Northeast Utilities
Millstone - Unit 3

Independent Corrective Action Verification Program
(ICAVP)

System Review Checklist

CK-MP3-07-01, Rev. 0

FSAR Chapter 15 Accidents, Systems and Components
Review Checklist

Prepared by:	J. Johnsen/w R. Rebles		4-8-97
	Name	Signature	Date
Approved by:	R. D Taneja		4/9/97
	Name	Signature	Date

IMPLEMENTATION

Accident Name		
FSAR Section		
Verified by:		Date:
Concurrence by:		Date:

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Instructions:

This checklist is used by the Accident Mitigating Systems Review Group (ARG) to supplement the procedure PI-MP3-07 in order to identify systems and components available for mitigation of accident effects and systems credited with mitigating the consequences of accidents. This checklist shall be used to record the critical parameters associated with these systems that are used in the accident analysis.

System Critical Parameters are defined in PI-MP3-07 as the parameters of an accident mitigating system that are relied upon for performing the safety related function. For the purpose of this checklist, critical parameters are grouped into two categories, which are not mutually exclusive. **Safety analysis** parameters are those parameters used to evaluate the system response to an accident and the ability of the system to perform those functions related to mitigating the damage caused by the accident. **Radiological** parameters are those parameters used to evaluate the consequences of an accident and the ability of the system to mitigate the accident consequences. Note that accident consequences are defined as the harmful effects (including radiation exposure) to the general public or plant operators resulting from the accident.

This checklist is divided into three parts consisting of:

- Part I - Identification of Safety Analysis Parameters
- Part II - Identification of Radiological Parameters
- Part III - Parameter Verification

A separate checklist shall be completed for each accident. Use of the checklist will be as follows:

1. The ARG Lead shall initiate the checklist for each accident by completing the accident name and FSAR section block on the cover sheet and assigning a lead verifier.

2. The lead verifier or a designated discipline verifier shall complete Part I of the checklist by:

   a. Reviewing the safety analysis presented in the FSAR, SER, reload analysis or related technical documents.
   b. Entering a description of the accident and identifying the documents reviewed.

c. Identifying the systems or structures used for accident mitigation in the safety analysis by checking Applicable or Not Applicable as appropriate in the list in Part I.

d. Specifying the safety analysis parameters associated with this accident. This is done by attaching comment sheets as appropriate to Part I. Each system marked as applicable to this accident shall have at least one numbered comment. On a comment sheet associated with each comment number will be one or more parameters with the assumed values used in the safety analysis and, if appropriate, the related system components.

e. Verification of the input parameters is accomplished in Part III of this checklist.

f. Signing Part I of the checklist and returning it to the ARG Lead.

3. The lead verifier or a designated discipline verifier shall complete Part II of the checklist by:

a. Reviewing the safety analysis presented in the FSAR, SER, reload analysis or related technical documents to determine if an accident consequence analysis has been performed for this accident.

b. Entering a description of the accident and identifying the documents reviewed.

c. Completing questions 2 and 3 to document whether there is an accident consequence analysis for this accident.

d. Identifying the systems or structures used for mitigating the accident consequences by checking Applicable or Not Applicable as appropriate in the list in Part II.

e. Specifying the radiological parameters associated with this accident. This is done by attaching comment sheets as appropriate to Part II. Each system marked as applicable to this accident shall have at least one numbered comment. On a comment sheet associated with each comment number will be one or more parameters with the assumed values used in the consequence analysis and, if appropriate, the related system components.

f. Verification of the input parameters is accomplished in Part III of this checklist:

g. Signing and returning Part II of the checklist to the ARG Lead.

4. Upon completion of Parts I and II of the checklist, the ARG Lead or his designee shall:

a. Initiate a separate copy of the form in Part III for each parameter identified in Parts I and II of the checklist by entering items 1 through 7.

b. Enter the data for each parameter in the ARG database. (See the attached input format.)

c. For those parameters associated with the vertical slice systems under review by the Systems Review Group (SRG) and the Operations and Maintenance and Testing Review Group (ORG), forward the list of parameters to the SRG and ORG for verification.
d. Assign discipline verifiers to complete items 8 and 9 in Part III for each safety analysis and radiological parameter for systems not under review by the SRG and ORG.

5. The discipline verifiers will complete Part III of the checklist by:

a. Identifying the documents that provide the basis for the input assumptions that define the parameter.
b. Review the basis documents in accordance with the checklists in PI-MP3-02. Enter a description of the basis documents and a summary of the verification in item 8 in Part III.
c. If review of the basis documents identifies a discrepancy between the value used in the analysis and the basis document, the verifier shall initiate a DR in accordance with PI-MP3-11.
d. If the parameter cannot be verified, the verifier will enter "Not Verified" in the comments section.
e. Sign and return the completed Part III to the ARG Lead.

6. Upon receipt of the completed Part III, the ARG Lead or designee shall:

a. Enter the data in the ARG database.
b. For those parameters that are identified as not verified, initiate a DR in accordance with PI-MP3-11.
c. Assemble a complete checklist for each accident that consists of Part I, Part II, all comment sheets, and Part III for each parameter.
d. Sign and date with concurrence and forward to the Verification Team Manager.

PART I Identification of Safety Analysis Parameters

Accident Name: _____

1. Accident Description:

2. Safety Analysis Documentation

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Accident Name: _____

3. Systems and structures identified in the Safety Analysis:

System/Structure	Applicable	Not Applicable	Comment #
Containment Systems			
Primary Containment	☐	☐	_____
Secondary Containment	☐	☐	_____
Containment Isolation	☐	☐	_____
Combustible Gas Control	☐	☐	_____
Emergency Core Cooling Systems			
Safety Injection	☐	☐	_____
Residual Heat Removal	☐	☐	_____
Containment Spray	☐	☐	_____
Chemical and Volume Control	☐	☐	_____
Ventilation Systems			
Supplementary Leak Collection	☐	☐	_____
Auxiliary Building	☐	☐	_____
Fuel Handling Building	☐	☐	_____
Control Room	☐	☐	_____
Other Structures and Systems			
_____	☐	☐	_____
_____	☐	☐	_____
_____	☐	☐	_____
_____	☐	☐	_____
_____	☐	☐	_____
_____	☐	☐	_____

_____ _____
Prepared by Date

PART II Identification of Radiological Parameters

Accident Name: _____

1. Accident Description (include applicable FSAR section or licensing commitment document):

2. Are the consequences of the accident evaluated in the FSAR or licensing commitment document?

   a. _____No. State the rationale for not evaluating the accident consequences.

   b. _____Yes. Identify the location of the accident consequence analysis in the FSAR or licensing commitment document.

3. Has the NRC evaluated the consequences of this accident and issued a SER or other official document describing the results of their evaluation?

   a. _____No.

   b. _____Yes. Identify the SER or document and summarize the acceptance criteria used by the NRC.

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Accident Name: _____

4. Systems and structures identified in the accident consequence analysis:

System/Structure	Applicable	Not Applicable	Comment #
Containment Systems			
Primary Containment	☐	☐	_____
Secondary Containment	☐	☐	_____
Containment Isolation	☐	☐	_____
Combustible Gas Control	☐	☐	_____
Emergency Core Cooling Systems			
Safety Injection	☐	☐	_____
Residual Heat Removal	☐	☐	_____
Containment Spray	☐	☐	_____
Chemical and Volume Control	☐	☐	_____
Ventilation Systems			
Supplementary Leak Collection	☐	☐	_____
Auxiliary Building	☐	☐	_____
Fuel Handling Building	☐	☐	_____
Control Room	☐	☐	_____
Other Structures and Systems			
_____	☐	☐	_____
_____	☐	☐	_____
_____	☐	☐	_____
_____	☐	☐	_____
_____	☐	☐	_____
_____	☐	☐	_____

_____ _____
Prepared by Date

PART III. Parameter Verification

1. Parameter Type	☐ Safety Analysis Parameter ☐ Radiological Parameter
2. System	
3. Component	
4. Parameter Description	
5. Input Assumption	
6. Reference Analysis	
7. Accident Name	
8. Basis Documents and Verification	
9. Comments	

Comment Sheet

Accident Name: _____

Comment #	Comment

SYSTEM DESCRIPTION

COMPONENT DESCRIPTION	PARAMETER DESCRIPTION	INPUT ASSUMPTION	SAFETY ANALYSIS REFERENCE	AFFECTED ACCIDENT

SYSTEM DESCRIPTION

COMPONENT DESCRIPTION	PARAMETER DESCRIPTION	DESIGN INPUT VERIFICATION	COMMENTS