

From: [RILEY, Jim](#)
To: [Marshall, Michael](#); [Shams, Mohamed](#)
Cc: [michael.powell@aps.com](#); [Dave Schupp](#); [Shams, Mohamed](#); [RILEY, Jim](#); [joe.bellini@aterrasolutions.com](#)
Subject: [External_Sender] RE: Re: MSA template
Date: Thursday, December 03, 2015 3:06:55 PM
Attachments: [MSA Draft Scope and Template - rev 0a 11-16-15.docx](#)

Mo, Michael;

The subject of our drop in visit next Tuesday is the industry's template for MSA submittals. I have attached the draft template for your review prior to our meeting.

We are also developing examples that show how a submittal would actually look for a FLEX, AMS, or THMS strategy. We will send those to you after we have completed a draft. I am not sure if we will have an example ready for our Tuesday meeting .

Jim Riley

NEI

W: (202) 739-8137

C:

jhr@nei.org

From: Marshall, Michael [<mailto:Michael.Marshall@nrc.gov>]
Sent: Tuesday, December 01, 2015 7:58 AM
To: RILEY, Jim
Cc: [michael.powell@aps.com](#); [Dave Schupp](#); [Shams, Mohamed](#)
Subject: RE: Re: MSA template

Hello Jim,

The cognizant branch chiefs are available for a drop-in meeting on Tuesday, December 8, 2015 from 11:00a to 12:00p to discuss matters related to the schedule and processing of flooding mitigation strategies assessments. Based on the assumption that the meeting would take place on the NRC campus, I have reserved a conference room in the One White Flint North Building (i.e., O-9B2). Will all of the NEI participant be attending in person or do I need to make arrangements for a telephone conference?

Best Regards,
Michael L. Marshall, Jr.
Senior Project Manager

Hazard Reevaluation Management Branch
Japan Lessons Learned Division
Office of Nuclear Reactor Regulation
301-415-2871

From: RILEY, Jim [<mailto:jhr@nei.org>]

Sent: Tuesday, November 24, 2015 10:01 AM
To: Shams, Mohamed <Mohamed.Shams@nrc.gov>
Cc: Marshall, Michael <Michael.Marshall@nrc.gov>; michael.powell@aps.com; Dave Schupp <david.schupp@exeloncorp.com>; RILEY, Jim <jhr@nei.org>
Subject: [External_Sender] Re: MSA template

Michael,

Let's schedule the drop in for late morning on the 8th, how about 11?

Jim Riley
Sent from my iPhone

On Nov 20, 2015, at 3:02 PM, Shams, Mohamed <Mohamed.Shams@nrc.gov> wrote:

Jim – thanks for the call earlier. I left you a voice mail indicating that we would welcome the interaction over the MSA template and Dec 8 would be a good time for a drop in. please work with Michael to schedule it.

Thx
Mo



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**2016 Mitigating Strategies Assessments for Flooding
Documentation Requirements
(DRAFT)**

Acronyms:

- MSFHI – Mitigating Strategies Flood Hazard Information (from the FHRR and MSFHI letter)
- FHRR – Flood Hazard Reevaluation Report
- DB – Design Basis
- AMS – Alternative Hazard Mitigating Strategies
- THMS – Targeted Hazard Mitigating Strategies

1. Documentation

1.1. NEI 12-06, Rev. 1a, Section G.2 – Characterization of the MSFHI

Document the characterization of the MSFHI. This can be done by summarizing and/or referencing the FHRR submittal and associated RAI/Audit responses.

1.2. NEI 12-06, Rev. 1a, Section G.3 – Comparison of the MSFHI and FLEX DB Flood

Document the nature of any element not bounded for all applicable flood-causing mechanisms. The following table format can be used for each applicable flood mechanism. Identify if individual controlling flood-causing mechanisms or a bounding set of parameters are utilized. The table can be used to define individual controlling mechanisms or bounding parameters. If one set of bounding parameters are utilized, note the associated mechanism for each parameter. This information should have already been developed with the FHRR submittal, and associated RAI responses, and can be referenced in lieu of presenting again with the table below.

Table 1 – Flood Causing Mechanism A or Bounding Set of Parameters

Flood Scenario Parameter		FLEX Design Basis Flood Hazard	MSFHI	Bounded (B) or Not Bounded (NB)
Flood Level and Associated Effects	1. Max Stillwater Elevation (ft. MSL)			
	2. Max Wave Run-up Elevation (ft. MSL)			
	3. Max Hydrodynamic/Debris Loading (psf)			
	4. Effects of Sediment Deposition/Erosion			
	5. Concurrent Site Conditions			
	6. Effects on Groundwater			
Flood Event Duration	7. Warning Time (hours)			
	8. Period of Site Preparation (hours)			
	9. Period of Inundation (hours)			
	10. Period of Recession (hours)			
Other	11. Plant Mode of Operations			

	12. Other Factors			
<p>Additional notes, 'N/A' justifications (why a particular parameter is judged not to affect the site), and explanations regarding the bounded/non-bounded determination.</p> <ol style="list-style-type: none"> 1. None 2. None 3. None 4. [Discuss velocity and scour results and provide comparisons with CDB, permissible velocities, presence of scour resistant material, etc.] 5. [Discuss conditions that could exist concurrent with this flood-causing mechanism or combined-effect flood (e.g. high winds, ice formation, etc.)] 6. [Discuss if and how this flood-causing mechanism or combined-effect flood could cause a surcharge to groundwater, considering flood duration and soil conditions.] 7. [Discuss warning time; may include information from relevant forecasting methods (e.g., products from local, regional, or national weather forecasting centers) and ascension time of the flood hydrograph to a point (e.g. intermediate water surface elevations) triggering entry into flood procedures and actions by plant personnel. Reference NEI 15-05 for LIP.] 8. [Discuss period of site preparation (after entry into flood procedures and before flood waters reach site grade).] 9. [Discuss period of inundation.] 10. [Discuss period of recession, when flood waters completely recede from site and plant is in safe and stable state that can be maintained.] 11. [Additional notes regarding plant mode of operations.] 12. [Discuss other plant-specific factors (e.g. waterborne projectiles).] 				

1.3. NEI 12-06, Rev. 1a, Section G.4 – Evaluation of Mitigating Strategies for the MSFHI

1.3.1. NEI 12-06, Rev. 1a, Section G.4.1 – Assessment of Current FLEX Strategies

Document the evaluation that demonstrates existing FLEX strategies are acceptable without modification for the MSFHI.

1.3.1.1. Document for each exceedance how FLEX is viable. Reference Section G.4.1 in NEI 12-06 revision 1a. Address each of the evaluation bullets in this section.

1.3.1.2. Conclusions

Document which of the following conclusions are drawn from the assessment and provide a basis for the conclusions:

- If the evaluation demonstrates that the existing FLEX strategies can be deployed as designed for all applicable-flood causing mechanisms then the MSA is then considered complete.
- If the evaluation demonstrates that the existing FLEX strategies cannot be implemented as designed, then document the basis for selecting FLEX, AMS, or THMS.

1.3.1.3. NEI 12-06, Rev. 1a, Section G.4.2 – Assessment for Modifying FLEX Strategies

Document the items in Section G.4.2 in NEI 12-06 revision 1a. Address each of the evaluation bullets in this section.

If the existing FLEX strategies cannot be implemented as designed and “Modified FLEX” is selected to address the deficiencies, expand upon the documentation in Section 2.3.1 and provide the following:

- Summary of the changes to the FLEX strategies;
- Description of any revised sequence of events, if applicable, demonstrating the necessity of revised FLEX actions;
- Description and justification of any modifications (equipment, procedures, etc.), if applicable, to address the revised FLEX actions; and
- Identify any validation items that will need to be re-performed based on the changes. Validation documentation does not need to be submitted and should be performed following any modifications or procedure revisions.

1.3.1.4. NEI 12-06, Rev. 1a, Section G.4.3 and G.4.4 – Assessment of Alternative and Targeted Hazard Mitigating Strategies

Document the items in Section G.4.3 or G.4.4 as applicable in NEI 12-06 revision 1a. Address each of the evaluation bullets in this section.

If the existing FLEX strategies cannot be implemented as designed and “AMS” or “THMS” is selected to address the deficiencies, expand upon the documentation in Section 2.3.1 and document the evaluation that concludes that the selected strategy will mitigate the MSFHI. The following items should be included:

- The sequence of events for the flood hazard(s);
- A detailed description of the mitigating strategies;
- A detailed list of equipment necessary for the mitigating strategies;
- A description of how the provisions in Sections 3, 6, and 11 of NEI 12-06, Rev. 1a have been addressed;
- Describe any validation items that will need to be performed based on the changes. Validation documentation does not need to be submitted and should be performed following any modifications or procedure revisions.
- For a THMS, document the justification for not maintaining the containment capability.

The documentation identified in this assessment should be included in and be of the same level of detail as that included in the Program Document.