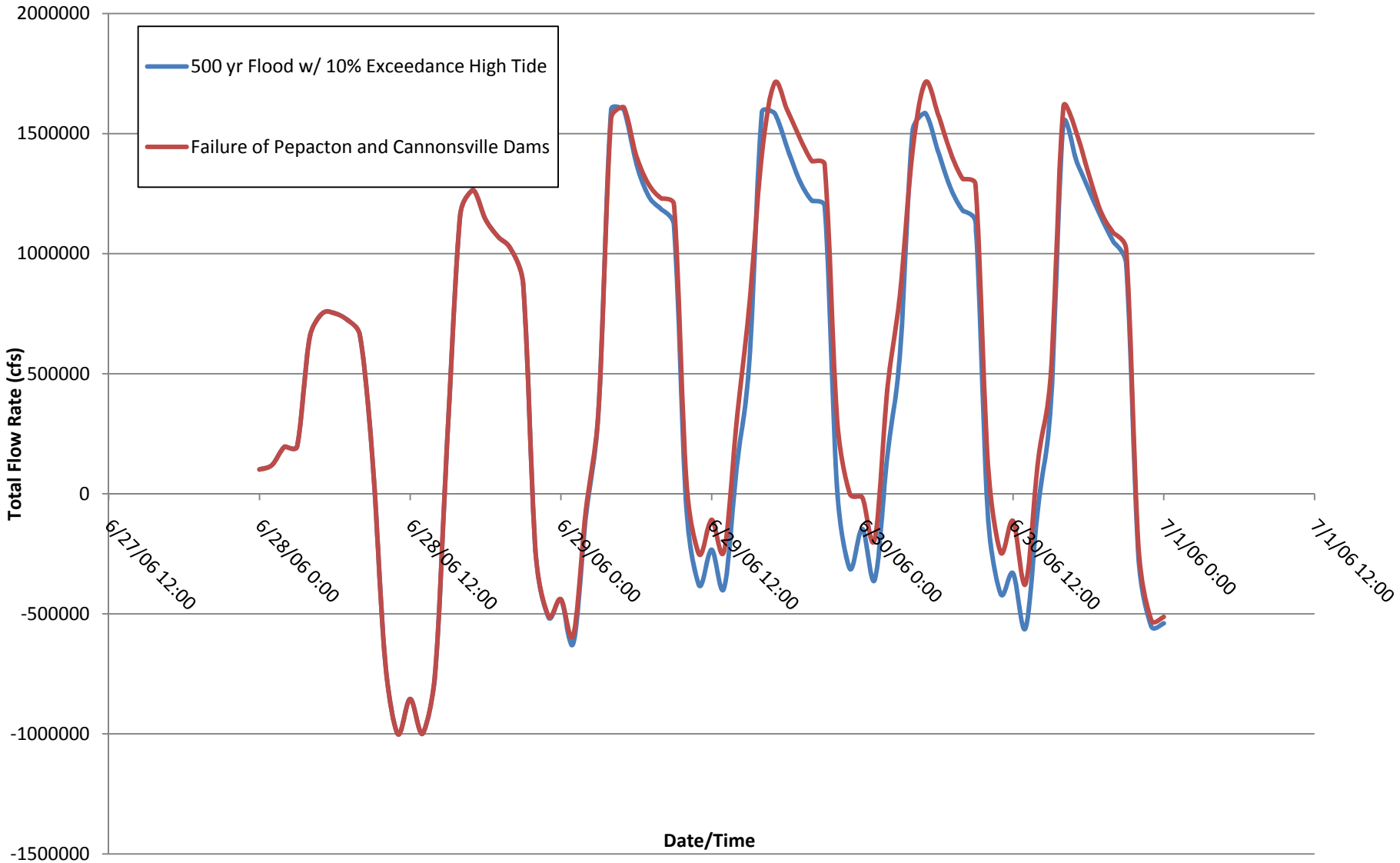
Water Surface Elevations at the New Plant Location Following Failure of the Cannonsville and Pepacton Dams

FIGURE 2.4.4-3 Rev. 0



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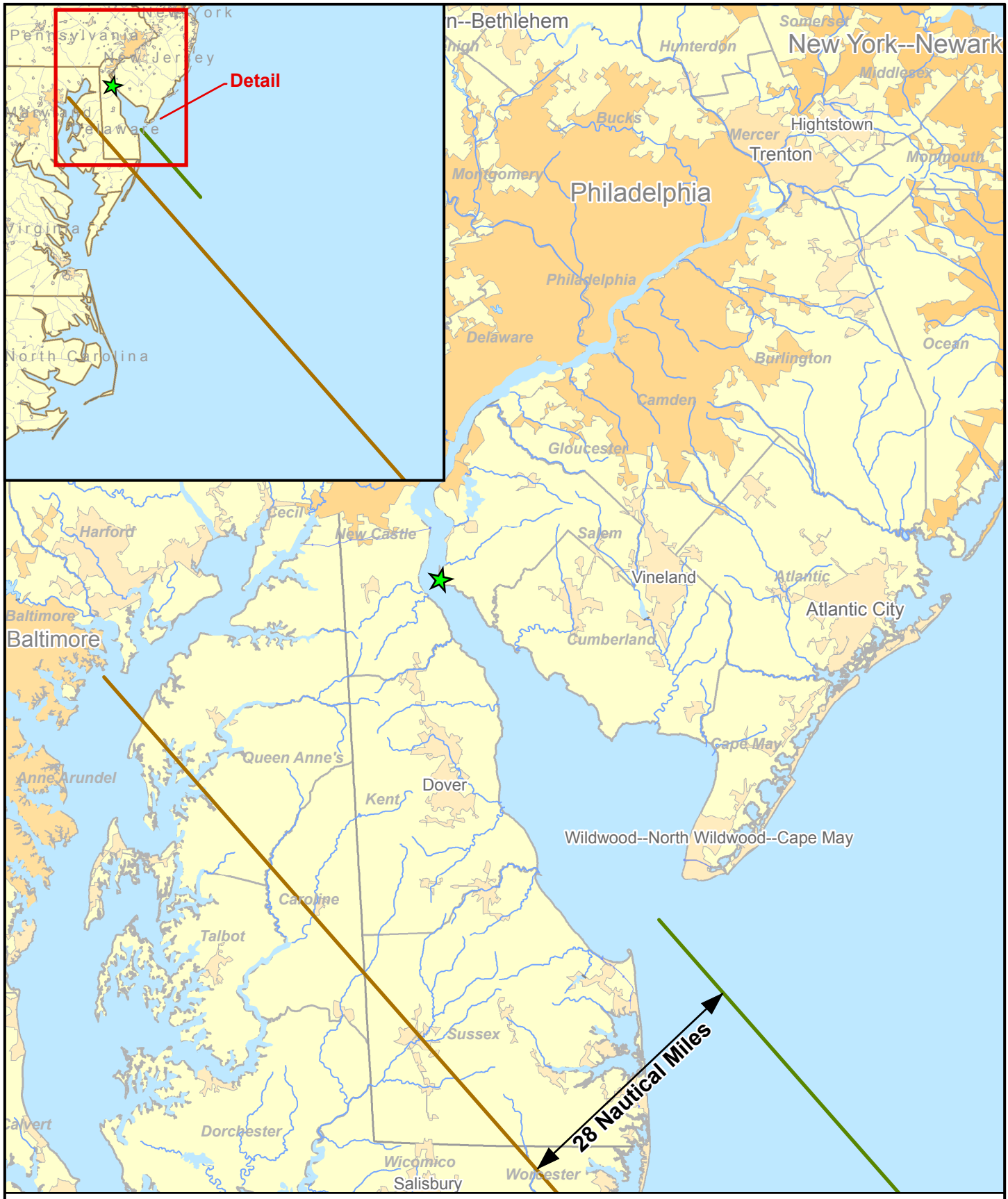
Flow Rates at the New Plant Location Following Failure of the Pepacton and Cannonsville Dams

Figure 2.4.4-4

Rev. 0



LEGEND

- PSEG Site
- Traverse Line
- PMH Storm Track

N
W E
S

0 20 40
Kilometers

0 20 40
Miles

PSEG Power, LLC

PSEG Site ESPA
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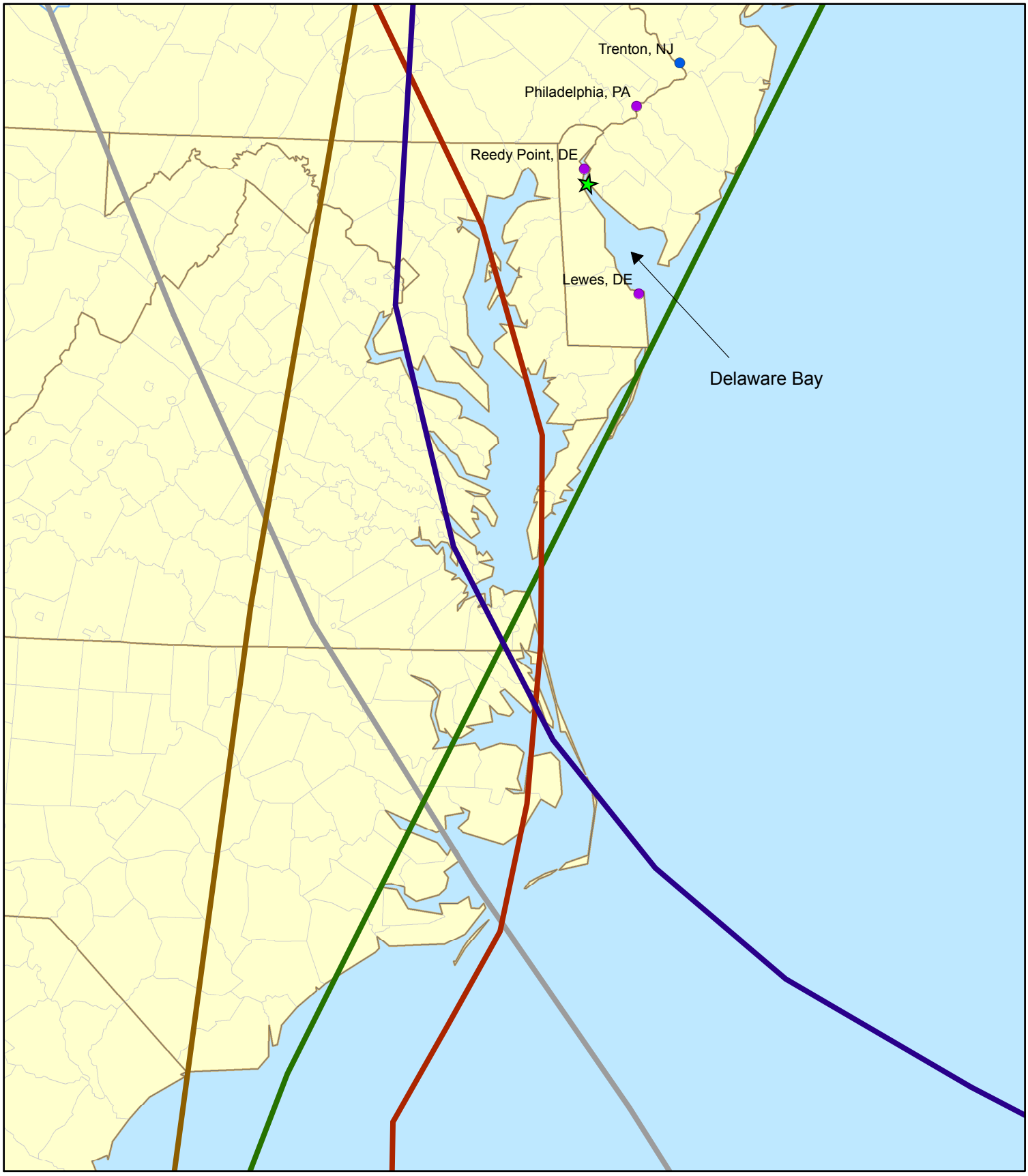
PMH Track

FIGURE 2.4.5-1

Rev. 0



Legend

- Chesapeake-Potomac (1933)
- Hazel (1954)
- Connie (1955)
- Floyd (1999)
- Isabel (2003)
- PSEG Site
- USGS Discharge Gage
- NOAA Tidal Gage

Reference 2.4.5-12

N
W E
S

0 40 80
Nautical Miles

PSEG Power, LLC

PSEG Site ESPA
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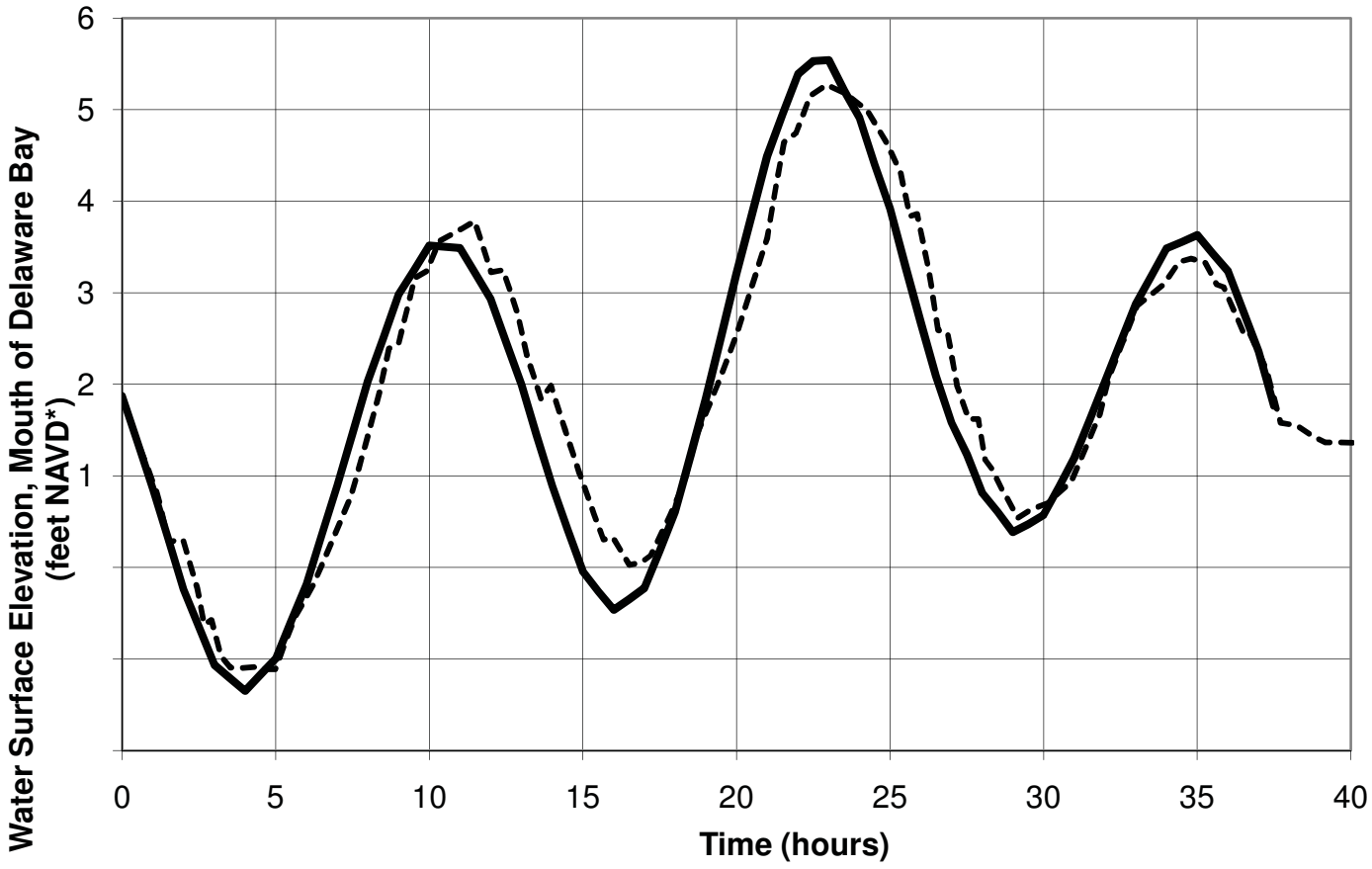
Hurricanes Producing Significant Storm Surges in Delaware Bay

FIGURE 2.4.5-2

Rev. 0



Source for Observed WSEL: References 2.4.5-3, 2.4.5-16

*North American Vertical Datum, 1988

Legend

Modeled Water Surface Elevation

Observed Water Surface Elevation (Reference 2.4.5-3)

WSEL Water Surface Elevation

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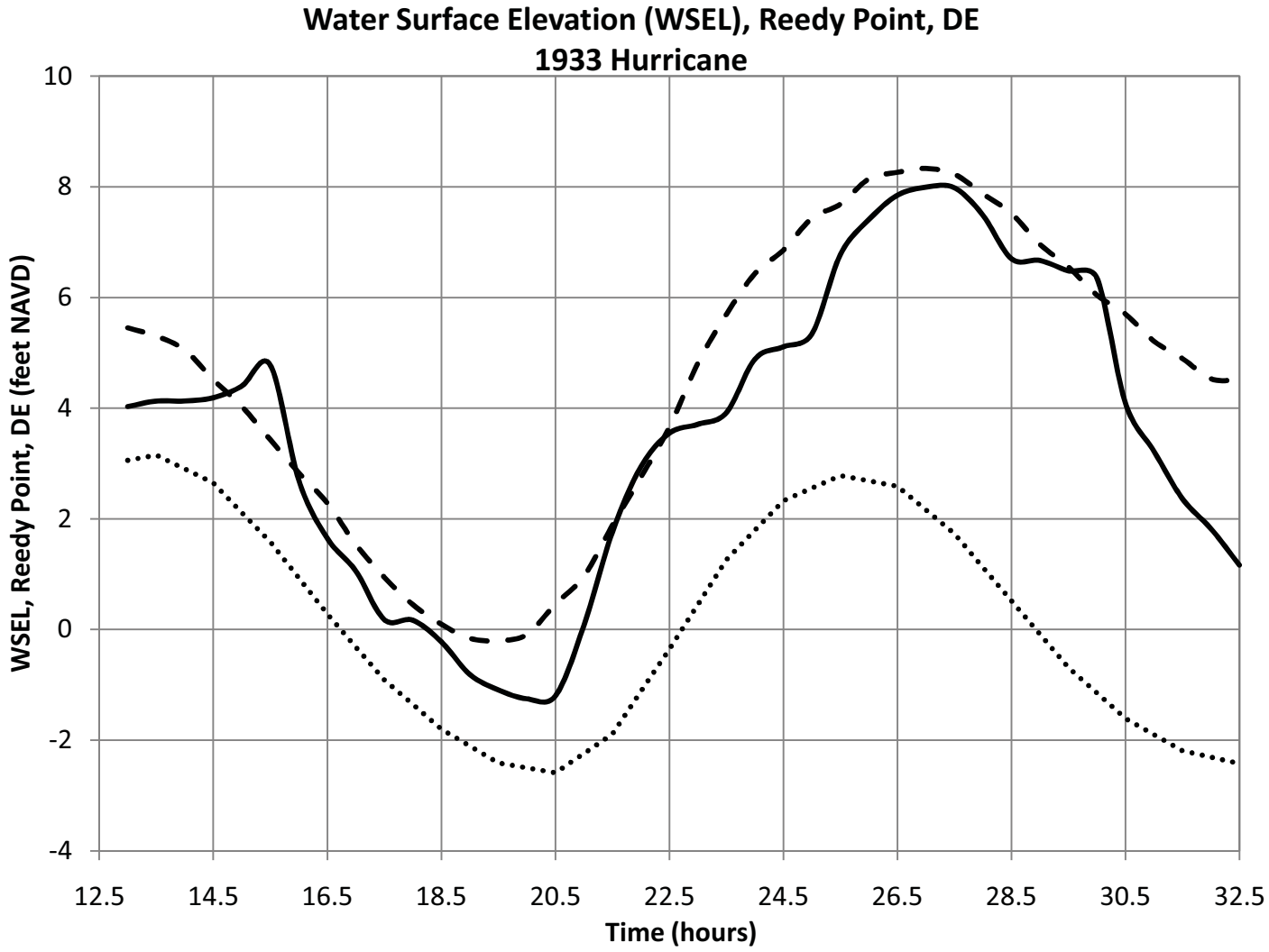
Comparison of Bodine Method and Observed WSEL in Delaware Bay for the Chesapeake-Potomac Hurricane

FIGURE 2.4.5-3 Rev. 0



Source for Tide and Observed WSEL: References 2.4.5-3, 2.4.5-16

NAVD - North American Vertical Datum 1988

WSEL – Water Surface Elevation

Legend

Predicted WSEL

Observed WSEL

Tide

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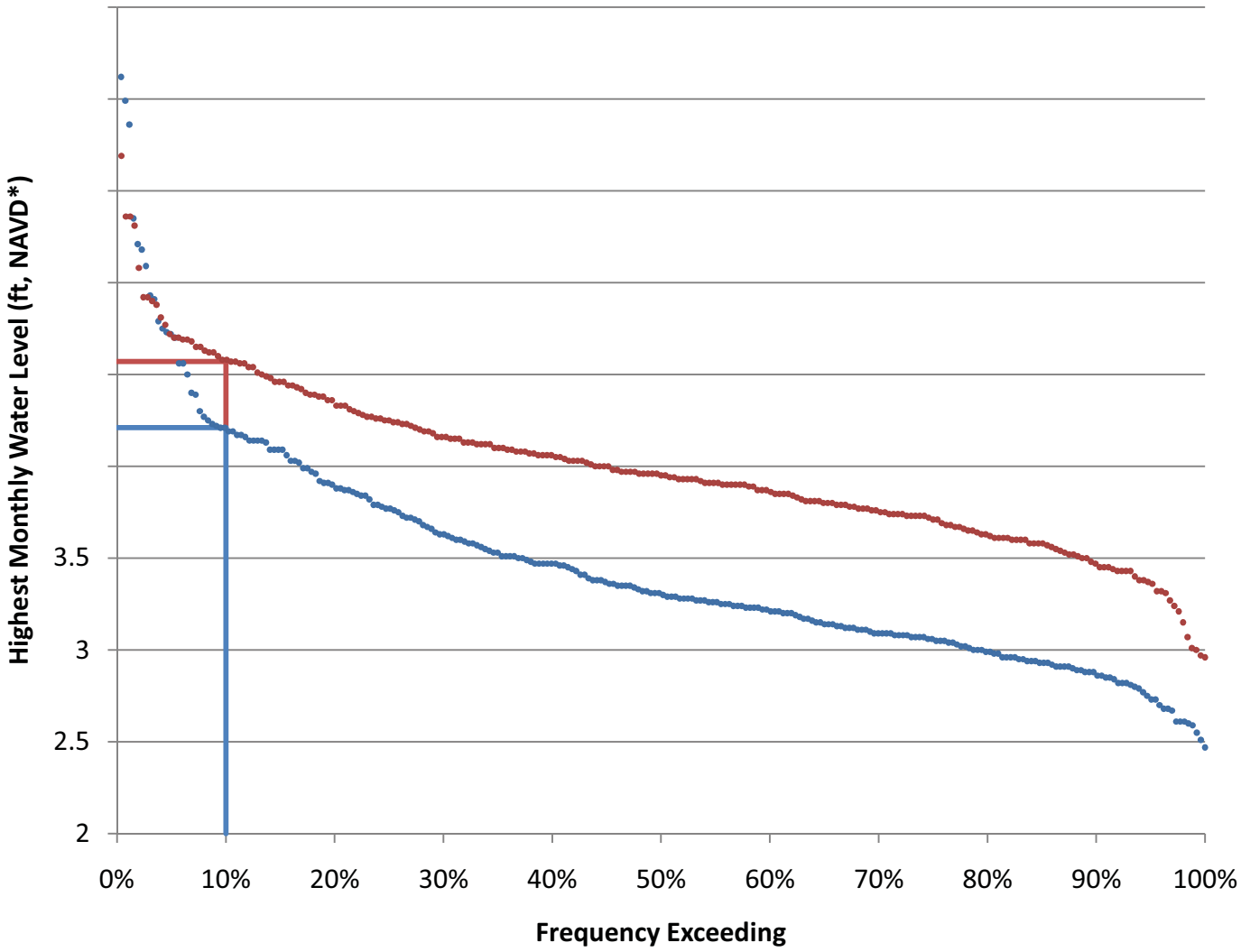
Comparison of Calculated and Observed Surge at Reedy Point, DE

FIGURE 2.4.5-4

Rev. 0



Reference 2.4.5-16

*NAVD - North American Vertical Datum, 1988

data values represent the monthly maximum water levels during the period 1987-2008

Legend

- Lewes, DE
- Reedy Point, DE

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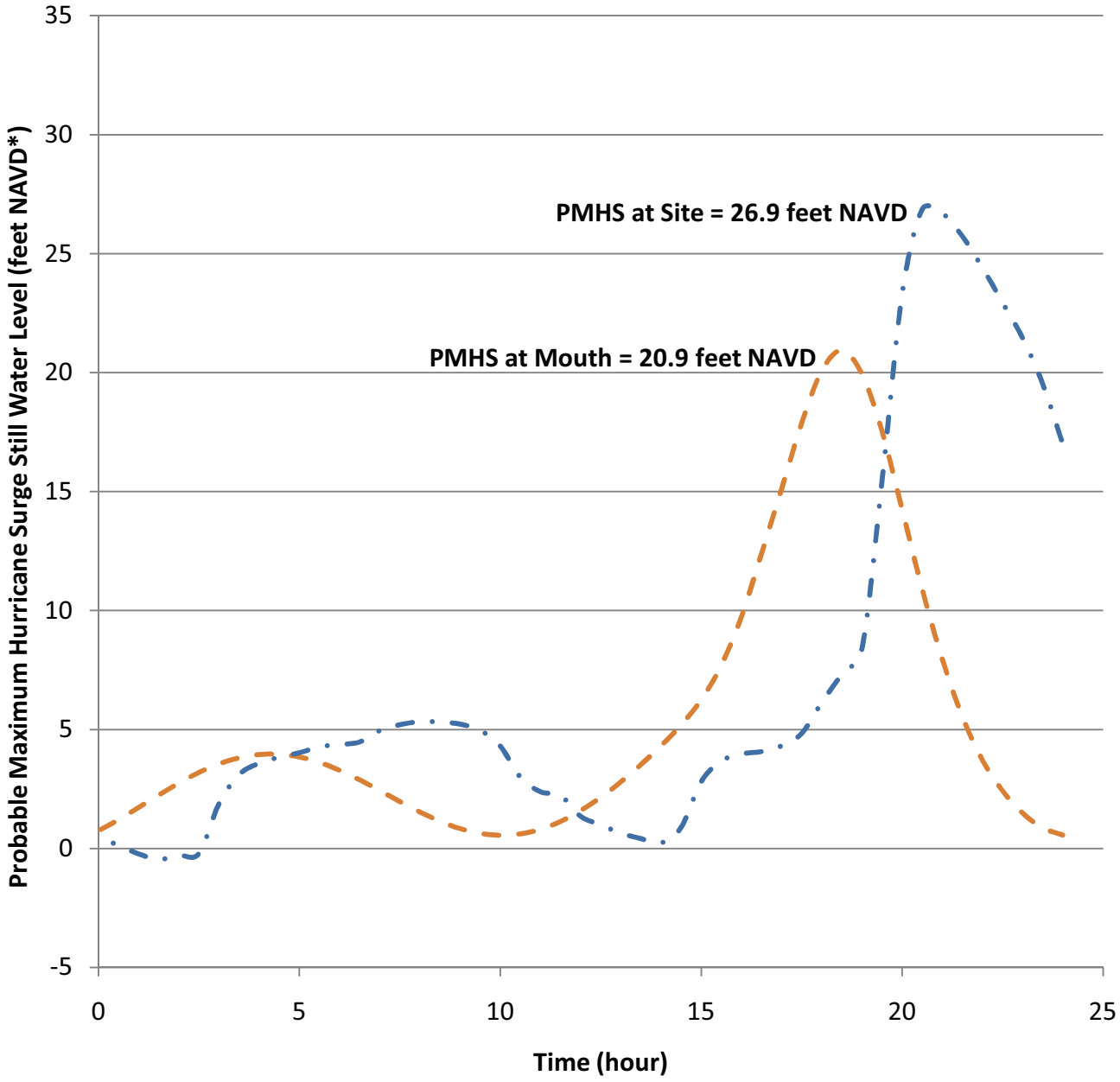
Determination of 10% Exceedance High Tide at Lewes and Reedy Point, DE

FIGURE 2.4.5-5 Rev. 0



*NAVD - North American Vertical Datum 1988

**PMHS (Probable Maximum Hurricane Surge) includes 10% exceedance high tide

Legend

- Mouth of Delaware Bay**
- New Plant**

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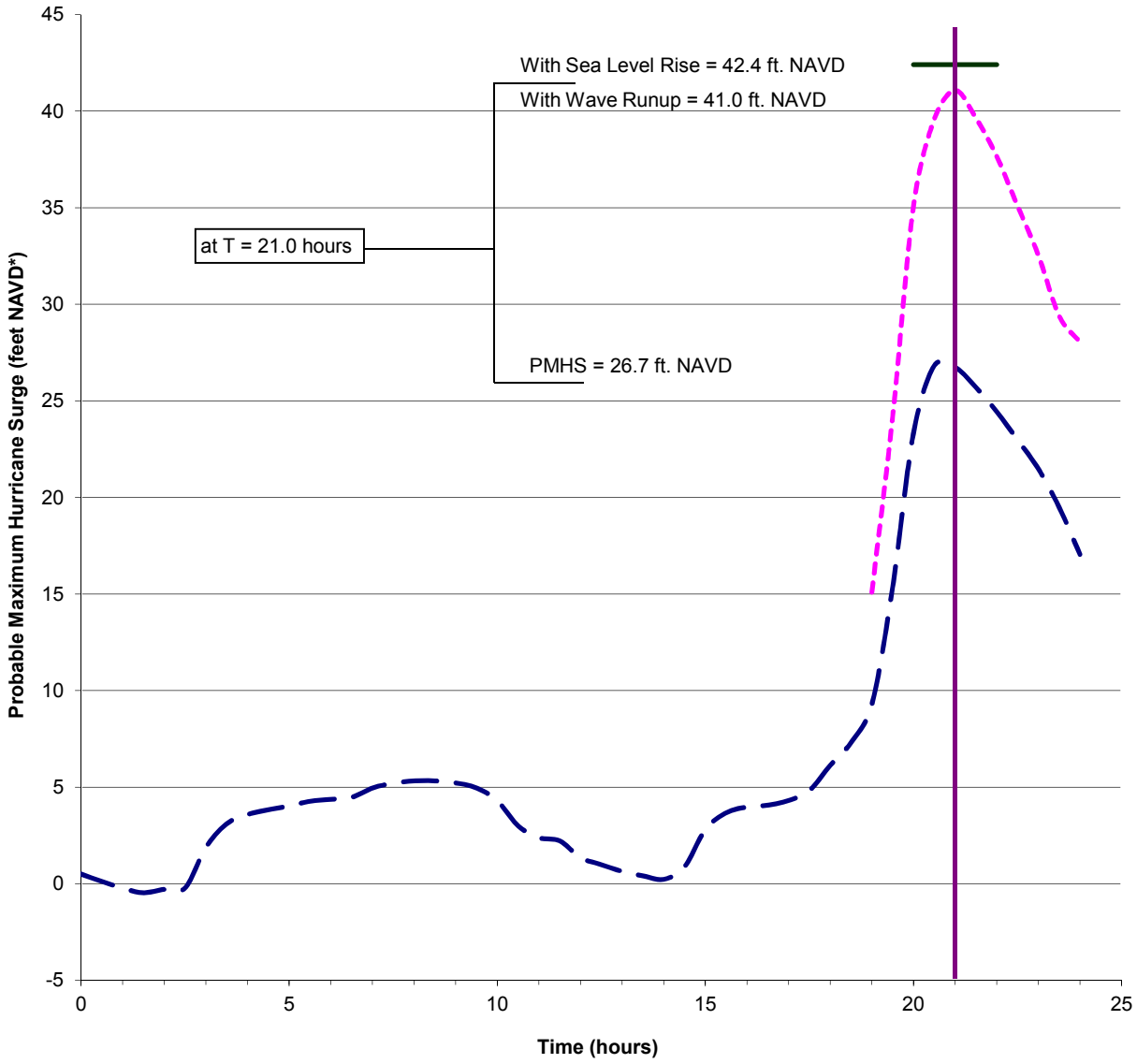
Probable Maximum Hurricane Surge Still Water Level at the New Plant Location

FIGURE 2.4.5-6

Rev. 0



*NAVD - North American Vertical Datum 1988
**PMHS (Probable Maximum Hurricane Surge) includes 10% exceedance high tide

Legend

- New Plant**
- With Coincident Wave Runup**
- With Sea Level Rise

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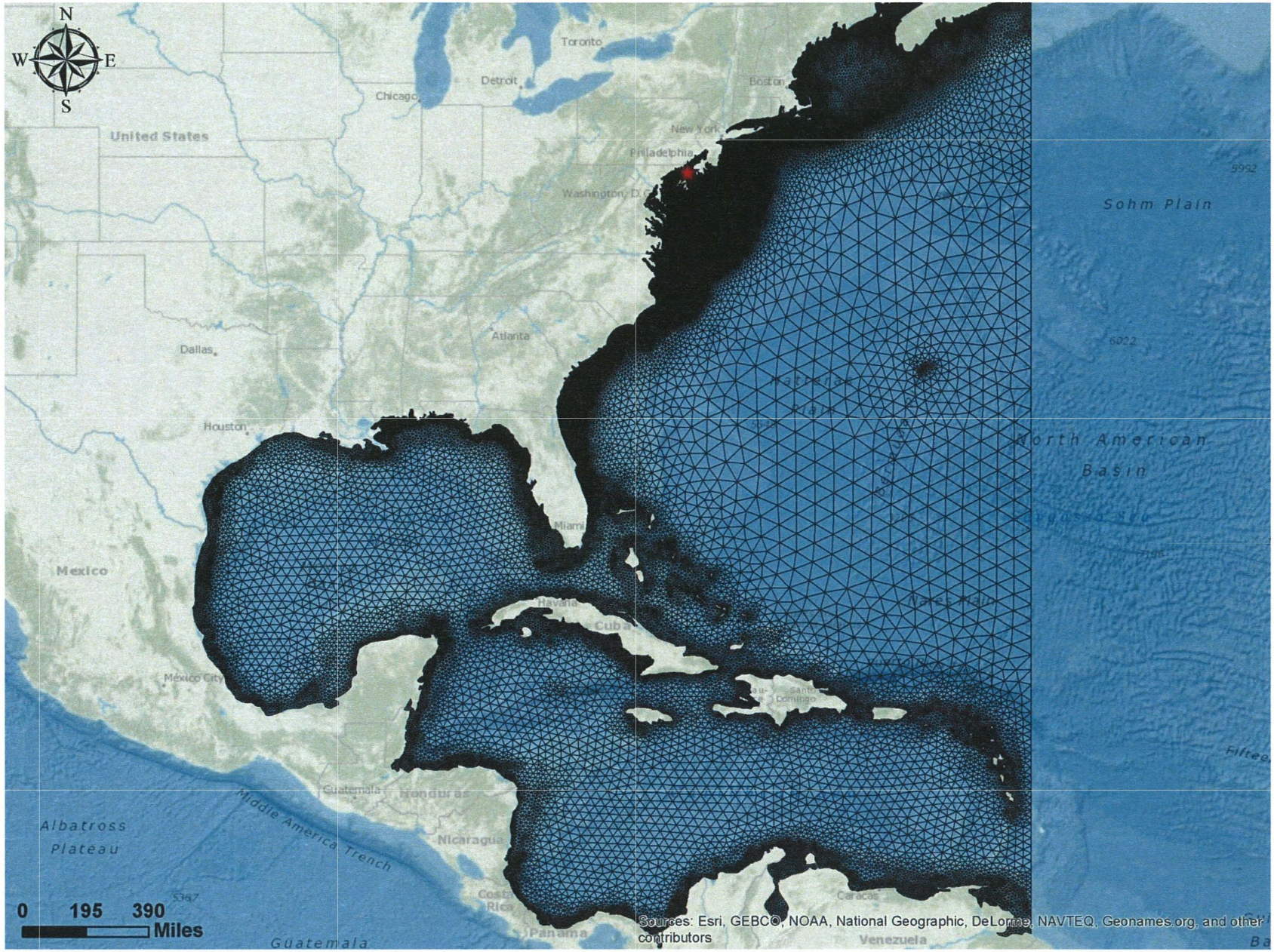
Probable Maximum Hurricane Surge
Plus Additional Effects of Wave Runup
and Potential Sea Level Rise

FIGURE 2.4.5-7 Rev. 1



Legend

★ PSEG Site

PSEG Power, LLC PSEG Site ESPA Part 2, Site Safety Analysis Report
FEMA Region III ADCIRC Mesh FIGURE 2.4.5-8 Rev. 0

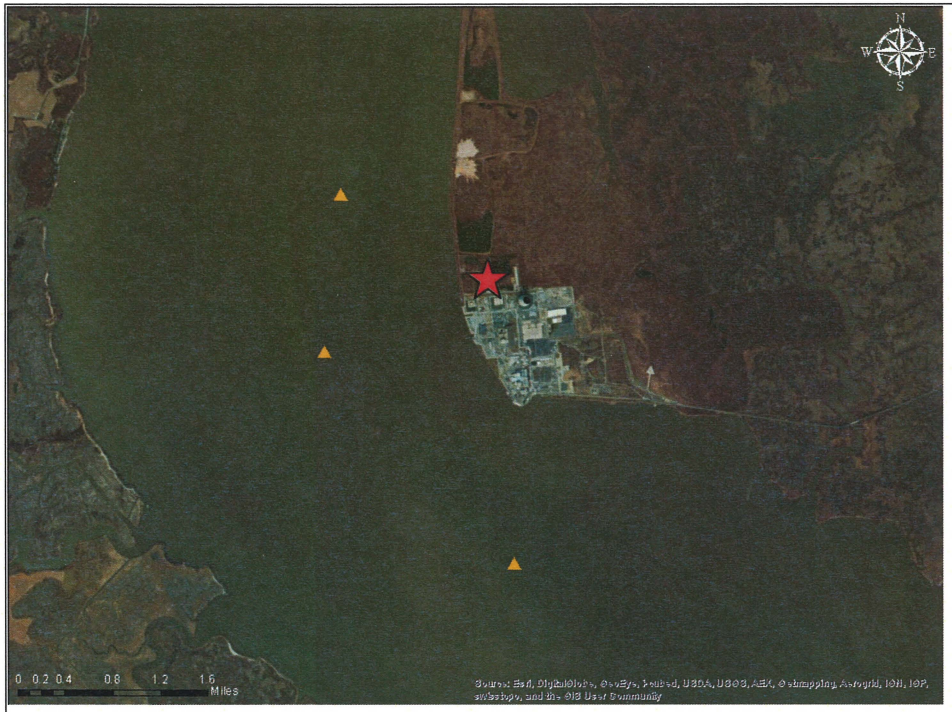
Legend

★ PSEG Site Power Block

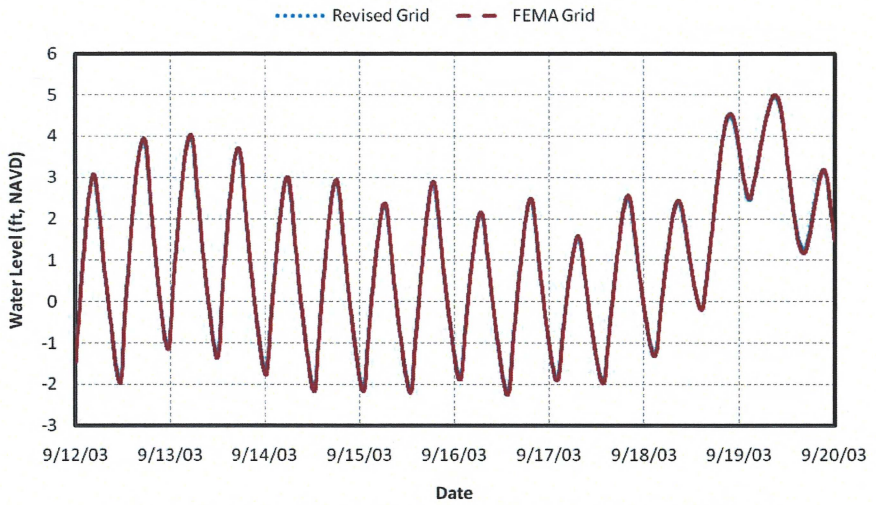
PSEG Power, LLC
PSEG Site ESPA
Part 2, Site Safety Analysis Report

ADCIRC Mesh Refinement at PSEG Site

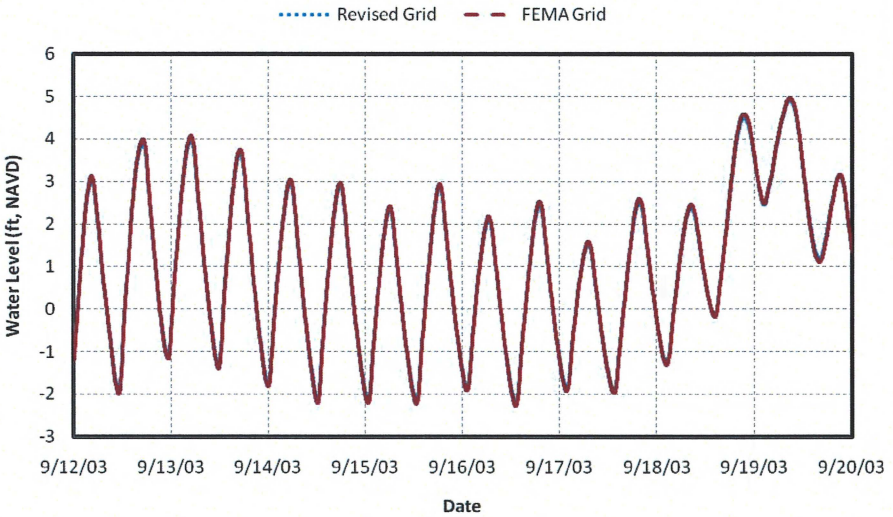
FIGURE 2.4.5-9 Rev. 0



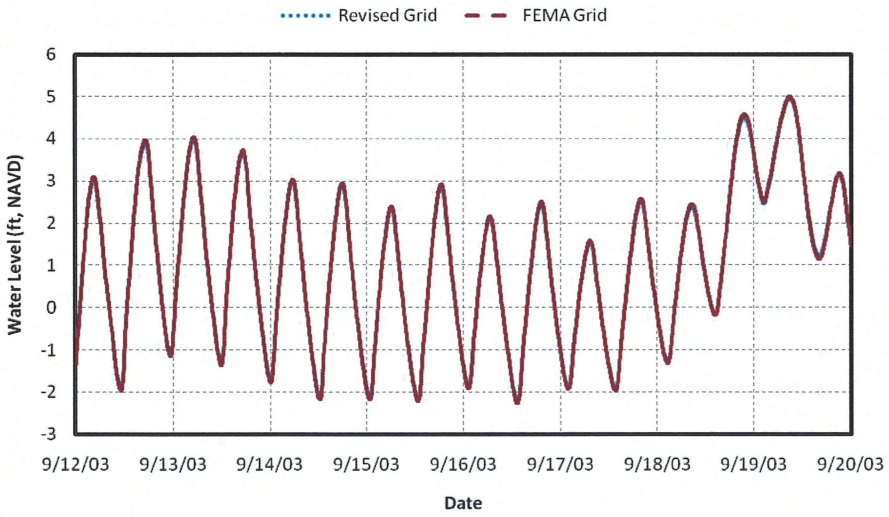
Water Level Comparison for Hurricane Isabel (Tides+Surge+Waves) at One Mile North of Site



Water Level Comparison for Hurricane Isabel (Tides+Surge+Waves) at One Mile South of Site



Water Level Comparison for Hurricane Isabel (Tides+Surge+Waves) at One Mile West of Site



Legend

Locations One Mile Around Site

PSEG Site Power Block

PSEG Power, LLC
PSEG Site ESPA
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Comparison of Refined PSEG Site Mesh versus Unmodified FEMA Region III Mesh

FIGURE 2.4.5-10 Rev. 0

Legend

★ PSEG Site Power Block

PSEG Power, LLC
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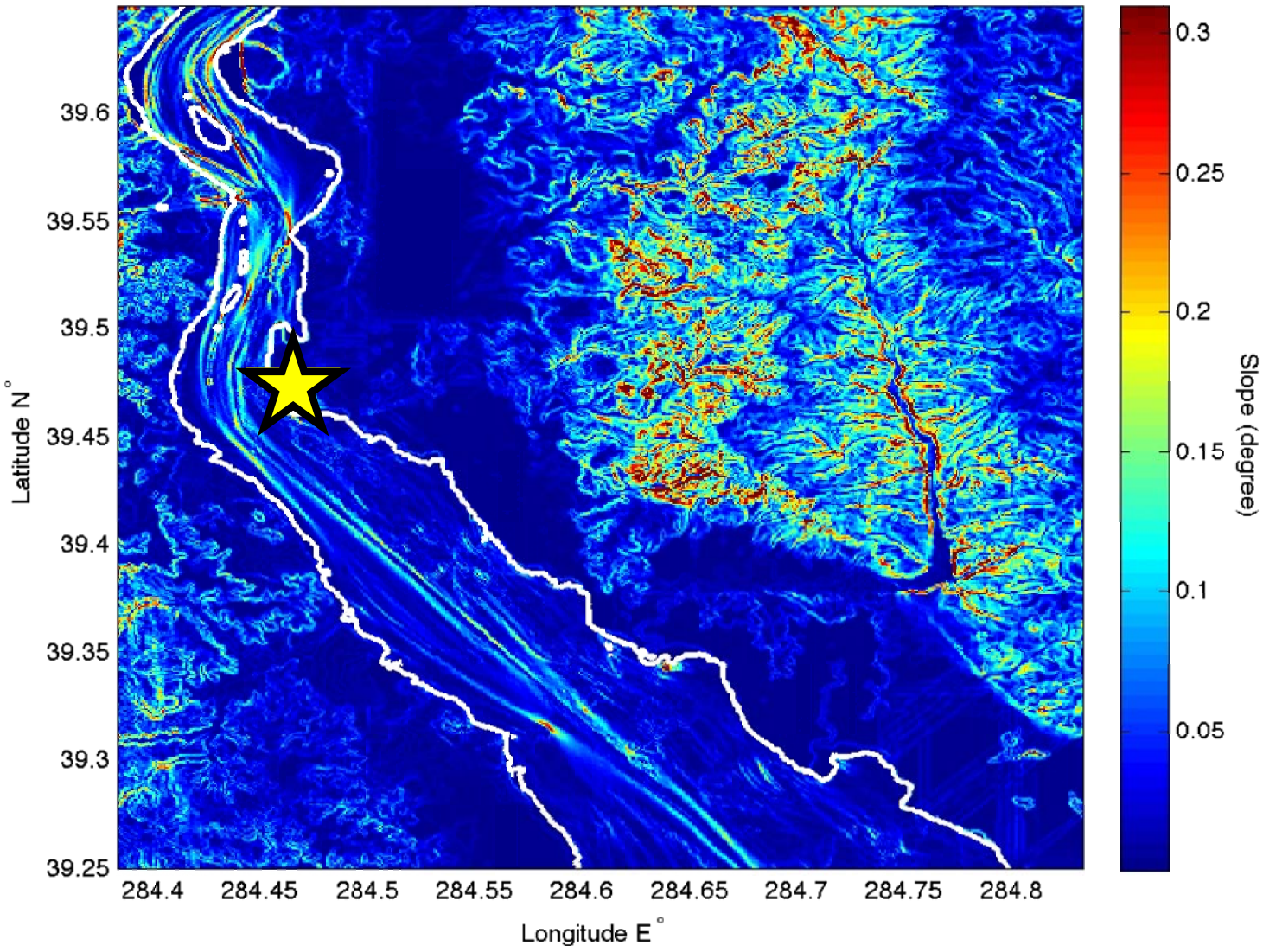
Part 2, Site Safety Analysis Report

Wave Runup Computation Locations around the Power Block

FIGURE 2.4.5-11 Rev. 0



Legend

☆ PSEG Site

N
W E
S

PSEG Power, LLC

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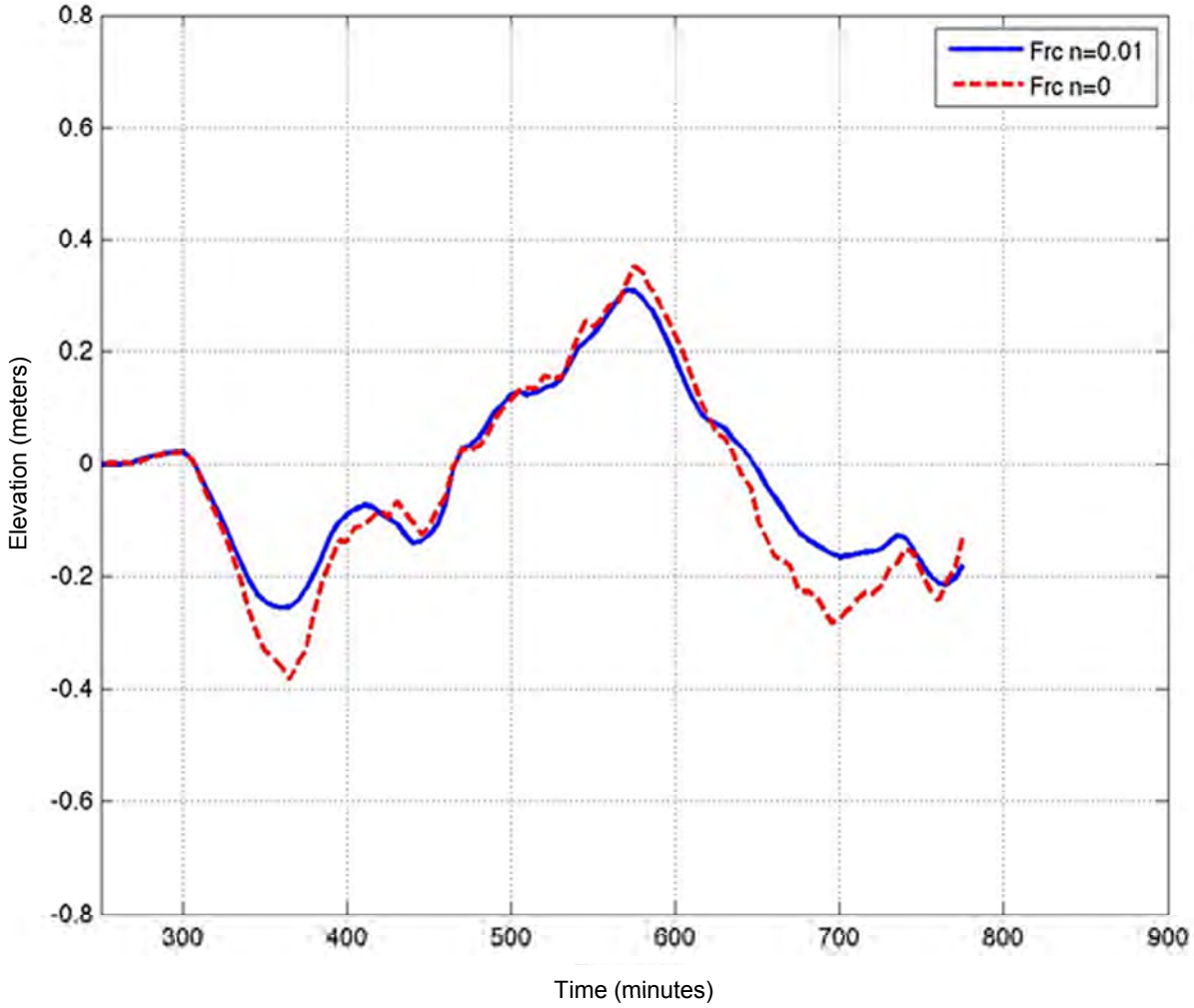
Slope at the PSEG Site Using Grid C

FIGURE 2.4.6-1

Rev. 2

Reference: 2.4.6-11



Frc = Friction
n = Manning's Roughness Coefficient

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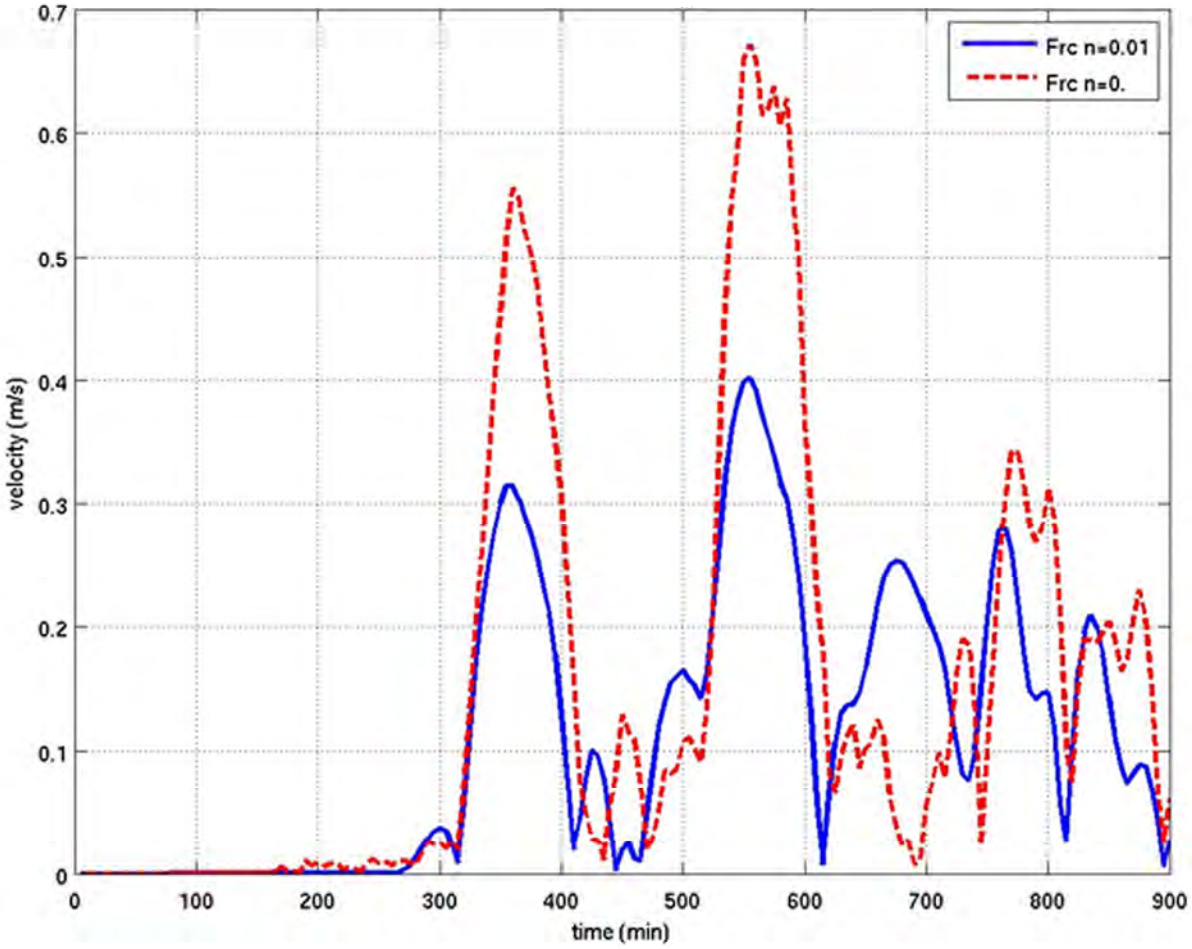
Comparison of Water Surface Elevation Generated by the Currituck Slide With and Without Friction

FIGURE 2.4.6-2

Rev. 0



Frc = Friction
n = Manning's Roughness Coefficient

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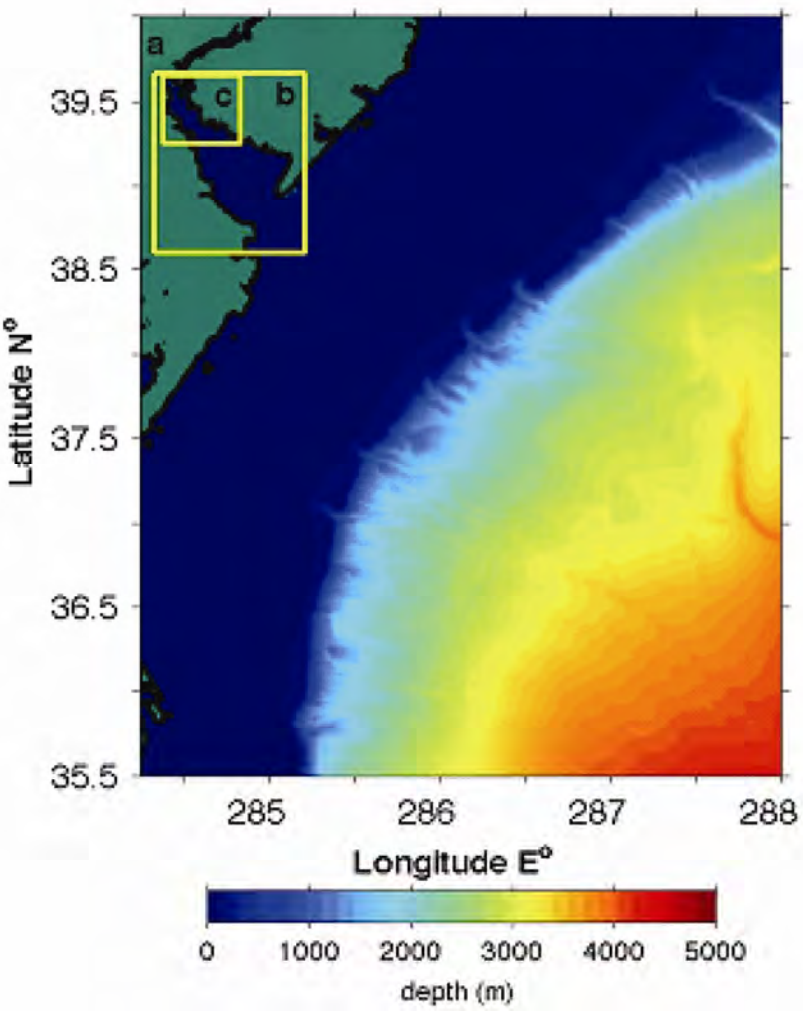
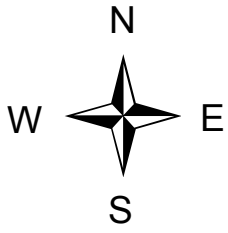
Part 2, Site Safety Analysis Report

Current Speeds Generated by the Currituck Slide

Figure 2.4.6-3

Rev. 0





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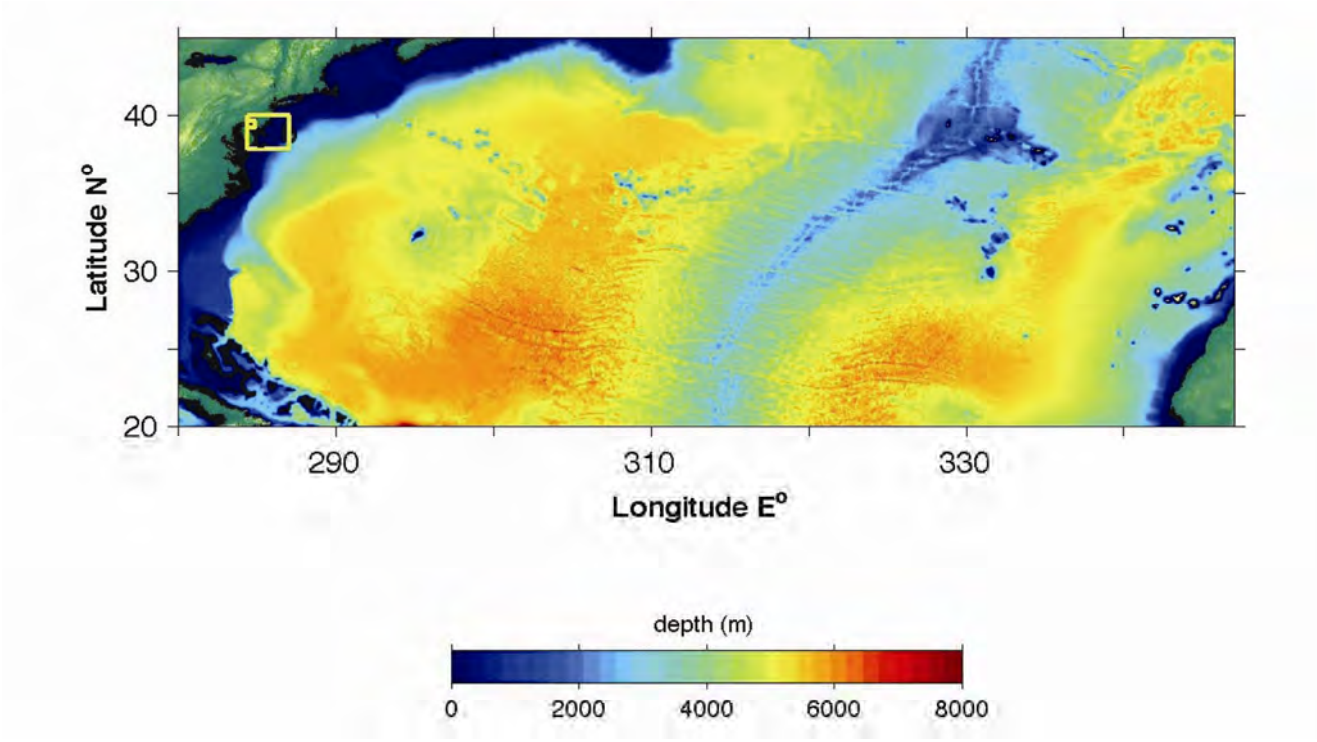
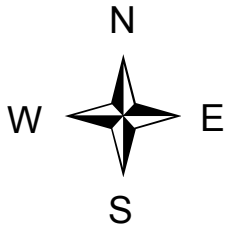
Nested Model Grids for
Currituck Landslide Case

FIGURE 2.4.6-4

Rev. 0





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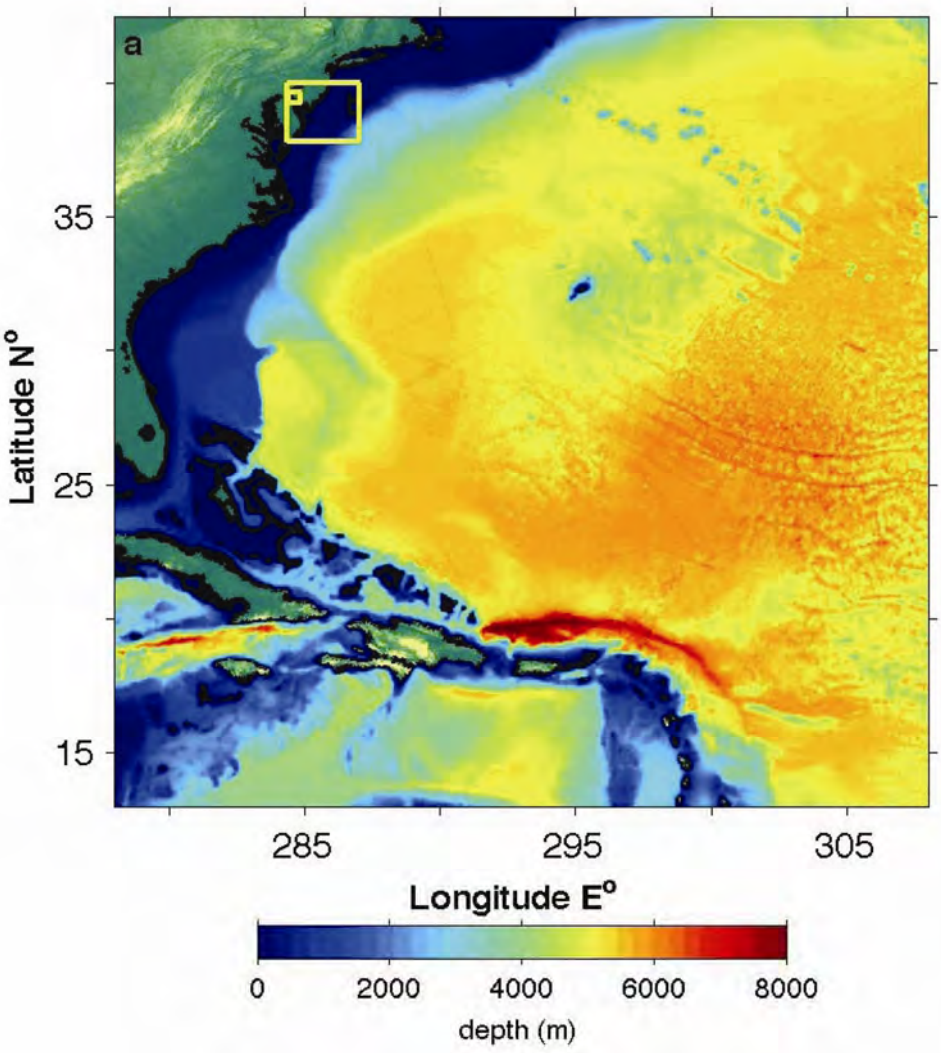
Part 2, Site Safety Analysis Report

Nested Model Grids for
the La Palma, Canary
Islands Landslide Case
FIGURE 2.4.6-5

Rev. 0

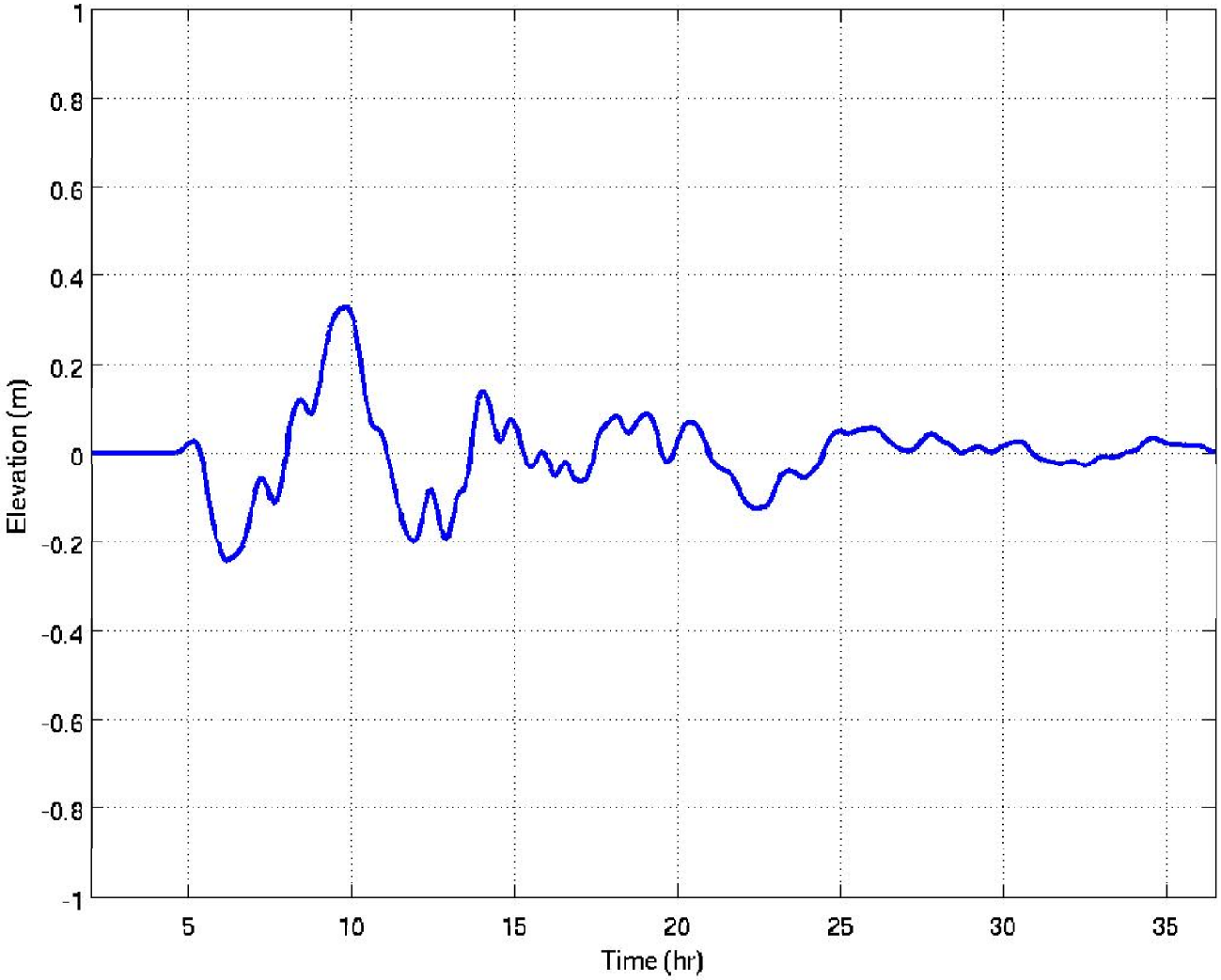


N
W E
S

PSEG Power, LLC
PSEG Site ESPA
Part 2, Site Safety Analysis Report

Nested Model Grids for
the Hispaniola Trench
Earthquake Case
FIGURE 2.4.6-6

Rev. 0



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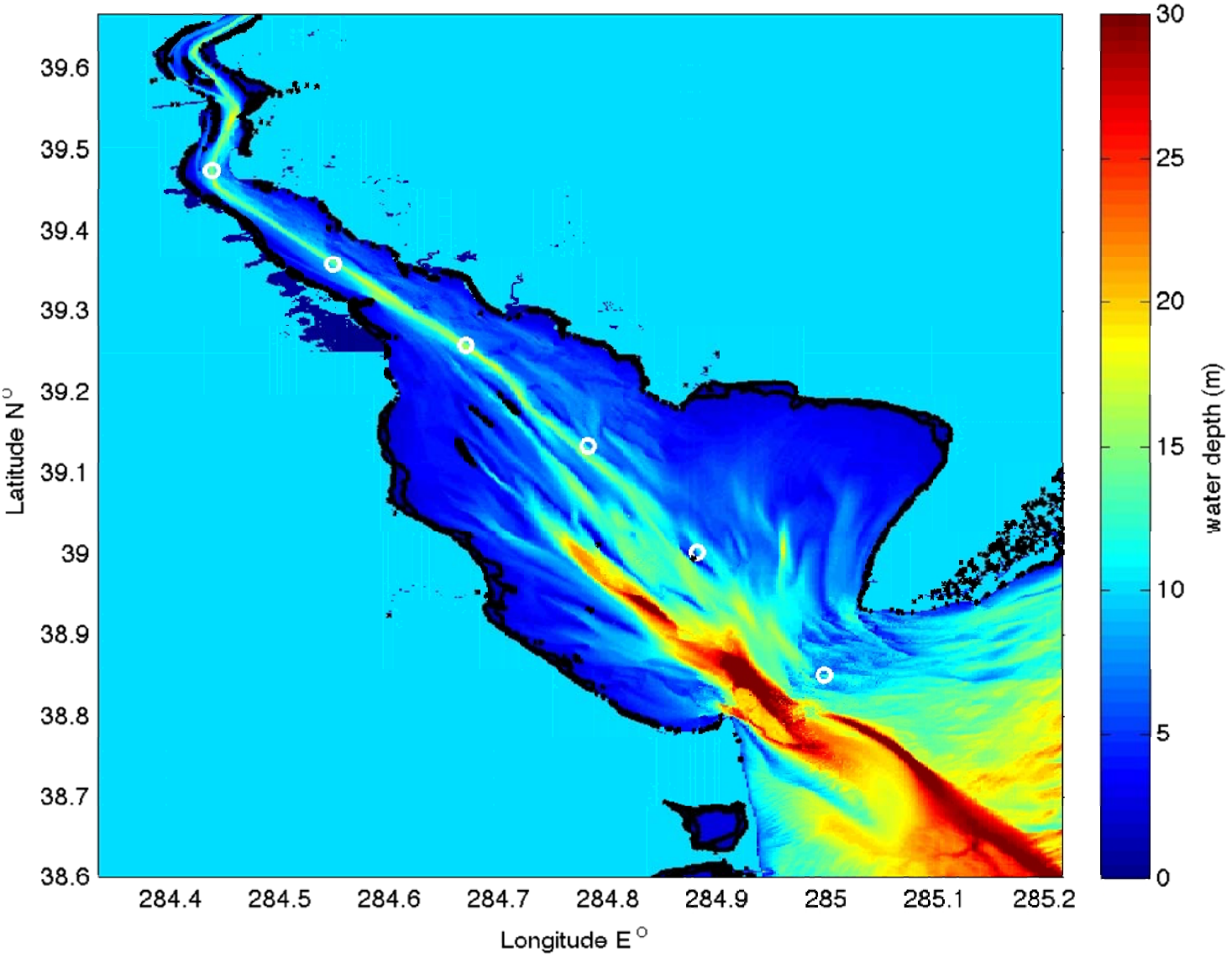
PSEG Site ESPA
Part 2, Site Safety Analysis Report

40-HOUR SIMULATION FOR
SEICHE EFFECTS CURRITUCK
LANDSLIDE CASE

FIGURE 2.4.6-7

Rev 0



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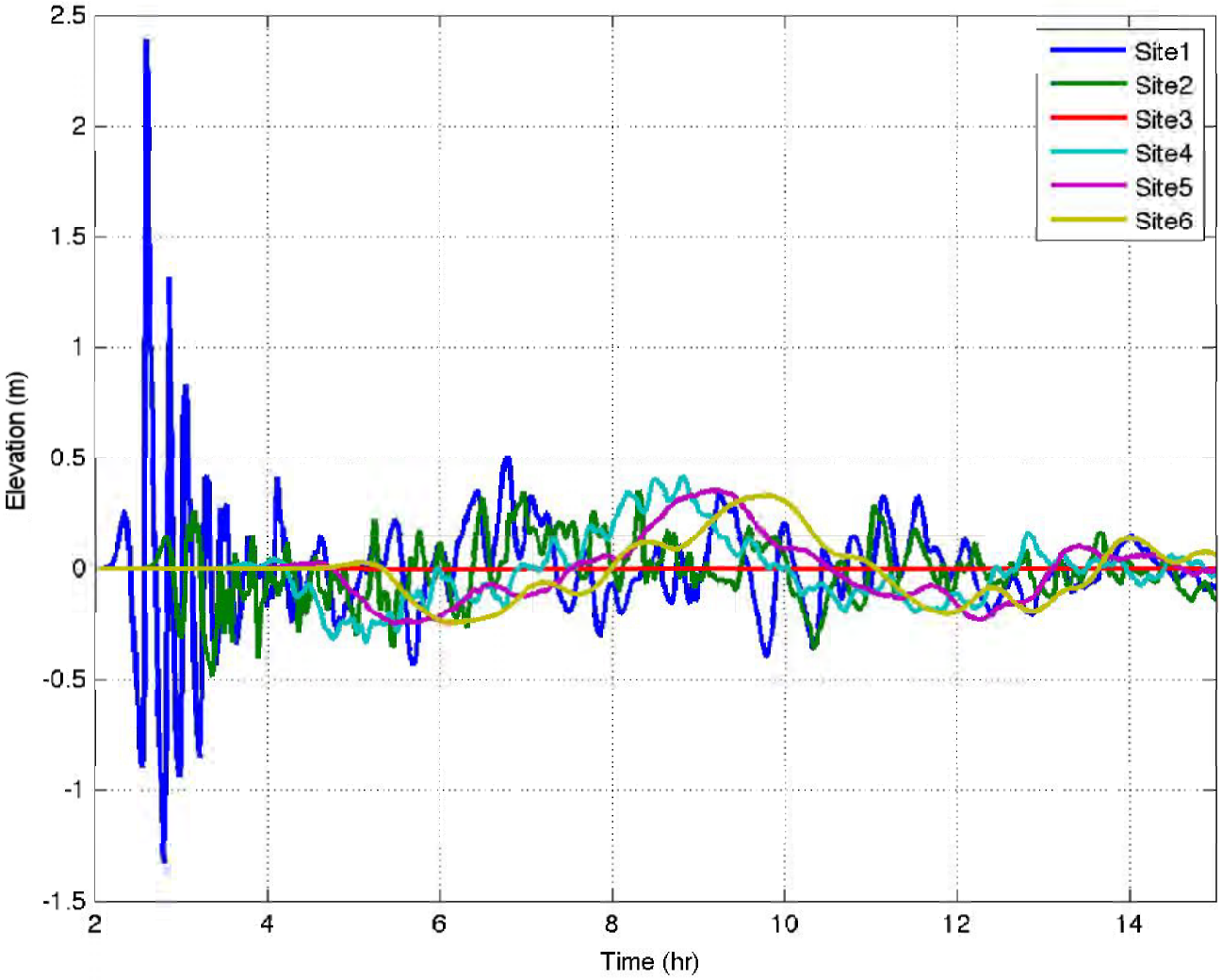
Part 2, Site Safety Analysis Report

Representative Model Stations 1
(Mouth of Delaware Bay) to 6 (PSEG Site)

FIGURE 2.4.6-8

Rev. 1



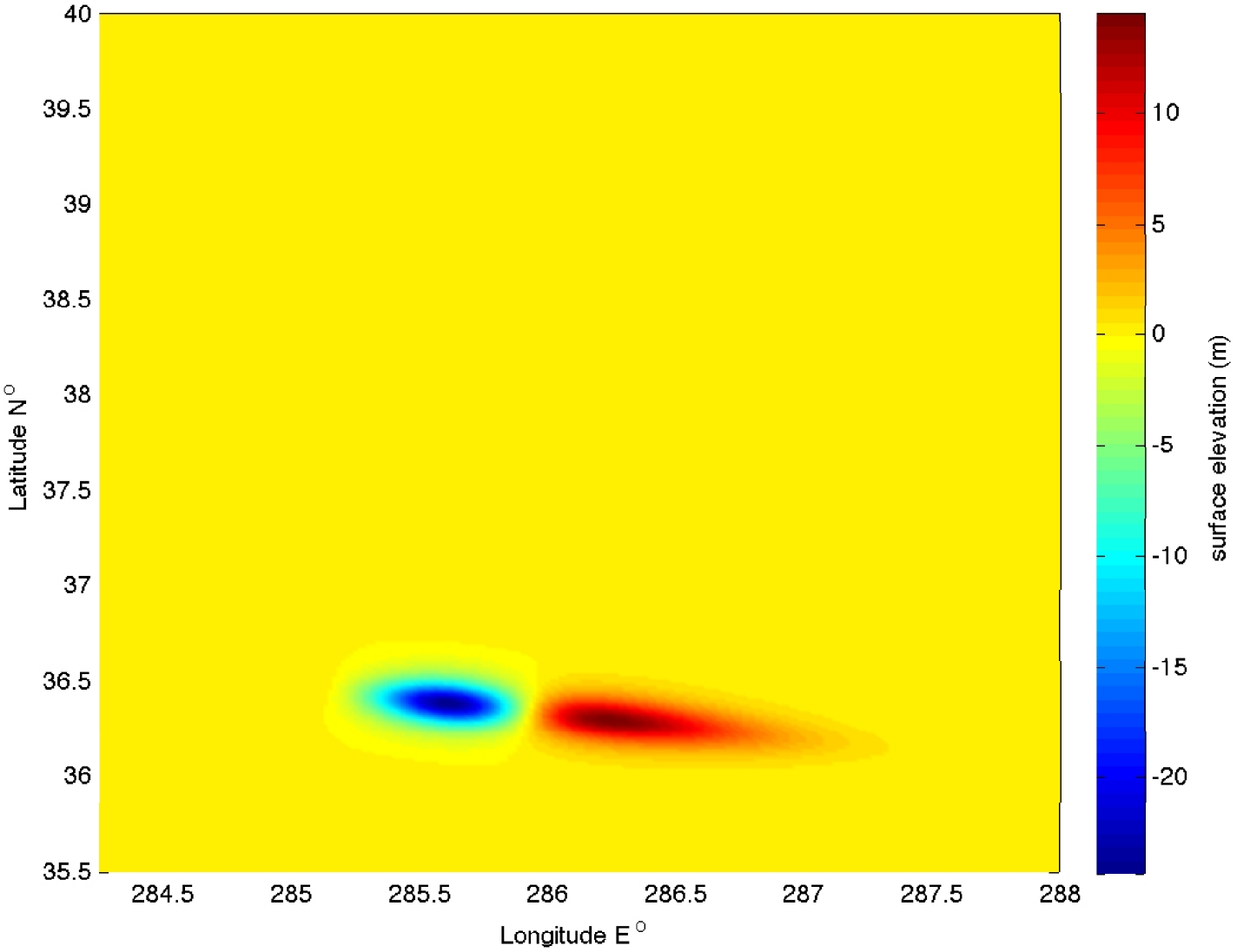
PSEG Power, LLC

PSEG Site ESPA
Part 2, Site Safety Analysis Report

Time Series Water Surface Elevations Currituck Slide Case

FIGURE 2.4.6-9

Rev 0



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PSEG Site ESPA
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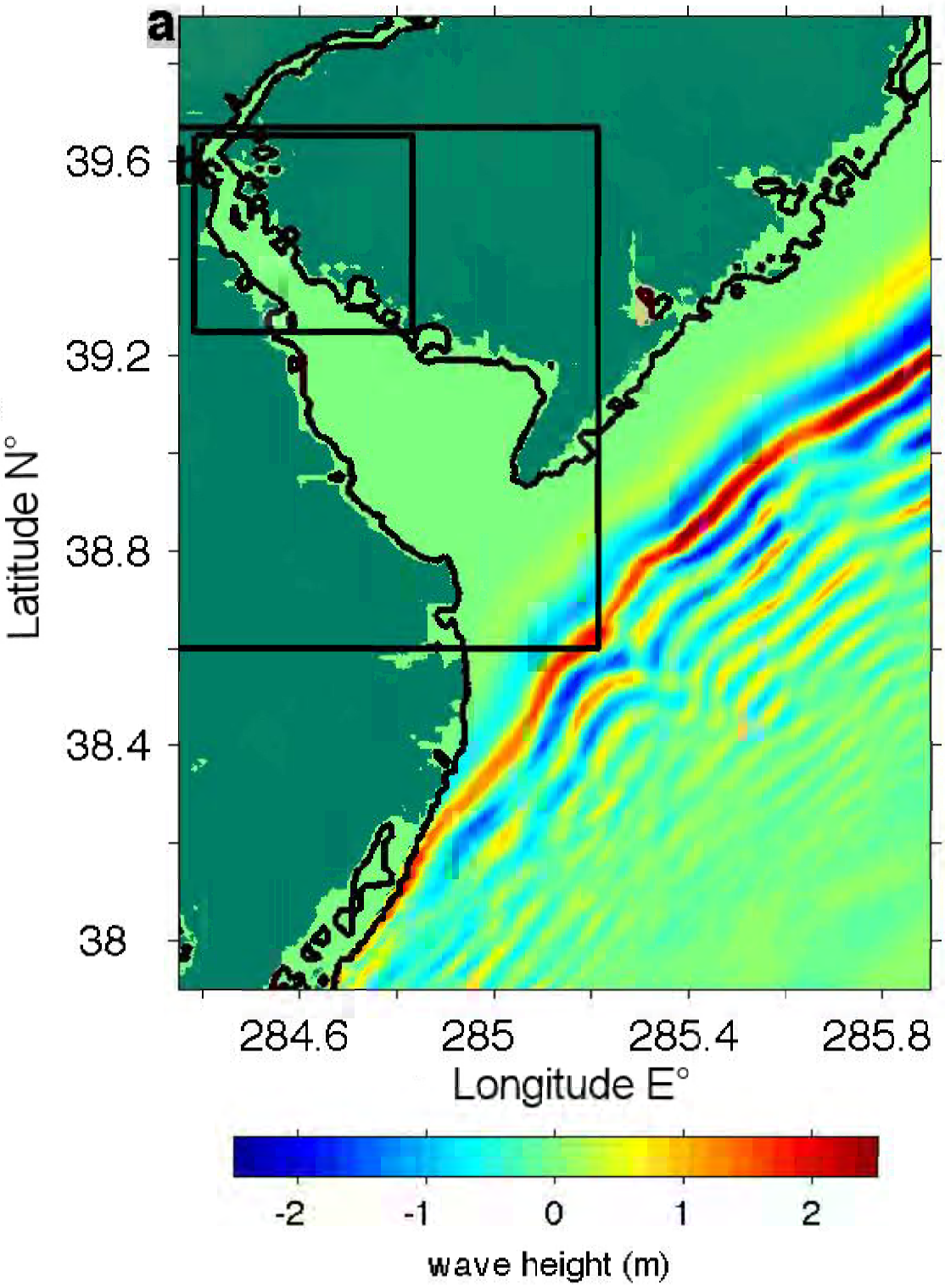
Initial Water Surface Elevations at Source Currituck Slide Case

FIGURE 2.4.6-10

Rev. 1



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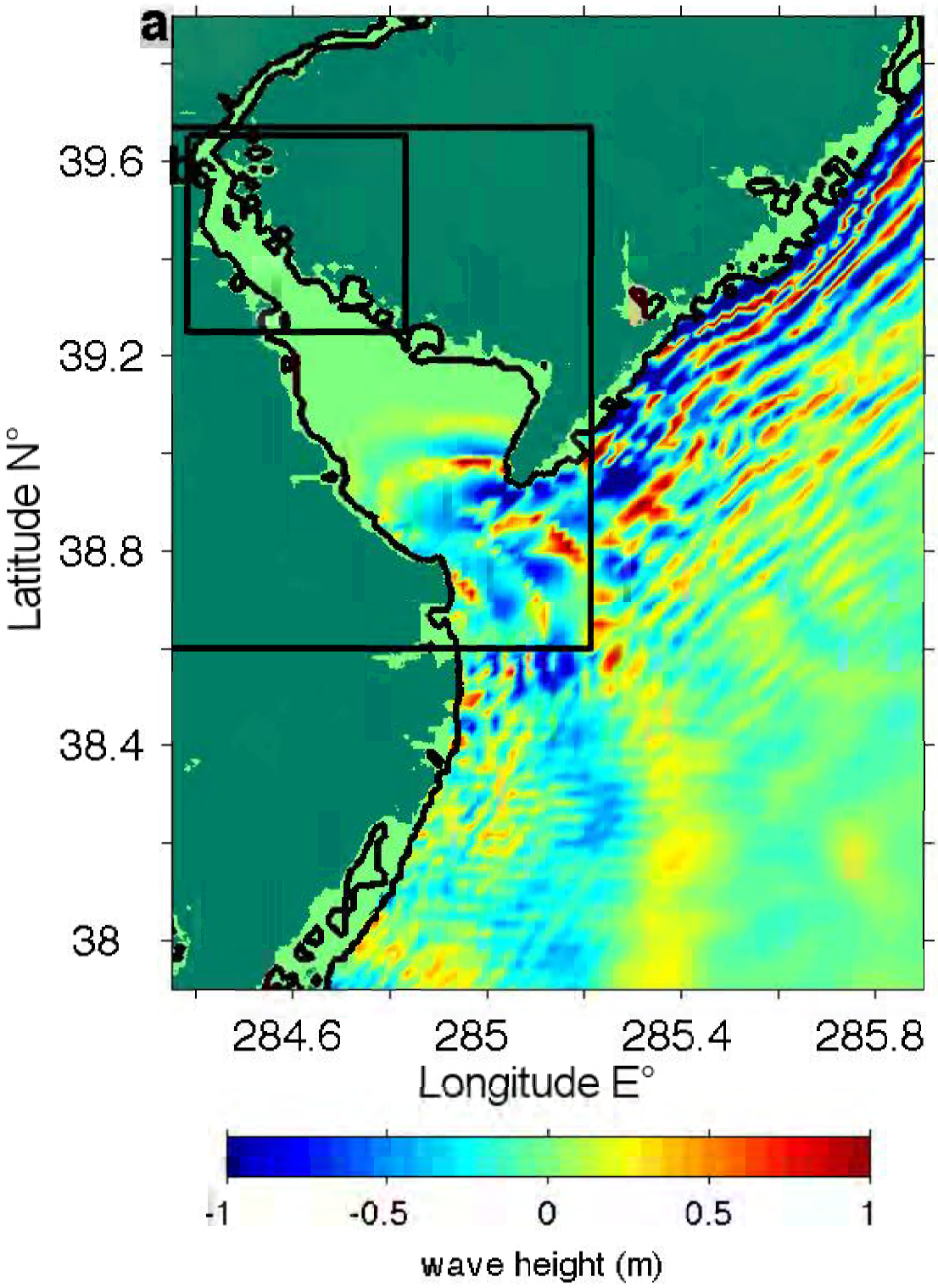
PSEG Site ESPA
Part 2, Site Safety Analysis Report

N
W E
S

2-D Image for Currituck Slide
at 02 hours

FIGURE 2.4.6-11

Rev 0



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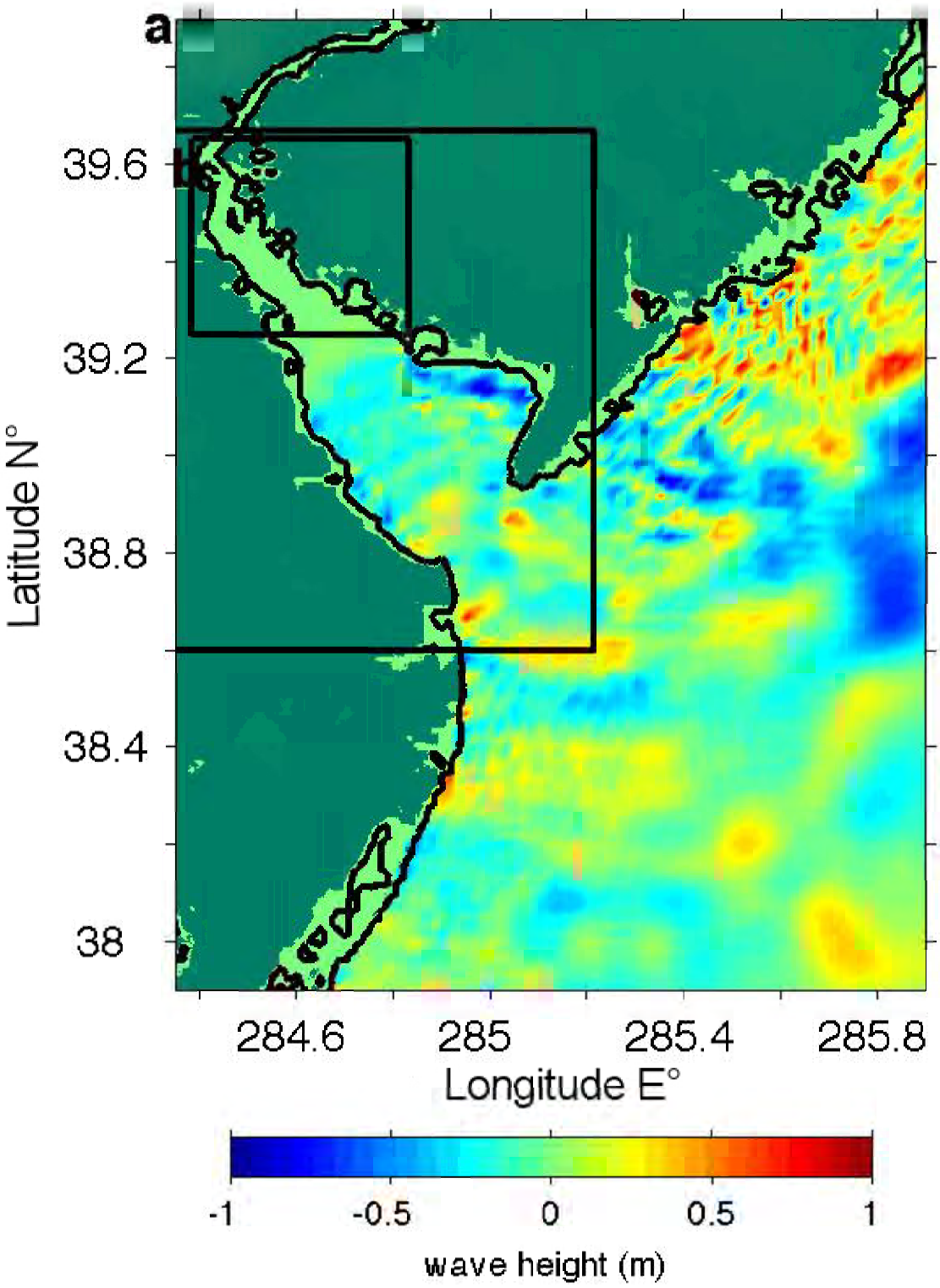
PSEG Site ESPA
Part 2, Site Safety Analysis Report

N
W E
S

2-D Image for Currituck Slide at 03 hours

FIGURE 2.4.6-12

Rev 0



PSEG Power, LLC

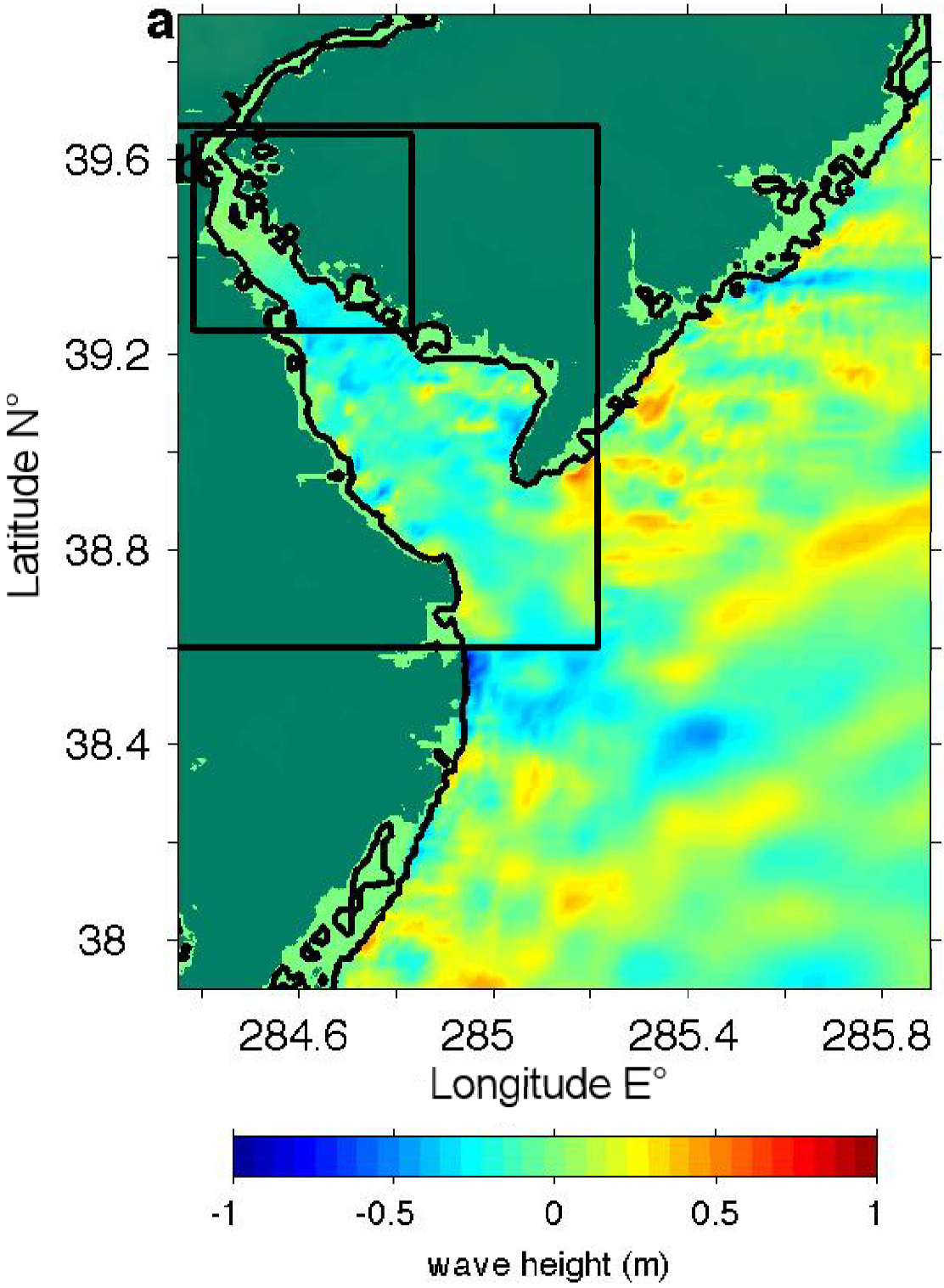
PSEG Site ESPA
Part 2, Site Safety Analysis Report

N
W E
S

2-D Image for Currituck Slide at 04 hours

FIGURE 2.4.6-13

Rev 0



PSEG Power, LLC

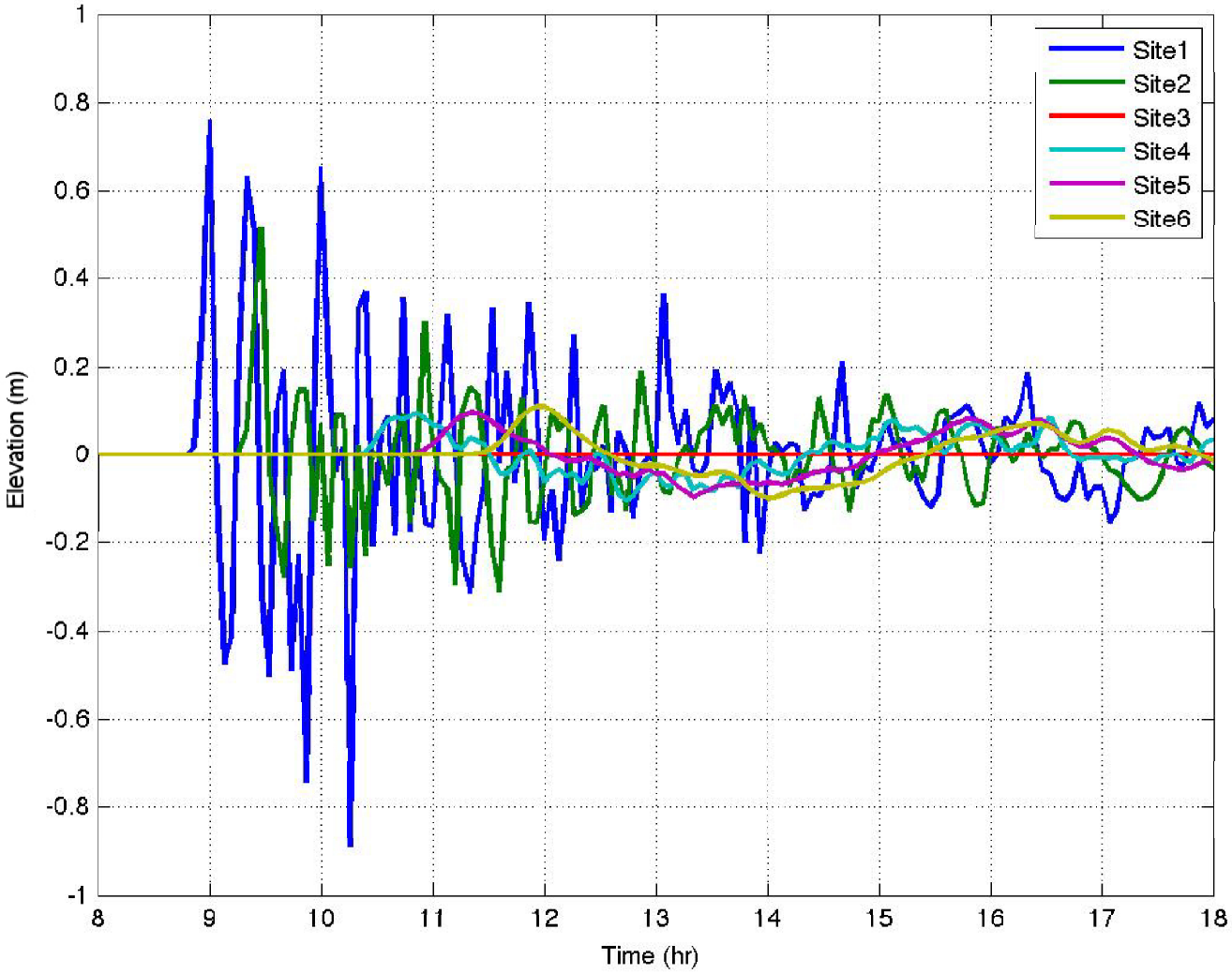
PSEG Site ESPA
Part 2, Site Safety Analysis Report

N
W E
S

2-D Image for Currituck Slide
at 05 hours

FIGURE 2.4.6-14

Rev 0



PSEG Power, LLC

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Time Series Water Surface Elevations
La Palma Slide Case

FIGURE 2.4.6-15

Rev 0