

NRC Staff Responses to Public Comments on DG-1336:
*“MONITORING THE EFFECTIVENESS OF MAINTENANCE AT
 NUCLEAR POWER PLANTS”*
Federal Register 83 FR 30469 (June 28, 2018)

I. INTRODUCTION

This document presents the NRC’s responses to written public comments received on Draft Guide (DG)-1336, “Monitoring the Effectiveness of Maintenance at Nuclear Power Plants” (ADAMS Accession No. ML18129A080), in response to a separate *Federal Register* entry (83 FR 30469, June 28, 2018).

II. OVERVIEW OF COMMENTERS AND COMMENTS

The staff received 3 comment submissions and a total of 14 individual comments. The table below presents information on the commenters who submitted comments on DG-1336.

Name	Affiliation	ADAMS Accession No.	Identifier
-	-	ML18197A075	ANON1
Stephen Vaughn	Nuclear Energy Institute (NEI)	ML18212A218	NEI1
Ken Schrader	Pressurized Water Reactor (PWR) Owners Group Risk Management Committee and the Boiling Water Reactor (BWR) Owners Group Integrated Risk Informed Regulation Committee	ML18214A315	PWR/BWROG1

The PWR Owners Group Risk Management Committee and the BWR Owners Group Integrated Risk Informed Regulation Committee supported the revision to RG 1.160 to clarify how Flex equipment should be treated in terms of maintenance scoping. Similar comments were grouped as appropriate to facilitate providing NRC responses. NEI, PWR Owners Group Risk Management Committee and the BWR Owners Group Integrated Risk Informed Regulation Committee comments were identical.

Comments were binned into the following categories for convenience:

- a. Comments from ANON1 Regarding Impact on Plant Risk Using Flex Support Guidelines (FSGs)
- b. Comments from NEI1 and PWR/BWROG1 on Editorial Corrections and Clarifications
 - a. Comments from ANON1 Regarding Impact on Plant Risk Using FSGs

Comment: “What is the point then of including FLEX equipment in the risk analysis if it is not intended to be ‘relied upon?’ Either it is needed/credited or not. If it is so great, it should not have a high risk worth and be allowed to be monitored at the plant level. This seems like an effort by the NRC to not include components in the Maint Rule that can have a clear nexus to the survivability of a system, structure, or component important to safety.” [ANON1-1]

“If the NRC is going to allow FLEX equipment is really intended to be used to mitigate for other than beyond design basis events, why is this guide proposing to allow it not be monitored using the Maint Rule?” [ANON1-3]

“Where is the clarity that this document is supposed to provide? This is supposed to be draft regulatory guidance right? Where is the four pages of discussion of FLEX as it applies to the actual rule? So, why don't you just provide criteria for when something should be included in the Maint Rule instead of all these examples of how not to meet the Maint Rule?” [ANON1-4]

NRC Response: The staff has reviewed the comment and has determined no changes were made to RG 1.160 as a result of this comment.

The NRC encourages licensees' risk analysis to be a realistic reflection of the plant capability and configuration in order to gain risk insights into operations and maintenance of the plant. Licensees are allowed to have equipment on-site that can be used respond to an accident or other event even though that equipment is not specifically credited for the purposes of meeting regulatory requirements: FLEX equipment generally meets that description. Licensees can and do provide instructions on how and when to use such equipment as part of defense-in-depth (i.e., as an additional beyond-the-FSAR way to prevent or mitigate an accident). Specifically, instructions on the use of FLEX equipment is found in what are known as FSGs (diverse and flexible coping strategies support guidelines). FLEX equipment is generally not subject to the maintenance rule under 10 CFR 60.65(b)(2). However, some of what a licensee considers FLEX equipment, because it is included in the FSGs, may also be used for other purposes which bring the equipment within the scope of the maintenance rule. This revision to RG 1.160 provides guidance to licensees specifically on that last point.

Section C.4. of RG 1.160 provides guidance for licensees on when FLEX equipment would meet 10 CFR 60.65(b)(2)(i) and therefore be within the scope of the maintenance rule. The staff determined that planning to use FLEX equipment as part of defense-in-depth is not the same as “rely[ing] upon” the equipment under 50.65(b)(2)(i) the FLEX equipment does not automatically gain an “intended function” when a plan is made to use FLEX equipment as part of defense-in-depth.

In summary, crediting FLEX equipment will require licensees to evaluate whether the equipment is subject to the maintenance rule under 50.65(b)(2)(i).

Comment: “It appears that the NRC is allowing the licensee to use training wheels, but pretending like they are not really needed, to make the overall plant risk look better than it actually is, thus allowing this noncredited systems to support permitting other “risk-informed” changes. What I am saying is that the proposed supports the credit when it helps, but not when it hurts, thus obfuscating the real change in operational and plant risk for a proposed change. How does that promote plant safety?” [ANON1-2]

NRC Response: The staff has reviewed the comment and has determined no changes were made to RG 1.160 as a result of this comment.

Not all equipment used to improve plant risk is scoped in the Maintenance Rule. For example, many commercial grade SSCs that reduce risk are voluntarily monitored at the plant-level and not scoped.

There are several factors that influence the impact of crediting FLEX equipment in a licensee's PRA model. Licensees have strategies that can vary widely and have plant specific risk factors. The uniqueness of the equipment, strategies, and sites all influence the overall impact of crediting FLEX in PRA models. The failure probabilities of the equipment in the PRA models are developed by analyzing the operational experience for the specific equipment. The impact of the level of maintenance and performance monitoring on the FLEX equipment should be reflected in the operational experience and the equipment failure probabilities, which are then represented in the PRA models. This information is used in the risk models to reflect the as-built, as-operated plant.

Overall, the staff believes safety is promoted when licensees thoughtfully evaluate where FLEX equipment can be used as an additional layer of defense-in-depth and incorporate that use into plant EOP's.

b. *Comments from NEI1 and PWR/BWROG1 on Editorial Corrections and Clarifications*

Comment: "Editorial. There is a comma after "EA 12-049" and there should be a period.

Remove the comma after "EA 12-049" and replace it with a period." [NEI1-01, PWR/BWROG1-01]

NRC Response: The staff has reviewed and agreed with the comment and has incorporated the change in the section entitled, 'Nonsafety related SSCs that are used in Emergency Operating Procedures.'

Comment: "In the sentence 'Because the FSG equipment is not essential to the EOPs,' the phrase 'essential to the EOPs' should be clarified. Change 'essential to the EOPs' to 'essential to the successful implementation of the EOP mitigating strategies.'" [NEI1-02, PWR/BWROG1-02]

NRC Response: The staff has reviewed and agreed with the comment and has incorporated the change in section entitled "Nonsafety related SSCs that are used in Emergency Operating Procedures."

Comment: "In Section 1, the phrase '...subject to the following exceptions and clarifications' is different than Revision 3 to RG 1.160 which states '...subject to the following provisions and

clarifications.” It isn’t clear why the term “exceptions’ is being used instead of the previously used term “provisions.

Given that the proposed Revision 4 to RG 1.160 is not taking any specific exceptions to Revision 4F of NUMARC 93-01, the term ‘provisions’ should be maintained or condense the phrase “provisions and clarifications” to just ‘clarifications.’” [NEI1-03, PWR/BWROG1-03]

NRC Response: The staff has reviewed and agreed with the comment and has deleted “exceptions and” preceding the word “clarifications in Section 1.

Comment: “In Section 2.1, the last sentence ‘RG 1.200, “An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment results for Risk-Informed Activities,” (Ref. 18) describes an approach the NRC staff finds acceptable to develop and maintain PRA acceptability in support of risk-informed decision-making’ is a new position compared to Revision 3 (and all previous Revisions) to RG 1.160.

Remove the last sentence in section 2.1 regarding RG 1.200 and maintain the Revision 3 to RG 1.160 language from the section ‘Use of Probabilistic Risk Assessments’ that states ‘When a PRA is used in a licensee’s implementation of the maintenance rule, the technical adequacy of the base PRA should be sufficient to provide the needed confidence in the results being used in the decision.’” [NEI1-04, PWR/BWROG-04]

NRC Response: The staff has reviewed and agreed with the comment and has replaced the last sentence of Section 2.1 with the verbiage recommended in the comment.

Comment: “Reference 18 is RG 1.200. As described in the comment on page 17 and the associated recommendation, the addition of RG 1.200 as a PRA reference in RG 1.160 is not warranted.

Remove Reference 18 ‘NRC, RG 1.200, “An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment results for Risk-Informed Activities,” Washington DC.’ from page 24.” [NEI1-05, PWR/BWROG1-05]

NRC Response: The staff has reviewed and agreed with the comment and has removed Reference 18.