



## Environmental Management Consolidated Business Center Ash Fall Project

Corrective Actions

Procedure: AFP-AP-19  
Revision 0, 12/20/15

### Corrective Actions

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**Revision: 0**

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## 1.0 PURPOSE

The purpose of this procedure is to establish responsibilities and processes for Conditions Adverse to Quality (CAQs) and Significant Conditions Adverse to Quality (SCAQs) identified in activities related to the Ash Fall Project supporting the Office of River Protection (ORP) Program. This procedure also establishes the processes for initiating, evaluating, verifying and closure of Corrective Actions Reports (CARs).

## 2.0 SCOPE

The scope of this procedure is to identify and process to closure CARs associated with the Department of Energy Environmental Management Consolidated Business Center (EMCBC) Ash Fall Project supporting the Office of River Protection (ORP) Program.

The EMCBC Assistant Director, Office of Technical Support and Asset Management or designee and ORP Lead Engineer or designee are responsible for developing and fostering an environment in which continuous improvement is a fundamental and integral part of the mission and daily conduct. Management at all levels shall foster a “No Fault” attitude to encourage the identification of conditions adverse to quality.

## 3.0 APPLICABILITY

This procedure applies to EMCBC personnel and contractors that participate in Ash Fall Project activities supporting the ORP Program.

## 4.0 REQUIREMENTS and REFERENCES

### 4.1 Requirements

4.1.1 EM-QA-001, *EM Quality Assurance Program (QAP)*

4.1.2 ASME NQA-1-2008/2009a, *Quality Assurance Requirements for Nuclear Facility Applications*

### 4.2 References

4.2.1 AFP-QAPP-01, *Quality Assurance Project Plan (QAPP)*

4.2.2 AFP-AP-01, *Personnel Qualification and Training*

4.2.3 AFP-AP-20, *Quality Assurance Records*

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4.2.4 SAP-OTSAM-414C-05, *Stop Work Procedure*

## 5.0 DEFINITIONS and ACRONYMS

- 5.1 **Condition Adverse to Quality (CAQ)** – An all-inclusive term used in reference to any of the following: failures, malfunctions, deficiencies, defective items, and nonconformances.
- 5.2 **Significant Condition Adverse to Quality (SCAQ)** – A condition adverse to quality that, if uncorrected, could have a serious effect on safety, operability, or the ability to isolate waste. Significant conditions adverse to quality include, but are not limited to (1) loss, or potential loss, of a safety or waste-isolation function to the extent that there is a reduction in the degree of protection provided to the public health and safety; (2) loss, or potential loss, of a safety or waste-isolation function to the extent that there is a reduction in the degree of protection provided for worker safety; (3) common-cause failures; and (4) any adverse quality trends. Additionally, repetitive conditions that are less significant but when taken collectively (1) indicate programmatic failure to properly implement the QA program, (2) may be precursors for a significant technical deficiency or problem or, (3) may reduce the margin of safety are considered to be significant conditions adverse to quality.

## 6.0 RESPONSIBILITIES

- 6.1 EMCBC Assistant Director, Office of Technical Support and Asset Management or designee.
- 6.1.1 Responsible for issuance of the CARs.
- 6.1.2 Responsible for assigning unique identifier and for tracking, and ensuring timely responses and closure.
- 6.2 QA Lead for the Ash Fall Project.
- 6.2.1 Responsible for assignment of the Quality Assurance Representative (QAR).
- 6.2.2 Responsible for numbering CARs.
- 6.2.3 Responsible for receiving and processing CARs and ensuring compliance with this procedure.
- 6.2.4 Responsible for CAR trending, (if applicable).

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## 6.3 QAR

- 6.3.1 Responsible for recommendation of issuance of CARs
- 6.3.2 Responsible for the determination of CAR significance.
- 6.3.3 Responsible for the determination if a Stop Work Order (SWO) is required.
- 6.3.4 Responsible for evaluating and verifying completion and effective implementation of corrective actions for CARs.
- 6.3.5 Responsible for evaluating and documenting any identified trends based on a periodic review of issued CARs throughout the Ash Fall Project.

## 6.4 Initiator

- 6.4.1 Individuals working on Ash Fall Project activities responsible for identifying and reporting conditions that could affect quality.

## 6.5 ORP Engineering Lead

- 6.5.1 Coordinates the development and completion of corrective action plans for CARs.

## 6.6 EMCBC Coordinator, Office of Technical Support and Asset Management

- 6.6.1 Responsible for maintaining QA Records associated with this procedure.

## 7.0 GENERAL INFORMATION

None.

## 8.0 PROCEDURE

8.1 This procedure describes the following corrective action process:

Step 1 – Initiation and issuance of a Corrective Action Report – Part I

Step 2 – Response to a Corrective Action Report – Part II

Step 3 – Response Evaluation of a Corrective Action Report – Part III

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Step 4 – Verification and Closure of a Corrective Action Report – Part III

Step 5 – Trending.

- 8.2 CAQ are documented in CARs and reported to the appropriate level of management responsible for the condition. Phases of the CAR process are documented using the following forms:

CAR Phase    CAR Form Name

Initiation      Form 19-1, *Corrective Action Report – Part I*

Response      Form 19-2, *Corrective Action Report – Part II*

Verification    Form 19-3, *Corrective Action Report – Part III*

- 8.3 Initiation and issuance of a Corrective Action Report – Part I:

8.3.1 The Initiator should begin the CAR process as soon as practical once a CAQ is identified and begin documentation of the CAR Part I (Form 19-1).

8.3.2 The Initiator shall contact the QA Lead to obtain a CAR number using the instruction for Form 19-1.

8.3.3 The QA Lead shall assign a QAR and a number to the CAR and communicate that information to the initiator to be included on Form 19-1.

8.3.4 The QAR shall be qualified to perform these functions per AFP-AP-01, *Personnel Qualification and Training*.

8.3.5 The initiator shall identify and describe the CAQ or SCAQ in detail, outlining out how the condition fails to conform to procedures, test plans, etc. This includes the identification of the responsible Ash Fall Project staff that was notified of the CAR, the Responsible Organization.

8.3.6 The Initiator shall print name, sign and date Form 19-1.

8.3.7 The Initiator shall forward the CAR to the QAR.

8.3.8 The QAR shall determine if the adverse condition meets the definition of 5.1 of this procedure to consider categorizing it as a SCAQ. In addition, the

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QAR shall determine whether or not the SCAQ warrants issuance of a Stop Work Order (SWO).

8.3.9 If a SWO is necessary, the QAR shall contact the DOE EMCBC Assistant Director, Office of Technical Support and Asset Management or designee and ORP Engineering Lead to initiate the SWO in accordance with the procedure SAP-OTSAM-414C-05, *Stop Work Procedure*.

8.3.10 The QAR shall assign the Response Due Date.

8.3.11 The QAR shall review CAR form for correctness and completeness and sign and date Form 19-1.

8.3.12 The QAR shall forward the CAR to the ORP Engineering Lead or designee for issuance to the Responsible Manager.

## 8.4 Response to a Corrective Action Report – Part II:

8.4.1 The responsible Ash Fall Project staff shall record the CAR Number on the top of the Form 19-2, *Corrective Action Report (CAR) Part II*.

8.4.2 The responsible Ash Fall Project staff documents the extent and impact of the CAQ.

8.4.3 If the condition is an SCAQ, the responsible Ash Fall Project staff shall document the root cause of the condition using the condition codes provided in Form 19-2. Evidence of the root cause, analysis method used, and qualifications and the training of the individual(s) who performed the root cause analysis shall be attached to the form.

8.4.4 The responsible Ash Fall Project staff shall then document the Proposed Remedial Action(s), Person(s) Responsible to Complete, and Proposed Completion Date.

8.4.5 The responsible Ash Fall Project staff shall then document the Action(s) to Prevent Recurrence, Person(s) Responsible to Complete, and Proposed Completion Date.

8.4.6 The responsible Ash Fall Project staff shall sign and date the CAR then submit the form to the QA Lead.

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- 8.4.7 If the responsible Ash Fall Project staff cannot complete the corrective actions as planned by the due date, then the responsible Ash Fall Project staff shall provide an Extension Request in writing to the QA Lead prior to the due date of the corrective actions.
- 8.5 Response Evaluation of a Corrective Action Report – Part III:
  - 8.5.1 The QA Lead shall forward a copy of the CAR Part II (Form 19-2) to the QAR for evaluation.
  - 8.5.2 The QAR shall document the evaluation of the proposed response and determine if the proposed response is adequate to resolve the CAQ. If any of the proposed corrective actions listed on the CAR Part II are unacceptable to the QAR, the QAR shall document the proposed response as “rejected” and provide justification on the CAR Part III (Form 19-3).
  - 8.5.3 The QAR shall sign and date the CAR Part III (Form 19-3) and forward it to the EMCBC Assistant Director, Office of Technical Support and Asset Management or designee for distribution back to the responsible Ash Fall Project staff.
  - 8.5.4 For rejected CAR Part IIs, the responsible Ash Fall Project staff shall address the justification for rejection on a new CAR Part II (Form 19-2) in accordance with Section 8.4 of this procedure.
- 8.6 Verification and Closure of a Corrective Action Report – Part III:
  - 8.6.1 When all approved corrective actions have been completed, the responsible Ash Fall Project staff shall notify the QAR that corrective action verification is needed.
  - 8.6.2 The QAR shall evaluate and verify completion and effective implementation of the corrective actions for the CAR. The QAR shall document this verification on Form 19-3. If results of the verification are unsatisfactory, the QAR shall document the reasons for the unsatisfactory verification on Form 19-3.
  - 8.6.3 For satisfactory verification, the QAR shall sign and date Form 19-3 and forward the form to the EMCBC Assistant Director, Office of Technical Support and Asset Management or designee. The EMCBC Assistant Director, Office of Technical Support and Asset Management or designee shall approve CAR closure and notify the responsible Ash Fall Project staff.

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For unsatisfactory verification, the EMCBC Assistant Director, Office of Technical Support and Asset Management or designee shall distribute the unsatisfactory results as documented on Form 19-3 to the responsible Ash Fall Project staff.

- 8.6.4 For unsatisfactory verification, of corrected action(s), the responsible Ash Fall Project staff shall address the reason(s) for rejection as documented on Form 19-3 and start the process of re-verification starting at Section 8.4.

## 8.7 Tracking

- 8.7.1 The EMCBC Assistant Director, Office of Technical Support and Asset Management or designee shall be responsible for assigning unique CAR identifiers and for tracking the issues from initiation through timely responses and closure. This will be accomplished with the development of a Corrective Action Tracking List that includes at a minimum:

- unique number assigned,
- date initiated,
- response due date,
- response accepted date,
- corrective action due date,
- corrective action completion date,
- verified date,
- closure date.

## 8.8 Trending

- 8.8.1 The QA Lead shall evaluate CARs and other reports of noncompliance and identify any adverse trends at a frequency that provides for identification of adverse quality trends.

- 8.8.2 The QA Lead shall distribute trend evaluations to the appropriate Ash Fall Project management for review and appropriate action.

## 9.0 RECORDS

- 9.1 The following are considered Lifetime QA Records and shall be submitted by the EMCBC Coordinator to records in accordance with AFP-AP-20, *Quality Assurance Records*:

- 9.1.1 Form 19-1, *Corrective Action Report – Part I*

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9.1.2 Form 19-2, *Corrective Action Report – Part II*

9.1.3 Form 19-3, *Corrective Action Report – Part III*

9.1.4 Extension Requests

9.1.5 Supporting Documentation (e.g., Root Cause Documentation)

9.2 The following are considered Nonpermanent QA Records:

9.2.1 Trend Analysis Report

9.3 The following are not considered QA Records:

9.3.1 Correspondence transmitting CARs, their evaluations, and their closures between the EMCBC Assistant Director, Office of Technical Support and Asset Management or designee and the responsible Ash Fall Project staff.

## 10.0 FORMS USED

Form 19-1 – Corrective Action Report – Part I

Form 19-2 – Corrective Action Report – Part II

Form 19-3 – Corrective Action Report – Part III

## 11.0 ATTACHMENTS

None.

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<b>Ash Fall Project AFP-AP-19</b>	<b>Corrective Action Report (CAR) Part I</b>	Form Number 19-1 Page ____ of ____
<b>1. CAR Number:</b>		<b>2. Audit/Surveillance No.:</b>
<b>3. Name of Responsible Ash Fall Project Staff Notified:</b>		<b>4. Responsible Organization:</b>
<b>5. Requirement or Basis for Unsatisfactory Condition:</b>		
<b>6. Condition Description:</b>		
<b>7. Initiator:</b>		
_____	_____	_____
Print Name	Signature	Date
<b>8. Significant Condition:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>9. Stop Work Order Required:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>10. Response Due Date:</b>
<b>11. QAR Recommendation for Issuance:</b>		
_____	_____	_____
Print Name	Signature	Date
<b>12. EMCBC Assistant Director Approval for Issuance:</b>		
_____	_____	_____
Print Name	Signature	Date

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## Form Number 19-1 – CAR Part I Instructions

1. The Initiator contacts the QA Lead to obtain the CAR number (Block 1) via the following naming convention:
  - a. Last two digits of the current fiscal year, (e.g., 15-, 16-, 17-, etc.)
  - b. Adverse condition designator:  
CAQ for a Condition Adverse to Quality, (e.g., CAQ-)  
SCAQ for a Significant Condition Adverse to Quality, (e.g., SCAQ-)
  - c. Sequential number based on fiscal year and starting with the number one (e.g. 15-SCAQ-001).
2. The Initiator identifies the Audit or Surveillance Number associated with the CAR. If the CAR was not identified as the result of an Audit of Surveillance, mark “N/A” as appropriate.
3. The Initiator identifies the Ash Fall Project staff responsible for ensuring that corrective actions are planned and implemented before requesting verification for closure.
4. The Initiator identifies the organization responsible for planning and implementing the corrective actions.
5. The Initiator identifies the requirement (e.g., EM-QA-001, implementing document) or basis for unsatisfactory condition in sufficient detail to be traceable.
6. The Initiator describes the adverse condition in sufficient detail to be understood by the QAR. If the adverse condition addresses multiple adverse conditions, provide a summary statement. Supporting observations or discussions should provide sufficient detail to allow identification of the affected work.
7. The Initiator prints name, signs and dates.
8. The QAR determines and identifies if the condition adverse to quality is significant.
9. If the condition adverse to quality is significant, the QAR determines and identifies if a Stop Work Order (SWO) is required.
10. The QAR specifies the due date for the response (i.e., the corrective action plan).
11. The QAR reviews the CAR, prints name, signs and dates signifying recommendation for issuance of the CAR
12. The EMCBC Assistant Director or designee reviews and approves the CAR by printing name, signing and dating this block.

**NOTE:** Page numbers are assigned by the EMCBC Coordinator after submission of the entire CAR Records Package.

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<b>Ash Fall Project AFP-AP-19</b>	<b>Corrective Action Report (CAR) Part II</b>	Form Number 19-2 Page ____ of ____
<b>13. CAR Number:</b>		
<b>14. Extent of Condition(s):</b>		
<b>15. Impact(s):</b>		
<b>16. Cause(s):</b>		
<b>17. Proposed Remedial Action(s):</b>		
<b>18. Action(s) to Prevent Recurrence:</b>		
<b>19. Proposed Completion Date:</b>		
<b>20. Responsible Ash Fall Project Staff:</b>		
_____	_____	_____
Print Name	Signature	Date

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## **Form Number 19-2 – CAR Part II Instructions**

13. The Responsible Ash Fall Project Staff copies the CAR Number from the form of the CAR Part I.
14. The Responsible Ash Fall Project Staff evaluates and identifies the extent of the CAQ.
15. The Responsible Ash Fall Project Staff identifies the impact of the CAQ on completed or ongoing work activities or products.
16. For SCAQs, the Responsible Ash Fall Project Staff identifies the root cause using causal codes attached from DOE O 232.2. Individuals performing root cause analysis shall be trained and qualified in the method used for the analysis. Root cause analysis documentation will include identifying the method used, analysis, results, names, and signatures of individuals who performed the analysis and submitted the response. The analysis will clearly describe the significant condition adverse to quality and will adequately describe the root causes to support the identification of the correction action. Attach the root cause documentation to the response. This is not optional for SCAQs.

For CAQs and at the discretion of the Responsible Ash Fall Project Staff, the Responsible Ash Fall Project Staff describes the apparent cause for the adverse condition (i.e., Inadequate training of personnel, Procedures were inadequate, Assumptions were invalid, etc.). No further documentation is required.

17. Responsible Ash Fall Project Staff identifies the proposed remedial actions.
18. Responsible Ash Fall Project Staff documents actions to prevent recurrence of the identified causes for the adverse condition. This is not optional for SCAQs.
19. Responsible Ash Fall Project Staff identifies the proposed completion date for the remedial actions and actions to preclude recurrence.
20. Responsible Ash Fall Project Staff prints name, signs, and dates and forwards response to the QAR.

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## **CAR Part II Causal Codes**

### **A1 Design/Engineering Problem**

- B1 DESIGN INPUT Less Than Adequate (LTA)
- B2 DESIGNOUTPUT LTA
- B3 DESIGN/DOCUMENTATION LTA
- B4 DESIGN/INSTALLATION VERIFICATION LTA
- B5 OPERABILITY OF DESIGN/ENVIRONMENT LTA

### **A2 Equipment/Material Problem**

- B1 CALIBRATION FOR INSTRUMENTS LTA
- B2 PERIODIC/CORRECTIVE MAINTENANCE LTA
- B3 INSPECTION/TESTING LTA
- B4 MATERIAL CONTROL LTA
- B5 PROCUREMENT CONTROL LTA
- B6 DEFECTIVE, FAILED OR CONTAMINATED

### **A3 Human Performance LTA**

- B1 SKILL BASED ERROR
- B2 RULE BASED ERROR
- B3 KNOWLEDGE BASED ERROR
- B4 WORK PRACTICES LTA

### **A4 Management Problem**

- B1 MANAGEMENT METHODS LTA
- B2 RESOURCE MANAGEMENT LTA
- B3 WORK ORGANIZATION & PLANNING LTA
- B4 SUPERVISORY METHODS LTA
- B5 CHANGE MANAGEMENT LTA

### **A5 Communications LTA**

- B1 WRITTEN COMMUNICATIONS METHOD OF PRESENTATION LTA
- B2 WRITTEN COMMUNICATION CONTENT LTA
- B3 WRITTEN COMMUNICATION NOT USED
- B4 VERBAL COMMUNICATION LTA

### **A6 Training Deficiency**

- B1 NO TRAINING PROVIDED
- B2 TRAINING METHODS LTA
- B3 TRAINING MATERIAL LTA

### **A7 Other Problem**

- B1 EXTERNAL PHENOMENA
- B2 RADIOLOGICAL/HAZARDOUS MATERIAL PROBLEM

**From**

**DOE O 232.2, Occurrence Reporting and Processing of Operations Information**

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<b>Ash Fall Project AFP-AP-19</b>	<b>Corrective Action Report (CAR) Part III</b>	Form Number 19-3 Page ____ of ____
<b>21. CAR Number:</b>		
<b>22. Response Evaluation:</b>		
<b>23. Date Response Received:</b>	<b>24. Date Evaluated:</b>	<b>25. Accept or Reject:</b>
<b>26. Comments if Rejected:</b>		
<b>27. QAR Recommendation for CAR Part II Disposition (see block 25):</b>		
_____	_____	_____
Print Name	Signature	Date
<b>28. Results of Verification:</b>		
<b>29. QAR Recommendation for CAR Disposition (see block 28):</b>		
_____	_____	_____
Print Name	Signature	Date
<b>30. EMCBC Assistant Director:</b>		
_____	_____	_____
Print Name	Signature	Date

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## **Form Number 19-3 – CAR Part III Instructions**

21. The QAR copies the CAR Number from the form of the CAR Part I.
22. The QAR documents the evaluation of the response.
23. The QAR records the date the response was received by the QA Lead from the Responsible Ash Fall Project Staff.
24. The QAR records the date of the completion of the response evaluation.
25. The QAR documents acceptance or rejection of the response by printing either “Accept” or “Reject”.
26. If the action is rejected, the QAR documents the justification for rejecting the response.
27. The QAR then prints name, signs, and dates the evaluation.
28. The QAR documents the results for the verification of the closure package for the CAR. The QAR indicates whether the CAR is ready for closure or the reasons why it must remain open.
29. The QAR prints, signs, dates to recommend the disposition of the CAR.
30. The EMCBC Assistant Director or designee prints name, signs, and dates to approve the disposition of the CAR.

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**Form 12-1 – Record of Revision**

DOCUMENT: AFP-AP-19, *Corrective Actions*

Revision Number	Description of Changes	Revision on Pages	Effective Date
0	Initial Issue	All	12/20/2015