REPLACE with "hurricane (PMH) surge. The PMH surge analysis for the SSAR concludes that the design basis flood level is 32.1 ft. NAVD." per RAI No. 67.

and is identified as more than 7 mi. in length along the Delaware Estuary. The calculated submarine groundwater discharge flux of 494 to 1024 cfs in that zone is similar in magnitude to the surface water discharge of the second and third largest tributary rivers of the Delaware Estuary. These preliminary findings suggest that estimates of freshwater discharge at various locations along the Delaware Estuary, based solely on upland drainage area and measured streamflows, may be underestimated, particularly during lower flow periods when groundwater discharges tend to be more sustained than surface flows.

2.3.1.1.4 Historic Flooding and Annual Peak Flood Frequencies

Riverine flood conditions are not a primary flooding concern at the PSEG Site because the flow conveyance capacity of the Delaware River at this location is large compared to riverine generated flow rates. Tidal storm surges generate higher water levels in the reach than do rainfall runoff events from the watershed. The Federal Emergency Management Agency (FEMA) has determined that for the 1 percent annual risk high water event, tidal storm surge water levels are higher than storm runoff generated water levels throughout the area surrounding the PSEG Site (Reference 2.3-27). Current FEMA floodplain information indicates that the 10-, 50-, 100-, and 500-yr return period flood elevations at RM 52 are 7.0, 8.2, 8.9, and 13.2 ft. National Geodetic Vertical Datum of 1929 (NGVD), respectively. FEMA refers to these as “stillwater” elevations. The area inundated by the 1 percent annual risk flood (100-yr flood), as indicated on FEMA’s Flood Insurance Rate Map for the area, is as shown on Figure 2.3-6. For context, the elevation of the terrain across the PSEG Site generally ranges from 5 to 15 ft. NAVD. Developed areas of the site are nominally 10 to 12 ft. NAVD. The site grade associated with the power block area of the new plant is set at an elevation of 36.9 ft. NAVD.

Based on over 100 yr of records, the largest peak instantaneous discharge on the Delaware River at Trenton, was an estimated 329,000 cfs on August 20, 1955. The next highest peak discharge was 295,000 cfs on October 11, 1903. By contrast, Harleman (Reference 2.3-31) estimated the maximum tidal flow rate in the Delaware River at RM 52 (PSEG Site) and at RM 38 to be 800,000 cfs and 1,350,000 cfs, respectively. The design basis flood level for the PSEG Site is the probable maximum ~~flood (PMF) or probable maximum hurricane (PMH) surge, whichever is higher. PMF and PMH surge analyses for the SSAR conclude that the PMF elevation is 20.7 ft NAVD, and the PMH surge elevation is 35.9 ft NAVD.~~

Alloway Creek is the largest stream near the PSEG Site. While the stream is tidal beyond Hancocks Bridge, FEMA indicates that 100-year riverine flood flows for Alloway Creek are 5450 cfs at the confluence with the Delaware River and 4850 cfs at Hancocks Bridge (Table 2.3-7).

2.3.1.1.5 Delaware Estuary

The Delaware Estuary is a drowned river valley of the Delaware River (Reference 2.3-91). Geometrically, it is a relatively simple estuary, with a dominant freshwater input at the head of the estuary (Delaware River) and a single, funnel-shaped bay where mixing occurs. It has been stated that when Henry Hudson sailed into the bay in 1609, he found it too shallow to navigate (Reference 2.3-91). A navigation channel has been dredged routinely and is maintained by the USACE with an authorized depth of 40 ft. The USACE is currently planning to increase the navigation channel depth to 45 ft. (Section 2.8).