

Commitments made in this letter: No new regulatory commitments

Attachment: Response to NRC Email dated August 18, 2017 - Information Need Request

cc: U.S. Nuclear Regulatory Commission
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ATTACHMENT

**RESPONSE TO NRC EMAIL DATED AUGUST 18, 2017 –
INFORMATION NEED REQUEST**

**DOMINION NUCLEAR CONNECTICUT, INC
MILLSTONE POWER STATION UNITS 2 AND 3**

NRC August 18, 2017 Email

The staff is currently reviewing the Millstone MSA [Mitigating Strategies Assessment] and would need additional information on the following items included below. No formal responses to the information needs are needed at this moment so placing the information on the ePortal or replying to this email would work for the staff. However, our preference would be for the responses to be provided by replying to this email because it would be easier to include on the docket, if needed. If you have questions or need clarification on the items below, please let me know and I'll schedule an audit call with our technical staff.

Background:

Section 2.3 of the MSA states: The MSA concludes that the MPS2 and MPS 3 EDGs [emergency diesel generators] and the MPS3 SBO [station blackout] diesel generators are flood protected from the reevaluated LIP [local intense precipitation] flood hazard and the reevaluated combined effects with probabilistic storm surge flood hazard. Thus, an ELAP [extended loss of ac power] occurring in association with these reevaluated flood hazards is not plausible and further assessment of impact of these reevaluated flood hazards on the FLEX [diverse and flexible coping strategies] mitigating strategies is not required by the MSA. Therefore, the current FLEX mitigating strategies can be deployed as designed during the unbounded reevaluated flood hazards and the MSA is considered complete.

Information Request:

Please provide the following information in order to support the overall MSA conclusion:

1. Documentation supporting crediting warning time/period for flood protection against the reevaluated LIP flood hazard.
2. Given that the site is expected to be inundated for a period of time following both, the LIP and storm surge floods, please describe any potential impacts to the storage location(s) of FLEX equipment, any staging areas, haul paths, connection points, activities, etc.
3. Location and elevation of buildings housing MPS2 and MPS 3 EDGs and the MPS3 SBO diesel generators.
4. A description of the flood protection features protecting MPS2 and MPS 3 EDGs and the MPS3 SBO diesel generators from the reevaluated unbounded flood hazards.

DNC Response:

1. *Documentation supporting crediting warning time/period for flood protection against the reevaluated LIP flood hazard:*

Millstone Power Station Abnormal Operating Procedure, AOP 2560, "Storms, High Winds and High Tides", Millstone Unit 2, Attachment 6 provides direction for site preparation and implementation of LIP flood protection measures based on warning time/period for a forecasted LIP at the site. As documented in the MSA, Unit 3 does not credit warning time/period for flood protection against the reevaluated LIP flood hazard.

2. *Potential impacts to the storage location(s) of FLEX equipment, any staging areas, haul paths, connection points, activities, etc. from the:*

Reevaluated LIP Flood Hazard

The maximum LIP flood depths which occur during the 1-hour LIP are ≤ 0.4 ft in the area surrounding the Beyond Design Basis (BDB) Storage Building, which is at a site grade of approximately 34 – 36 ft. Therefore, the BDB Storage Building, which has a finished floor elevation of 37.45 – 37.7ft, will not flood during the reevaluated LIP flood hazard. When Phase 3 equipment begins to be delivered to the National SAFER Response Center (NSRC) staging area, ≥ 24 hours after ELAP initiation, the reevaluated LIP flood hazard flood depths would have receded except for insignificant ponding in the local low spots of the NSRC staging area. Therefore, the reevaluated LIP flood hazard does not impact the BDB Storage Building or the FLEX equipment stored in it, or the NSRC staging area for Phase 3 FLEX equipment.

An assessment of impact of the reevaluated LIP flood hazard was performed for the FLEX equipment haul paths, FLEX equipment deployment locations, mechanical and electric connection points, and deployment/operations activities. The assessment considered the reevaluated LIP flood hazard flood depths at the time on the FLEX strategy timeline that the associated FLEX strategy actions are required to be executed.

The assessment concludes that the flood depths from the reevaluated LIP flood hazard potentially impacts the FLEX strategies associated with the following MPS2 areas:

- branch haul paths into the MPS2 power block area,
- MPS2 deployment locations for the BDB 120 VAC and 480 VAC generators, the BDB auxiliary feedwater (AFW) pump and the BDB reactor coolant system (RCS) injection pump.

However, the assessment concludes that the reevaluated LIP flood hazard flood depths would recede sufficiently prior to staging and deployment of any of the associated MPS2 FLEX equipment in accordance with the MPS2 FLEX strategy time line requirements. Therefore, the reevaluated LIP flood hazard does not impact the ability to execute the MPS2 FLEX mitigating strategies.

The assessment also concludes that the reevaluated LIP flood hazard flood depths would not prevent transporting or deployment of any of the associated MPS3 FLEX equipment in accordance with the MPS3 FLEX strategy time line requirements. Therefore, the reevaluated LIP flood hazard does not impact the ability to execute the MPS3 FLEX mitigating strategies.

Reevaluated Storm Surge Combined Effects Flood Hazard

The reevaluated storm surge combined effects flood hazard, with a maximum stillwater elevation of 21 ft, does not inundate the BDB Storage Building located at site grade elevations of approximately 34 – 36 ft, or the Phase 3 FLEX equipment NSRC staging area with grade elevations ranging from approx. 26 – 35 ft . Therefore, the reevaluated storm surge combined effects flood hazard does not impact the BDB Storage Building or the FLEX equipment stored in it, or the NSRC staging area for Phase 3 FLEX equipment.

Assessment of the FLEX equipment haul routes, FLEX equipment deployment locations, and the mechanical or electrical connections concludes that the reevaluated storm surge combined effects flood hazard flood depths inundate the following:

- BDB High Capacity pump barge slip deployment location,
- NSRC high capacity pump deployment location near the MPS2 intake structure,
- part of the primary haul path along the station access road around the east side of the MPS2 and MPS3 power blocks,
- branch haul paths into the MPS2 power block area,
- MPS2 deployment locations for the BDB 120 VAC and 480 VAC generators, the NSRC 4160 VAC generator, the BDB AFW pump and the BDB RCS injection pump.

However, the assessment concludes that except for the BDB High Capacity pump, the reevaluated storm surge combined effects flood hazard flood depths would recede sufficiently prior to the MPS2 FLEX strategy time line requirements for staging and deployment of the associated MPS2 FLEX equipment. Alternate MPS2 FLEX strategies are provided such that the BDB High Capacity pump

does not have to be deployed during the reevaluated storm surge combined effects flood hazard event. Therefore, the reevaluated storm surge combined effects flood hazard does not impact the ability to execute the MPS2 FLEX mitigating strategies.

For MPS3 the assessment concludes that the reevaluated storm surge combined effects flood hazard flood depths do not inundate the following, since the ground elevations are greater than 21 feet MSL:

- alternate haul path to the north-east area of the MPS3 power block,
- branch haul paths into the MPS3 power block area,
- MPS3 power block FLEX equipment deployment locations,
- MPS3 FLEX mechanical or electrical connections.

For MPS3, the assessment concludes that the reevaluated storm surge combined effects flood hazard flood depths would inundate the following:

- BDB High Capacity pump barge slip,
- NSRC high capacity pump deployment locations.

However, flood depths would recede sufficiently prior to the MPS3 FLEX strategy time line staging and deployment requirements. Additionally, alternate MPS3 FLEX strategies are provided such that the BDB High Capacity pump does not have to be deployed during the reevaluated storm surge combined effects flood hazard event. Therefore, the reevaluated storm surge combined effects flood hazard does not impact the ability to execute the MPS3 FLEX mitigating strategies.

3. *Location and elevation of buildings housing MPS2 and MPS3 EDGs and the MPS3 SBO diesel generator:*

MPS2 EDGs

The MPS2 EDGs are housed in the "A" and "B" EDG rooms in MPS2 Building #208, which is attached to and considered part of MPS2 Auxiliary Building (MPS Building #205). MPS2 nominal site grade elevation is 14 ft, with the actual ground surface elevations at the seven outside access doors to the MPS2 Auxiliary Building ranging between 13.99 ft. and 14.20 ft. The MPS2 Auxiliary Building access doors have a threshold elevation of 14.5 ft. The MPS2 Auxiliary Building outside access doors are located on the eastern side of the Auxiliary Building and are equipped with flood gates for flood protection up to 22 ft elevation.

MPS3 EDGs

The MPS3 EDGs are housed in the MPS3 EDG Building (MPS Building #322). MPS3 nominal site grade elevation is 24 ft, with the actual ground surface elevations at the four EDG Building outside access doors ranging between 23.61 ft and 23.74 ft. The MPS3 EDG Building access doors have a threshold elevation of 24.5 ft.

MPS3 SBO Diesel Generator

The MPS3 SBO diesel generator (DG) is housed in MPS Building #328. MPS3 nominal site grade elevation is 24 ft, with the actual ground surface elevation between 24.4 ft and 25 ft in the area around the MPS3 SBO DG building.

4. *Flood protection features protecting MPS2 and MPS3 EDGs and the MPS3 SBO diesel generators from the reevaluated unbounded flood hazards:*

MPS2 EDGs

The buildings/structures within the MPS2 power block which house safety-related equipment are flood protected up to 22 ft elevation. The flood protection is provided by closure of the MPS2 flood gates prior to the reevaluated LIP flood hazard or the reevaluated probabilistic storm surge combined effects flood hazard arriving on site.

The maximum reevaluated LIP flood hazard flood elevation is 16.95 ft at the MPS2 Auxiliary Building access doors. Therefore, the MPS2 EDGs are protected from the reevaluated LIP flood hazard.

The reevaluated probabilistic storm surge combined effects flood hazard maximum stillwater elevation is 21 ft. The wave effects are considered negligible on the eastern portion of the MPS2 site due to the dissipation of wave energy by the various non-safety-related buildings. Therefore, since MPS2 Building #208 is located on the eastern side of the Containment Enclosure Building, the MPS2 EDGs are protected from the reevaluated probabilistic storm surge combined effects flood hazard.

MPS3 EDGs

The MPS3 power block is flood protected by its site grade elevation and by the door threshold elevations of the building containing safety-related equipment. MPS3 nominal site grade elevation is 24 ft, with the actual ground surface elevations at the four EDG Building outside access doors ranging between 23.61 ft and 23.74 ft. The MPS3 EDG Building access doors have a threshold elevation of 24.5 ft.

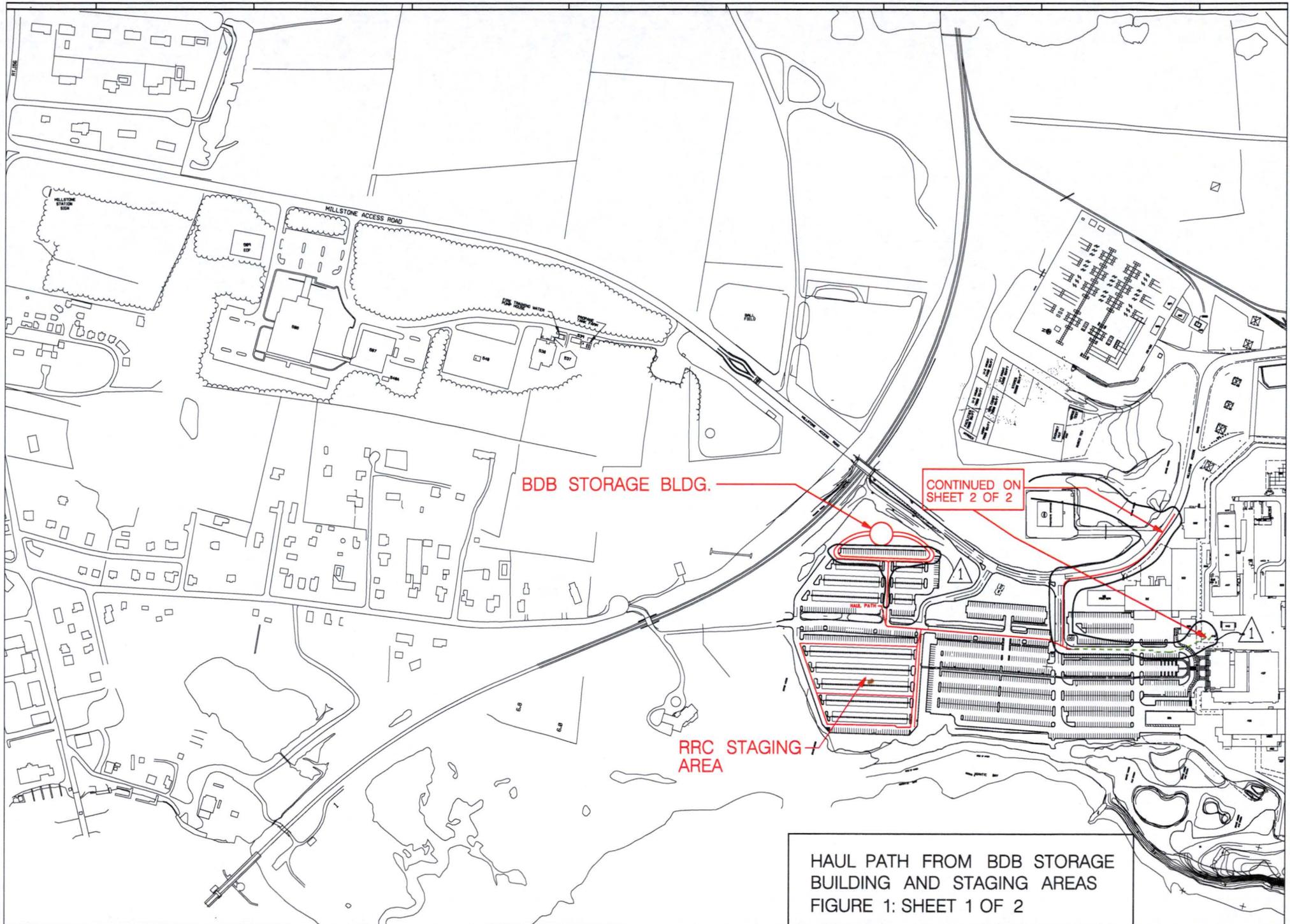
The maximum reevaluated LIP flood hazard flood elevation is 24.13 ft at the MPS3 EDG Building access doors. Therefore, the EDG Building access door threshold door elevations protect the MPS3 EDGs from the reevaluated LIP flood hazard.

The reevaluated probabilistic storm surge combined effects flood hazard still water elevation is 21 ft. MPS3 site grade protects against wave runoff at the power block. Therefore, the MPS3 site grade elevation and the EDG Building access door threshold door elevations protect the MPS3 EDGs from the reevaluated probabilistic storm surge combined effects flood hazard.

MPS3 SBO Diesel Generator

The maximum reevaluated LIP flood hazard flood elevation is 25.2 ft in the area surrounding the MPS3 SBO DG. The MPS3 SBO DG is flood protected by the elevation of the concrete foundation slabs for the SBO DG enclosure (25 ft 3 inches), SBO DG switchgear enclosure (26 ft 3 inches) and the SBO DG diesel tank enclosure (26 ft) and by the elevation of the SBO DG enclosure floor, which is more than 2 ft above the enclosure foundation slab. Therefore, the MPS3 SBO DG is protected from the reevaluated LIP flood hazard.

The reevaluated probabilistic storm surge combined effects flood hazard still water elevation is 21 ft. The MPS3 SBO DG is flood protected by the actual ground surface elevation, which is between 24.4 ft and 25 ft in the area surrounding MPS3 Building #328. MPS3 site grade also protects against wave runoff at the power block. Therefore, the MPS3 actual ground surface elevation protects the MPS3 SBO DG from the reevaluated probabilistic storm surge combined effects flood hazard.



BDB STORAGE BLDG.

CONTINUED ON SHEET 2 OF 2

RRC STAGING AREA

HAUL PATH FROM BDB STORAGE BUILDING AND STAGING AREAS
FIGURE 1: SHEET 1 OF 2

