ATTACHMENT 0609.04

INITIAL CHARACTERIZATION OF FINDINGS

1.0 APPLICABILITY

The framework described in this attachment to the Significance Determination Process (SDP) is designed to provide guidance to NRC inspectors and management for use in the initial characterization of safety or security findings within the seven safety cornerstones of the Reactor Oversight Process (ROP).

2.0 ENTRY CONDITIONS

Each finding entering the SDP, regardless of the cornerstone under which it is identified, is by definition a performance deficiency that is "more than minor" as prescribed in Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports." Performance deficiencies that are determined to be "minor" are not findings and therefore not subjected to the SDP.

3.0 OVERVIEW

The initial characterization of findings, as described in this attachment, is designed to perform three functions:

a. Provide an opportunity to the inspector to document all applicable information regarding the finding, and its associated impact on safety or security, in a consolidated format (Table 1).
b. Support the identification of safety cornerstone(s) affected by the degraded condition or programmatic weakness resulting from the finding (Table 2).
c. Direct the inspector to the appropriate SDP appendix of IMC 0609 for further evaluation (Table 3).

4.0 GUIDANCE

Finding Consolidated Information Sheet (Table 1)

The objective of Table 1 is to provide the inspector and management the opportunity to document and review all the supporting information pertaining to a finding in a concise format. Below are detailed descriptions of the table sections to facilitate documentation:

a. Supporting Documentation and References – List the documents used during the inspection process. Examples include, but are not limited to, inspection procedures, plant status, licensee event reports, and condition reports.

   NOTE: If Table 1 is used to document information pertaining to a security finding then the table will have to be properly labeled as Safeguards or Official Use Only - Security Related Information.

b. Clearly Articulated Finding – Describe the identified performance deficiency and the "more than minor" determination in accordance with applicable IMC 0612 guidance. Each finding is treated independently in the SDP.

c. Factual Description of Degraded Condition or Programmatic Weakness – State the facts pertaining to the degraded condition or programmatic weakness without any hypothetical situations, failures, or occurrences. For conditions that involve degraded equipment, include the affected system(s), structure(s), component(s) (SSCs), and/or train(s), to include their associated function(s), and how they impacted safety or security. The Initiating Events, Mitigating Systems, and Barrier Integrity cornerstones primarily deal with degraded conditions. For a programmatic weakness include the affected program(s) and describe how the programmatic weakness impacted safety or security. Other pertinent information to consider are root/apparent/proximate cause evaluations, extent of condition assessments, interdependencies with others systems, perspectives from the licensee, and the duration of the degraded condition or programmatic weakness (i.e., exposure time).

d. Logical link(s) that Connect(s) the Finding to the Degraded Condition or Programmatic Weakness – Clearly articulate the nexus (i.e., logical link(s)) between the inspection finding and the degraded condition or programmatic weakness. The finding should most often be identified as the proximate cause of the degraded condition or programmatic weakness. The determination of cause need not be based on a rigorous root cause evaluation, but rather on a reasonable assessment and judgment of the staff. If the proximate cause of multiple degraded conditions or programmatic weaknesses is the same, there may be just one independent finding provided that the finding is not defined at a level associated with a cross-cutting area as defined in IMC 0310.

Cornerstones Affected by Degraded Condition or Programmatic Weakness (Table 2)

The objective of Table 2 is to support the identification of safety cornerstone(s) affected by the degraded condition or programmatic weakness resulting from the finding. The affected cornerstone(s) may already have been identified previously (e.g., scope of the inspection procedure, inspector experience and knowledge of the ROP); however, Table 2 helps to support this determination. Below is a detailed description to facilitate filling out Table 2:

a. Read through the degraded conditions and programmatic weaknesses listed in all seven cornerstones and check all that are applicable. For the degraded conditions, many of the options are associated with SSCs and events.

b. Review all the checked boxes and determine which cornerstone(s) are affected by the degraded condition or programmatic weakness.

SDP Appendix Router (Table 3)

After the affected cornerstone(s) are identified, use the SDP Appendix Router (Table 3) to facilitate determining the appropriate SDP appendix for further evaluation. If more than one cornerstone was affected and results in direction to more than one SDP appendix, the inspector should identify one SDP appendix for use based on reasonable judgment of the specific situation. If more than one

cornerstone was affected but results in direction to one SDP appendix, the inspector and management should initially identify one cornerstone based on reasonable judgment of the situation. If the finding progresses to a detailed risk evaluation (e.g., Phase 3 analysis), the inspector, regional SRA, and management should reassess the identified cornerstone based on the proportional contribution from each cornerstone to the total risk estimation.

NOTE: If the SDP Appendix Router directs the user to a particular appendix, and upon further evaluation that SDP appendix is not capable of evaluating the finding and associated degraded condition or programmatic weakness, the inspection staff and regional SRA, with support from management as needed, should determine if IMC 0609, Appendix M is an appropriate tool.

5.0 REFERENCES

IMC 0612, “Power Reactor Inspection Reports”

IMC 0310, “Components Within The Cross-Cutting Areas”

IMC 0609, Appendix A, “Significance Determination of Reactor Inspection Findings for At-Power Situations”

IMC 0609, Appendix B, “Emergency Preparedness SDP”

IMC 0609, Appendix C, “Occupational Radiation Safety SDP”

IMC 0609, Appendix D, “Public Radiation Safety SDP”

IMC 0609, Appendix E, “Security SDP for Power Reactors”

IMC 0609, Appendix F, “Fire Protection and Post-Fire Safe Shutdown SDP”

IMC 0609, Appendix G, “Shutdown Safety SDP”

IMC 0609, Appendix H, “Containment Integrity SDP”

IMC 0609, Appendix I, “Operator Requalification, Human Performance”

IMC 0609, Appendix J, “Steam Generator Tube Integrity SDP”

IMC 0609, Appendix K, “Maintenance Risk Assessment and Risk Management SDP”

IMC 0609, Appendix L, “Significance Determination Process for B.5.b”

IMC 0609, Appendix M, “Significance Determination Process Using Qualitative Attributes”

Table 1- FINDING CONSOLIDATED INFORMATION SHEET
Supporting Documentation and References:
Clearly Articulated Finding:
Factual Description of Degraded Condition or Programmatic Weakness:
Logical link(s) that Connect(s) the Finding to the Degraded Condition or Programmatic Weakness:

Table 2 – CORNERSTONES AFFECTED BY DEGRADED CONDITION OR PROGRAMMATIC WEAKNESS

(✔) Check the appropriate boxes

INITIATING EVENTS CORNERSTONE	MITIGATION SYSTEMS CORNERSTONE	BARRIERS CORNERSTONE
❒ A. Primary System LOCA initiator contributor - (e.g., RCS leakage from pressurizer heater sleeves, RPV piping penetrations, CRDM nozzles, PORVs, SRVs, ISLOCA issues, etc.) ❒ B. Transient initiator contributor (e.g., reactor/turbine trip, loss of offsite power, loss of service water, main steam/feedwater piping degradations, etc.) ❒ D. Steam Generator Tube Rupture ❒ E. External Event initiators (limited to fire and internal flooding)	❒ A. Mitigating Systems ❒ Core Decay Heat Removal Degraded ❒ Short Term Heat Removal Degraded ❒ Primary (e.g., Safety Injection –PWR only; main feedwater, HPCI, and RCIC - BWR only) High Pressure–Both Types Low Pressure–Both Types ❒ Secondary - PWR only (e.g. AFW, main feedwater, ADVs) ❒ Long Term Heat Removal Degraded (e.g., ECCS sump recirculation, suppression pool) ❒ B. External Event Mitigation Systems (Seismic/Fire/Flood/Severe Weather Protection Degraded) ❒ C. Reactivity Control Systems Degraded (including Reactor Protection System) ❒ Uncontrolled Control Rod Movement ❒ Inadvertent RCS Dilution or Cold Water Injection ❒ Reactivity Management (e.g. exceed licensed power limit, command and control)	❒ A. RCS Boundary as a mitigator following plant upset (e.g., pressurized thermal shock). **Note**: All other RCS boundary issues, such as leaks, will be considered under the Initiating Events Cornerstone. ❒ B. Reactor Containment Barrier Degraded ❒ Actual Breach or Bypass (Such as leakage past penetrations seals, isolation valves that can contribute to ISLOCA, vent and purge system. Failure of systems/components critical to suppression pool integrity). ❒ Heat Removal, Hydrogen or Pressure Control Systems Degraded ❒ C. Control Room, Aux Bldg/Reactor Bldg, or Spent Fuel Bldg Barrier Degraded ❒ D. Spent Fuel Pool ❒ Maintaining subcritical conditions ❒ Spent Fuel Pool Water Inventory and /or Temperature (i.e., cooling) ❒ Fuel Handling

EMERGENCY PREPAREDNESS CORNERSTONE	OCCUPATION RADIATION SAFETY CORNERSTONE	PUBLIC RADIATION SAFETY CORNERSTONE
❒ Failure to Comply with a Planning Standard or Risk-Significant Planning Standard ❒ Actual Event Implementation Problem	❒ ALARA Planning or Work Controls ❒ Exposure or Over-exposure problem ❒ Ability to Assess Dose Compromised	❒ Radioactive Effluent Release Program ❒ Radioactive Environmental Monitoring Program ❒ Radioactive Material Control Program ❒ Transportation or Part 61
SECURITY CORNERSTONE		
❒ Findings identified under the IMC-2201, Security and Safeguards Inspection Program		

Table 3 – SDP APPENDIX ROUTER

If the finding and associated degraded condition or programmatic weakness is in the licensee's:

1. Emergency Preparedness cornerstone, **STOP. Go to** IMC 0609, Appendix B.

2. Occupational Radiation Safety cornerstone, **STOP. Go to** IMC 0609, Appendix C.

3. Public Radiation Safety cornerstone, **STOP. Go to** IMC 0609, Appendix D.

4. Security cornerstone, **STOP. Go to** IMC 0609, Appendix E.

5. Initiating Events, Mitigating Systems, or Barrier Integrity cornerstones, **CONTINUE** below:

Read sections A thru E and answer the YES or NO questions. If NO is answered to all the questions in sections A thru E, the user is directed to Appendix A.

A. Shutdown, Refueling, and Forced Outages:

Does the finding pertain to operations, an event, or a degraded condition while the plant was shutdown?

NOTE: Appendix G is applicable during refueling, forced, and maintenance outages starting when the licensee has met the entry conditions for RHR and RHR cooling has been initiated and ends when RHR has been secured during plant heat-up.

□ a. **If YES ➛ STOP. Go to** IMC 0609, Appendix G.

□ b. **If NO ➛ Continue**

B. Licensed Operator Requalification:

Does the finding involve the operator licensing requalification program or simulator fidelity?

□ a. **If YES ➛STOP. Go to** IMC 0609, Appendix I.

□ b. **If NO ➛ Continue**

C. Maintenance Rule Risk Assessments:

Does the finding involve the licensee's assessment and management of risk associated with performing maintenance activities under all plant (operating or shutdown) conditions in accordance 10 CFR 50.65(a)(4) and the Baseline Inspection Procedure (IP) 71111.13, "Maintenance Risk Assessment and Emergent Work Control"?

□ a. **If YES ➛STOP. Go to** IMC 0609, Appendix K.

□ b. **If NO ➛ Continue**

D. 10 CFR 50.54(hh)(2) Mitigating Strategies:

Is the finding associated with the mitigating strategies to maintain or restore core cooling, containment, and spent fuel pool cooling?

□ a. **If YES ➛ STOP. Go to** IMC 0609, Appendix L.

□ b. **If NO**, **Continue**

E. Fire Protection:

1. Does the finding involve discrepancies with the fire brigade?

□ a. **If YES ➛ STOP. Go to** IMC 0609, Appendix A.

□ b. **If NO, Continue**

2. Does the finding involve: (1) A failure to adequately implement fire prevention and administrative controls for transient combustible materials, transient ignition sources, or hot work activities? (2) Fixed fire protection systems or the ability to confine a fire? (3) Or affect the ability to reach and maintain safe shutdown conditions in case of a fire?

□ a. **If YES ➛ STOP. Go to** IMC 0609, Appendix F.

□ b. **If NO ➛ STOP. Go to** IMC 0609, Appendix A.

Attachment 1 – Revision History for MC 0609.04

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Training Required and Completion Date	Comment and Feedback Resolution Accession Number
N/A	ML063060347 01/10/08 CN 08-002	Revision History reviewed for last four years. IMC0609 Attachment 4 has been created to remove Phase 1 - Characterization and Initial Screening of Findings of the significance determination process (SDP) from IMC0609 Appendix A - At Power.	NO	ML073460588
N/A	ML101400531 06/19/12 CN 12-010	Removed the Phase 1 screening criteria pertaining to the Initiating Events, Mitigating Systems, and Barrier Integrity cornerstones and placed the screening criteria in IMC 0609, Appendix A. Revised Table 1 so it is applicable to all cornerstones. Updated Table 2 to add some more items to the Reactor Safety Performance area. Revised Table 3 to clarify which SDP appendices are applicable given the cornerstones of interest and details of the finding. Incorporated feedback from ROPFF 0609.04-1458, 0609.04-1372, and 0609.04-1678. This is a complete reissue no red line.	Senior Reactor Analysts and headquarters staff provided detailed instructor-led training to resident inspectors, region based inspectors, and other regional staff. June 2012	ML110240265 Closed FBF: 0609.04-1372 ML12171A239 0609.04-1678 ML12171A241