



Callaway
Energy Center

EDP-ZZ-04024

CONFIGURATION CONTROL

ADMINISTRATIVE CORRECTION Revision 032

CONFIGURATION CONTROL

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CONFIGURATION CONTROL

1.0 PURPOSE

This procedure provides administrative controls for preparation, revision, control and issuance of design and As-Built documents through Configuration Control and is used to ensure Callaway Energy Center is meeting the requirements of ANSI N45.02.11. [Ref: 5.2.2]

2.0 SCOPE

This procedure covers preparation, review and approval of Architect/Engineer (A/E) or Engineering design documents, submitted to Configuration Control, which affect changes to structures, systems, and components (SSCs) at Callaway Energy Center.

3.0 RESPONSIBILITIES

3.1. Director, Engineering Design

- 3.1.1. Establishes and maintains a design change program that ensures configuration is maintained. This includes development and maintenance of policies and programs to ensure a coordinated effort resulting in documentation and databases that accurately depict plant design.
- 3.1.2. Maintains the Configuration Control Program as outlined in this procedure. This program ensures accurate development of design change drawings and accurate, timely incorporation of design changes into controlled drawings.

3.2. Supervising Engineer, Configuration Management

- 3.2.1. Establishes procedures, policies and programs to manage development of Engineering Change Package drawings and control incorporation of design changes into controlled drawings. [Ref: 5.2.2]
- 3.2.2. Provides oversight regarding simple corrections to drawings to reflect proper drafting standards. [Ref: 5.2.6]

3.3. Manager, Nuclear Administration

Executes instructions concerning document revisions from Nuclear Engineering for maintenance of Callaway Electronic Data Management System (EDMS).

3.4. Supervisor, Record Management System

Ensures incorporation of design changes into text documents and vendor manuals listed as controlled documents in Callaway EDMS.

3.5. Responsible Engineer

- 3.5.1. Determines when new drawings or revisions to existing drawings are required for an Engineering Change Package (ECP), consisting of Modification Packages (MPs) and Requests For Resolution (RFRs), per criteria established by the Callaway Plant As-Built Manual.
- 3.5.2. Ensures procurement documents establish criteria for quality, type of media and file formats of vendor drawings supplied to Ameren Missouri.
- 3.5.3. Ensures drawings received from outside organizations are reviewed and processed per EDP-ZZ-04021, Review of Supplier Documents, prior to being submitted to Configuration Management for processing.
- 3.5.4. Ensures all drawings submitted with a package meet the requirements of this procedure.
- 3.5.5. Responsible Engineer or Construction Supervisor notifies the Supervising Engineer, Configuration Management when design changes per MPs, CRs and RFRs are to be incorporated into controlled drawings.

-END OF SECTION-

4.0 PROCEDURE INSTRUCTIONS

NOTE

All drawings and manuals are processed with a Callaway Director Change Request and associated Work Orders.

4.1. ECP Drawings, Ameren Missouri Format

- 4.1.1. DEVELOP ECP drawings as either new drawings (i.e., first-time issue), revised existing drawings, OR as Engineering Change Notices (ECNs) against existing drawings (Refer To Attachment 1). These drawings are developed or revised to become part of the package.
- 4.1.2. DEVELOP ECP drawings using Computer Aided Drafting (CAD) software approved by the Supervising Engineer, Configuration Management.
- 4.1.3. ASSIGN a drawing number to each drawing per Section 4.5.

4.2. ECP Drawings, Vendor Format

NOTE

Electronic copies are preferred. Electronic copies of drawings will be in a CAD format approved by the Supervising Engineer, Configuration Management.

- 4.2.1. *Responsible Engineer*- ENSURE procurement documents require vendor to provide copies of all drawings to be incorporated into Callaway EDMS (Refer To Attachment 2). [Ref: 5.2.10]
- 4.2.2. ASSIGN a drawing number to each vendor document per Section 4.15.
- 4.2.3. To develop ECP drawings from vendor format drawings, Go To Section 4.3.

4.3. ECP Drawings, Existing Drawing Format

- 4.3.1. CONVERT latest, released drawing revision to an approved electronic format (IF necessary), prior to developing ECP drawing.
- 4.3.2. ENSURE latest, released drawing revision (electronic format file) is obtained by checking against Callaway EDMS. [Ref: 5.2.2]

- 4.3.3. DEVELOP ECP drawings of existing controlled drawings from copies of the latest, released drawing revision electronic format files (Refer To Attachment 3).

NOTE

ECP drawings and ECNs will be initially issued as Revision (Sequence) 0, UNLESS an ECP drawing is superceding an ECN, OR an ECN is voiding an ECP drawing.

- 4.3.4. PERFORM each item listed below to initially develop an ECP drawing:

- LINE through As-built and Class 1 designations (IF applicable).
- LINE through drawing number and revision number (EXCEPT General Electric drawings).
- CROSS OUT previous revision blocks.
- ADD ECP drawing number as indicated in Section 4.5.
- ADD appropriate Ameren Missouri revision block for signatures.
- REMOVE previous revision bubbles (clouds) and revision triangles.
- INCORPORATE changes onto drawing.
- MARK areas of drawing changed with revision bubbles (clouds).
- ATTACH revision triangle (Δ) to revision bubble.
- ADD ECP revision (Sequence) number inside revision triangle.
- SUBMIT drawing to assigned checker.
- WHEN checked, SUBMIT drawing to Responsible Engineer for approval.
- WHEN approved, ADD initials and date to revision block.
- ISSUE ECP drawing to package.
- FILE electronic ECP drawing in appropriate storage location.

4.4. ECP Drawings, Color Format

- 4.4.1. SELECT ECP drawings to be submitted in “color” format (determined by Design Engineer and Supervising Engineer, Configuration Management).
- 4.4.2. DEVELOP color format ECP drawings to enhance modification “Area of Change”.
- 4.4.3. ENSURE color format ECP drawings conform to Section 4.3.4.
- 4.4.4. PLACE a legend near title block, defining each color used.
- 4.4.5. ENSURE color format ECP drawings produce a discernible “Area of Change” when reproduced in black/white copy.

4.5. ECP Drawing Numbers

4.5.1. NUMBER ECP drawing by combining (in order) the following:

- a. ECP number
- b. Controlled (parent) drawing number
- c. Sheet number (IF part of unique identifier of parent drawing)
- d. Latest, released parent drawing revision number
- e. Sequence number (sequence number serves as revision number of ECP drawing and begins with zero)

4.5.2. ENSURE ECP drawing number format is similar to examples shown:

- 97-1001-8374D65-S009-002-000
- 06-0035-M-22AB01-014-002
- 10-0032-AL01-C004-135-006-000
- 160246-M-23AN02-006-000

4.6. ECP Drawing Revisions

4.6.1. PERFORM revisions to ECP drawings on original ECP electronic drawing file.

NOTE

Previous ECP revision bubbles, ECP revision triangles and ECP revision blocks remain on updated ECP drawing revision, EXCEPT for legibility concerns.

4.6.2. PERFORM each item listed below to revise a previously issued, current ECP drawing:

- ADD appropriate Ameren Missouri revision block denoting reason for change and next consecutive sequential revision (Sequence number).
- CHANGE Sequence number of ECP drawing number to next consecutive sequential number.
- INCORPORATE changes onto drawing.
- MARK areas of drawing changed with revision bubbles (clouds).
- ATTACH revision triangle (Δ) to revision bubble.
- ADD appropriate Sequence number inside revision triangle.
- SUBMIT drawing to assigned checker.
- WHEN checked, SUBMIT drawing to Responsible Engineer for approval.
- WHEN approved, ADD initials and date to revision block.
- ISSUE ECP drawing to package.
- FILE electronic ECP drawing in appropriate storage location.

4.6.3. ENSURE a revision to an ECP drawing supersedes the previous revision (sequence) of the ECP drawing.

4.6.4. At drafter's option, USE the latest released revision of original controlled drawing electronic drawing file to revise (essentially, create) an ECP drawing IF all ECP changes shown on latest approved revision (sequence) of ECP drawing have been incorporated into the controlled drawing and ECP changes have been completed in Callaway EDMS.

4.6.5. IF drafter opts to use latest released revision of original controlled drawing electronic file to revise (i.e., create a "new") ECP drawing, Go To Step 4.3.4.

4.7. ECP Drawings, ECN Format**NOTE**

ECN drawings involving changes to existing controlled drawings are typically developed by electronically copying a portion of an existing controlled drawing onto an ECN form and indicating the necessary changes. Markup drawings may be used in lieu of an ECN upon agreement with Configuration Management. Refer To Section 4.8 for drawing markup general requirements.

4.7.1. DEVELOP ECN drawing by using CA4610, Engineering Change Notice form.

4.7.2. PERFORM EACH of the following to develop an ECN drawing:

- INITIAL and DATE form, as appropriate.
- MARK appropriate check box (YES or NO) IF the ECN drawing affects a Class 1 drawing.
- NUMBER ECN drawings following same format as ECP drawings, Section 4.5.
- NUMBER each page of ECN drawing (including attachments) with ECN drawing number and page number.
- REMOVE previous controlled drawing revision bubbles (clouds) and revision triangles (IF any).
- MARK areas of ECN drawing changed with revision bubbles (clouds).
- ATTACH notation “AREA OF CHANGE” to revision bubbles.
- ADD controlled drawing zone affected by ECN changes, unless “AREA OF CHANGE” is apparent when viewing ECN and/or controlled drawing.
- SUBMIT drawing to assigned checker.
- WHEN checked, SUBMIT drawing to Responsible Engineer for approval.
- WHEN approved, ADD initials/PIN (as appropriate) and date.
- ISSUE ECN (including attachments) to package.

NOTE

Supplementing a previously issued, current ECN is NOT allowed.

4.7.3. WHEN revising a previously issued, current ECN, SUPERSEDE current ECN with next sequence of ECN.

- 4.7.4. USE an ECN to void or supersede controlled drawings, ECP drawings, or other ECNs which exist in Callaway EDMS.

NOTE

After an ECN is approved per the following step, electronic initials and date are allowed on the issued version of the ECN. Any subsequent revisions to the ECN must also be hard copy initialed and dated (approved) by the Responsible Engineer.

- 4.7.5. Prior to issuing an ECN as part of an ECP, ENSURE Responsible Engineer has initialed and dated the ECN hardcopy, signifying approval.
- 4.8. Drawing Markup General Requirements
- 4.8.1. IF desired, USE CAD product approved by Supervising Engineer, Configuration Management, to produce drawing markup.
- 4.8.2. Clearly IDENTIFY the number and revision of the parent drawing.
- 4.8.3. INCLUDE modifying document number on the drawing markup.
- 4.8.4. Clearly IDENTIFY change being made (preferably in red) by bubbling areas of change and INCLUDE text “area of change” on the drawing markup.
- 4.8.5. ENSURE drawing markup is discernible on black and white reproduced copies.
- 4.8.6. INCLUDE initials/PIN/date of Responsible Engineer on drawing markup.
- 4.9. Equipment Permanently Removed from Service
- 4.9.1. On Class 1 drawings:
- a. REVISE drawing per Step 4.11.1.
 - b. REMOVE equipment and items designated as “Permanently Removed from Service” from Class 1 drawings.

- 4.9.2. On non-Class 1 drawings:
- a. REVISE drawing per Step 4.11.1.
 - b. PERFORM each item listed below:
 - ADD a revision bubble around items designated as Permanently Removed from Service
 - PLACE a wide spaced hatch inside bubble
 - ADD note (with hatch symbol) as shown in Attachment 4

NOTE

Areas found within bubbled and hatched region of drawing are excluded from the As-Built program.

- 4.9.3. WHEN planning work which interfaces with Permanently Removed from Service equipment, CHECK configuration of regions affected.

4.10. Changes Outside the Engineering Change Program

- 4.10.1. Changes NOT requiring an RFR are identified in APA-ZZ-00604, Requests for Resolution.
- a. PERFORM these changes in accordance with APA-ZZ-00500, Corrective Action Program. Examples include but are NOT limited to:
 - Changes in the drawing title block
 - Clarification of general notes
 - Changes to “go to drawings or zone” symbols or verbiage
 - Changes to normal valve positions on Plant Piping and Instrumentation Diagrams (P & ID) made in Callaway Director per a Change Request. [Ref: 5.2.3, 5.2.4]
- 4.10.2. DOCUMENT changes to controlled documents or components that are NOT considered engineering changes in accordance with APA-ZZ-00500, Corrective Action Program.
- 4.10.3. *CR Originator:* INCLUDE documents used to support change determination in the CR.
- 4.10.4. *CR Originator:* ASSIGN CR Lead to Supervising Engineer, Configuration Management, or designee for disposition.

4.11. As-Built Document Development

- 4.11.1. UPDATE and ISSUE drawings through Configuration Management group to reflect As-Built Configuration of the plant per ECPs, Temporary Modifications (TMs), CRs, etc. (Refer To Attachment 5.) [Ref: 5.2.2, 5.2.8]
- a. PROCESS and SEND Class 1 drawings released on MP completion notices to Administration in a timely manner so copies are received by Control Room within 24 hours of sign-off of Modification Package completion notice (Refer To EDP-ZZ-04100, Review, Planning, Implementation and Closure of Modification Packages).
 - b. WHEN 24 hour commitment can NOT be met, or system manipulation is desired before 24 hour limit, REDLINE (mark up) affected Class 1 hard copy drawings in Control Room, Operations Field Office, WPA writer area (Refer To EDP-ZZ-04100, Review, Planning, Implementation and Closure of Modification Packages).
 - c. REVISE Class 1 drawings affected by installation or removal of Temporary Modifications within 5 working days of restoration of effected SSCs to service. (Refer To APA-ZZ-00605, Temporary System Modifications).
 - d. REVISE Class 1 drawings affected by CRs within 90 days of Work Order submittal, as deemed appropriate by Supervising Engineer, Configuration Management.
 - e. REVISE non-Class 1 drawings (typically referred to as Class 2 drawings) identified on completion notifications to reflect changes resulting from ECPs within 90 days or as deemed appropriate by Supervising Engineer, Configuration Management. [Ref: 5.2.5]
 - f. PERFORM all drawing updates on electronic drawing files (CAD, including scanned images).
 - g. CONTROL electronic drawing files with processes established by Supervising Engineer, Configuration Management.
 - h. REMOVE (to extent practical) all construction type notes and references (e.g., “new”, “existing”, “By Contractor”, etc.) from controlled drawings prior to issuing to Document Control.
 - i. Except for Westinghouse NSSS scope drawings (which use the next revision number of the document), ISSUE “first time issued” controlled drawings as Revision 0, including an “Initial Issue per (issuing document)” reference in the revision block.
 - j. PLACE an AS-BUILT stamp near title block on all drawings maintained in accordance with As-Built criteria established by Callaway Plant As-Built Manual.

Step 4.11.1 Cont'd**NOTE**

Westinghouse NSSS drawings were NOT originally developed using Bechtel As-Built criteria and are NOT flagged as As-Built. This does NOT imply that Westinghouse drawings do NOT reflect field conditions, only that Bechtel As-Built criteria was NOT used by Westinghouse. Westinghouse NSSS drawings are now maintained per Callaway Plant As-Built Manual.

- k. ISSUE drawings NOT maintained As-Built with “Letter” revisions and/or a note stating the drawing is NOT maintained As-Built.
- l. PLACE a CLASS 1 stamp near title block on all drawings listed as Class 1 in Callaway EDMS.
- m. REVISE As-Built controlled drawings by performing the following:
 - ADD/UPDATE appropriate revision block for signatures.
 - REMOVE previous revision bubbles (clouds) and revision triangles.
 - INCORPORATE changes onto drawing.
 - UPDATE drawing revision number.
 - MARK areas of drawing changed with revision bubbles (clouds).
 - ATTACH revision triangle (Δ) to revision bubble.
 - ADD revision number inside revision triangle.
 - COMPLETE drawing check and approve process.
 - ISSUE drawing to Document Control.
 - FILE electronic drawing in appropriate storage location.
- n. DRAFT all new drawings and revisions to be consistent with guidelines of the drawing identification system and standards employed in original design (Refer To Attachment 6). [Ref: 5.2.2]
- o. SEND approved drawing revisions to Document Control for processing per APA-ZZ-00200, Document Control.
- p. PROCESS Supplier Documents (including manuals, test reports, procedures, etc.) in accordance with EDP-ZZ-04021, Review of Supplier Documents.

4.12. As-Built Facility Drawings

4.12.1. For the purpose of this procedure, “Support Facilities” are defined as follows:

- Callaway Learning Center
- Callaway Multipurpose Building
- Central Processing Facility
- D. F. Schnell Training Facility
- Operations Support Facility
- Outage Maintenance Facility
- QC RT Lab
- Secondary Access
- Security Office
- Service Building
- Solvent Storage Building
- Storeroom 1
- Storeroom 2
- Work Management Building
- Other support buildings NOT associated with plant operations

4.12.2. MAINTAIN drawings for “Support Facilities” to the degree necessary to support Workman’s Protection Assurance program and any commitment(s) tied to “Support Facilities”.

4.13. Westinghouse Nuclear Steam Supply System (NSSS) Documents

NOTE

The Westinghouse Document PIP Index Computer System contains listing and cross references for Westinghouse NSSS documents. This computer file was based on a corrected copy of the Westinghouse PIP Index and superseded that index. Queries may be run from the Engineering Web under Resources, Westinghouse PIP Reports.

- 4.13.1. CONTROL Westinghouse NSSS drawings and Instruction Manuals through Callaway EDMS. These items are referenced in Westinghouse PIP Reports.

NOTE

A drawing “pedigree” contains information which aids in cross-referencing of drawings and documents. Typical pedigree items are as follows:

- Unit designator
- Status of drawing
- Item number
- Shop Order used to track drawing
- Applicable Spin numbers
- Applicable valve numbers
- Applicable tag numbers

- 4.13.2. WHEN revising or issuing a drawing, IF a “pedigree” does NOT exist, ADD a “pedigree” to drawing.

4.14. Drawing Approvals

- 4.14.1. ENSURE drawings prepared or revised by Ameren Missouri have appropriate signature signoffs. [Ref: 5.2.2, 5.2.9, 5.2.11]
- a. ENSURE individual signature appears on revision blocks only once per drawing revision.
 - b. MARK any signature blocks NOT applicable with “NA”.
- 4.14.2. SIGN (or initial) the “Drawn”, “Checked”, “Supervisor”, or “Approved” revision block, indicating drawing has been reviewed or approved for use, and is correct to the best information available to signer.

4.14.3. ALLOW electronically generated signatures (initials) in revision blocks of electronically generated drawings.

4.15. Drawing, Specification and Equipment/Component Number Assignment

4.15.1. Drawing and Equipment/Component Numbers

- a. *Configuration Management*- ASSIGN and MAINTAIN drawing numbers for Bechtel and Sverdrup & Parcel drawings.
- b. LOCATE guidance for numbering convention in the Callaway Plant As-Built Manual.
- c. ASSIGN equipment/component numbers per EDP-ZZ-04046, Identification of Plant Equipment.

4.15.2. Specification and Foreign Print/Vendor Drawing Numbers

- a. *Supervisor, Records Management System*: ASSIGN and CONTROL new specification, foreign print and vendor drawing numbers per APA-ZZ-00201, Numbering of Specifications, Supplier Documents, Calculations, and Foreign Prints.
- b. *Supervisor, Records Management System*: COORDINATE assignment of drawing numbers with Responsible Engineer.
- c. ENSURE numbers are consistent with established organization numbering system.

4.15.3. Westinghouse NSSS Scope Drawing Numbers

- a. USE parent Westinghouse (or sub-vendor) drawing number on all Westinghouse NSSS scope drawings.
 1. USE Westinghouse (sub-vendor) revision number unless revisions are incorporated by Configuration Management.
 2. IF parent drawing revisions are tracked numerically and a revision is incorporated by Configuration Management, USE the next sequential revision number.
 3. IF parent drawing revisions are tracked with alpha character and a revision is incorporated by Configuration Management, USE numerical revision number, starting with 1.
- b. MAINTAIN consistency of Westinghouse NSSS scope drawings by consulting with assigned drafter in Configuration Management.

4.16. Containment Aluminum and Zinc Inventory Tracking System (CAZITS)

- 4.16.1. ASSIGN reserved aluminum and/or zinc allotments for ECPs (RFRs, MPs, etc.) to Responsible Engineer by coordinating with Configuration Management.
[Ref: 5.2.7]
- 4.16.2. DOCUMENT with an ECP ECN, the amount of aluminum (lbs.) and/or zinc (sq. ft.) being added to, or removed from containment per EDP-ZZ-04600, Engineering Change Control.
- 4.16.3. SEND approved revisions to Document Control for filing (E170.0240) in accordance with APA-ZZ-00220, Records Management.

4.17. "SAFEGUARDS" Drawings

- 4.17.1. DEVELOP, MAINTAIN and STORE "SAFEGUARDS" drawings per requirements of APA-ZZ-00204, Safeguards Information [Ref: 5.2.1]

4.18. Functional Equipment Group (FEG) Drawings

- 4.18.1. *Cycle Coordinator:* DETERMINE need for a FEG drawing.
- 4.18.2. INITIATE changes to FEG drawings via an ECP or CR in accordance with their respective procedure.
- 4.18.3. ADD both of the following (or similar) notes to every FEG drawing:
- a. THIS DRAWING IS FOR REFERENCE ONLY
 - b. THIS DRAWING IS NOT THE CONTROLLED DRAWING FOR THE SYSTEM. IT IS USED ONLY TO DISPLAY FUNCTIONAL EQUIPMENT GROUP (FEG) INFORMATION. ADDITIONALLY, THE FEG DATABASE IS THE ONLY SOURCE OF ACCURATE FEG INFORMATION. THEREFORE, THIS DRAWING MUST NOT BE USED AS A WORKING COPY.
- 4.18.4. DOCUMENT changes to FEG drawings with a Business Tracking (BUTR) CAR/CR.
- 4.18.5. REVISE FEG drawings through Configuration Management group, using the latest, released revision of the controlled (parent) drawing.

4.19. Callaway Plant As-Built Manual

4.19.1. REVISE the Callaway Plant As-Built Manual to reflect current As-Built Guidelines. Revisions should include:

- Revision date
- Brief summary of reason for revision
- Revision number and document title annotated on each page of manual (including cover page)

4.19.2. *Supervising Engineer, Configuration Management (or designee):* SIGN as Preparer.

4.19.3. *Director, Engineering Design (or designee):* APPROVE revision.

4.19.4. SEND approved revisions to Document Control for filing (A210.0026) in accordance with APA-ZZ-00220, Records Management.

4.20. Quality Control

4.20.1. *Supervising Engineer, Configuration Management:* PERFORM periodic assessments of the Configuration Control program. [Ref: 5.2.5]

4.20.2. Review of department trend reports and CR data for adverse trends in configuration management are performed in Engineering Department Performance Review Groups (PRG) in accordance with APA-ZZ-01400, Appendix H, Performance Review Group.

-END OF SECTION-

5.0 **REFERENCES**

5.1. Implementing

- 5.1.1. CA4610, Engineering Change Notice
- 5.1.2. CA2511, 50.59 Screen
- 5.1.3. CA3145, 72.48 Screen
- 5.1.4. Callaway Plant As-Built Manual
- 5.1.5. APA-ZZ-00101, Processing Procedures, Manuals, and Desktop Instructions
- 5.1.6. APA-ZZ-00109, Software Quality Assurance Program
- 5.1.7. APA-ZZ-00140, Environmental and Other Licensing Evaluations
- 5.1.8. APA-ZZ-00143, 10CFR50.59 and 10CFR72.48 Reviews
- 5.1.9. APA-ZZ-00200, Document Control
- 5.1.10. APA-ZZ-00201, Numbering of Specifications, Supplier Documents, Calculations, and Foreign Prints
- 5.1.11. APA-ZZ-00204, Safeguards Information
- 5.1.12. APA-ZZ-00220, Records Management
- 5.1.13. APA-ZZ-00500, Corrective Action Program
- 5.1.14. APA-ZZ-00600, Design Change Control
- 5.1.15. APA-ZZ-00604, Requests for Resolution
- 5.1.16. APA-ZZ-00605, Temporary System Modifications
- 5.1.17. APA-ZZ-01400, Appendix H, Performance Review Group
- 5.1.18. EDP-ZZ-04021, Review of Supplier Documents
- 5.1.19. EDP-ZZ-04046, Identification of Plant Equipment
- 5.1.20. EDP-ZZ-04600, Engineering Change Control
- 5.1.21. EDP-ZZ-06000, Vendor Equipment Technical Information Review Program
- 5.1.22. EDP-ZZ-04100, Review, Planning, Implementation and Closure of Modification Packages
- 5.1.23. FSAR Figure 6.2.5-2

5.2. Developmental

- 5.2.1. 10CFR73.21 (*Obligation 41719*)
- 5.2.2. ANSI N45.02.11. (*Obligations 2164, 2188, 2214*)
- 5.2.3. CAR 199700589
- 5.2.4. CAR 199803133
- 5.2.5. CAR 200204832
- 5.2.6. CAR 200810940
- 5.2.7. FSAR Table 6.2.5-6
- 5.2.8. OQAM 3.22 (*Obligation 906*)
- 5.2.9. OQAM 3.23
- 5.2.10. OQAM 4.2
- 5.2.11. OQAM 6.2 (*Obligation 4708*)
- 5.2.12. HI-STORM UMAX FSAR
- 5.2.13. Operating Quality Assurance Manual, Appendix B

-END OF SECTION-

6.0 DEFINITIONS

- 6.1. As-Built Document - A document which reflects current configuration as it physically exists in the plant per criteria as described in the Callaway Plant As-Built Manual. The latest revision of a document together with approved field complete change documents including Cross Reference List information comprise total as-built scope of information.
- 6.2. Callaway Plant As-Built Manual - A non-numbered controlled document which outlines the basis for which Callaway documents are maintained current. (i.e., AS-BUILT).
- 6.3. Class 1 Drawings - Basic drawings required to display as-built condition of safety-related, Important To Safety (ITS) Independent Spent Fuel Storage Installation (ISFSI), and non-safety related systems to provide for safe operation and maintenance of Callaway Energy Center under normal, abnormal, or emergency conditions, and/or to support Workman's Protection Assurance (WPA) program. These drawings are mutually agreed upon by Nuclear Engineering and Nuclear Operations. They include, in part:
- Piping and Instrumentation Diagrams (P & IDs)
 - Electrical one-line diagrams
 - Electrical schematics
 - Selected vendor drawings
 - Panel schedule drawings
- 6.4. Containment Aluminum and Zinc Inventory Tracking System (CAZITS) - A document in Callaway EDMS by which additions or deletions of aluminum and zinc to containment, through plant modifications, engineering evaluations or equivalent hardware changes, are tracked and compared to maximum amounts allowed in FSAR Figure 6.2.5-2. Software used to maintain CAZITS is controlled under APA-ZZ-00109, Software Quality Assurance Program [Ref: 5.2.7]
- 6.5. Controlled Drawings - Drawings controlled per requirements of APA-ZZ-00200, Document Control, and identified in Callaway EDMS computer database.
- 6.6. Cross Reference List (CRL) - Computerized historic data base list of configuration change documents that either were NOT or could NOT be drawn as-built or do NOT meet the Callaway Plant As-Built Manual criteria. This Callaway EDMS list is currently unavailable.
- 6.7. Engineering Change Notice (ECN) (CA4610, Engineering Change Notice form) - A document used to:
- Depict changes to a previously issued document.
 - Request issuance of new manuals and text documents per EDP-ZZ-04021, Review of Supplier Documents.
 - Void or supersede a previously issued document.

- 6.8. Engineering Change Package (ECP) - Assembled design information, licensing evaluations, and design basis evaluations necessary to define scope and impact of a change to plant and/or documentation design. Both Requests for Resolution (RFRs) and Modification Packages (MPs) are a form of ECP.
- 6.9. EDMS (Electronic Data Management System) - Any computerized system used to manage controlled documents and records at Callaway Energy Center (e.g., eB, electronic Document Room, Callaway Director).
- 6.10. Functional Equipment Group (FEG) Drawings - A pictorial representation of a functional equipment group, controlled in the FEG Database. FEG data is used by work management and WPA preparers to schedule and tag out work activities.
- 6.11. Modification Package (MP) - Assembled design information, licensing evaluations, and work instructions necessary to define scope and impact of a modification to plant design, including instructions for implementation of modifications as defined in APA-ZZ-00600, Design Change Control. Packages may include drawings, ECNs, EINs, Reviews, approvals, etc.
- 6.12. OP Documents - Documents which reflect changes by Ameren Missouri prior to Ameren Missouri functioning as A/E. Documents with an “OP” prefix must have “OP” removed at next revision of the document. Documents with “OP” prefix exist in the Document Control Register. These OP documents are revised to reflect Ameren Missouri as A/E when revisions are incorporated.
- 6.13. Project Information Package (PIP) - Compilation of Westinghouse NSSS drawings, documents, specifications, procedures, test reports, data packages, etc., which Westinghouse has provided each SNUPPS site.
- 6.14. Request for Resolution (RFR) – Refer To APA-ZZ-00604, Requests for Resolution for definition. RFRs are generated in accordance with APA-ZZ-00604, Requests for Resolution and processed in accordance with EDP-ZZ-04600, Engineering Change Control.
- 6.15. Vendor/Instruction Manuals - Instruction and maintenance manuals are NOT considered to be design documents. Vendor/Instruction Manuals may be revised by Modification Packages (MPs) or Requests for Resolution (RFRs). They are updated by Administration Department per requirements stated in EDP-ZZ-04021, Review of Supplier Documents.

7.0 RECORDS

- 7.1. QA Records
 - 7.1.1. Design and As-Built documents provided to and retained by Administration (Record Retention time - Lifetime).
 - 7.1.2. Containment Aluminum and Zinc Inventory Tracking System (CAZITS) (File Code E170.0240).

7.2. Commercial Records

7.2.1. Configuration Control Correspondence (File Code A170.0176).

-END OF SECTION-

8.0 SUMMARY OF CHANGES

Page(s)	Section or Step Number	Description
		The changes listed below are per markup and/or are in accordance with Procedure Writers Manual. (Ref. CAR 201700583)
20	5.1.6	Added APA-ZZ-00109 to Implementing References
	old 5.1.17	Deleted EDP-ZZ-04011 from Implementing References.
22	6.4	Replaced EDP-ZZ-04011 with APA-ZZ-00109.

Attachment 1

ECP Drawing from New Drawing, Ameren Missouri Format

Sheet 1 of 1

FOR INITIAL ISSUE

FOR SUBSEQUENT REVISIONS

REV. N/A	SEQ. 0	DATE XXXXXX
DRAWN AAD	CHKD. AAC	APPD. AAE
INITIAL ISSUE PER MP XX-XXXX.		
REV. N/A	SEQ. 1	DATE XXXXXX
DRAWN AAD	CHKD. AAC	APPD. AAE
REVISED PER FCN-XX.		

B

MOD. PKG. NO.	DRAWING NO.	REV.	SEQ.
XX-XXXX	XXXXXX	N/A	XXX

~~AS-BUILT~~

A

DRAWN (DATE) N/A	(NEW TITLE)		
CHKD. (DATE) N/A			
SUPV. (DATE) N/A			
APPD. (DATE) N/A	LOCATION	CALLAWAY ENERGY CENTER	CLASS
UNION ELECTRIC COMPANY ST. LOUIS, MO.		NEW DRAWING NO.	REV. N/A

PROC-0166A

08/31/12

1

Attachment 2

New ECP Drawing, Vendor Format

Sheet 1 of 1


REV. D.	DATE	
	XXXXXX	
DRAWN	CHKD.	SUPV.
AAD	AAC	AAS
INITIAL ISSUE		
PER		
MP XX-XXXX.		

REV. O	SEQ. O	DATE
		XXXXXX
DRAWN	CHKD.	APPD.
AAD	AAC	AAE
INITIAL ISSUE		
PER		
MP XX-XXXX.		

MDD. PKG. NO.	DRAWING NO.	REV.	SEQ.
XX-XXXX	XXXXXX	000	000

AS-BUILT

DRAWING NO.	REV.
XXXXXX	0

THIS DRAWING IS THE PROPERTY OF THE BELCO POLLUTION CONTROL CORPORATION 118 LITTLETON ROAD, PARLIPPANY, N.J. 07054						
						
TITLE LAYOUT DILUTION WATER HOLDING TANK 11'-6" DIA. X 16'-6" STR. (7/11/07)						
REV. AS NOTED	DATE 2-24-79	DWN KC	DATE 2-24-79	SCALE AS SHOWN	JOB NO. 53950	
INITIAL ISSUE	DATE 5-15-79	CHK. SAJ	DATE 5-15-79	DWG. NO.	REV.	
NO.	REVISION	ZONE	DATE	APP. P. O.	DATE 5-13-79	55950-63

PROC-0166B
DB/06/02

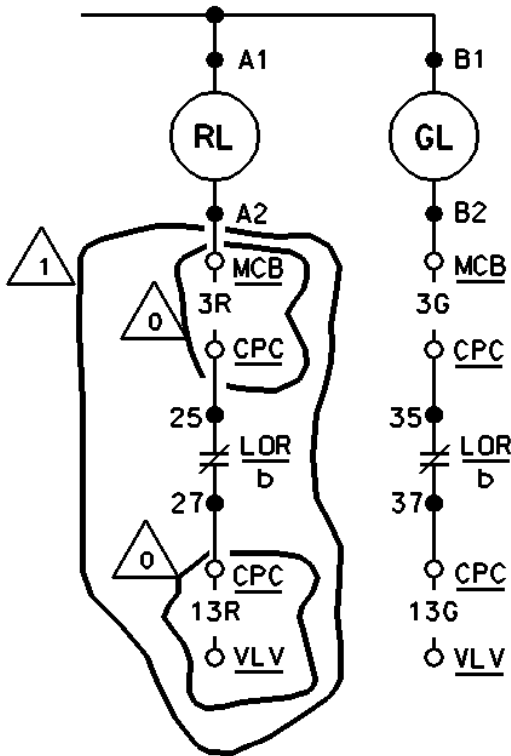
2

1

Attachment 3

ECP Drawing Developed From Existing Drawing

Sheet 1 of 1



REV. 0	DATE XXXXXX
DRAWN AAD	CHKD. AAC
SUPV. AAS	
INITIAL ISSUE	
PER MP XX-XXXX.	

REV. 0	SEQ. 0	DATE XXXXXX
DRAWN AAD	CHKD. AAC	APPD. AAE
INITIAL ISSUE		
PER MP XX-XXXX.		

REV. 0	SEQ. 1	DATE XXXXXX
DRAWN AAD	CHKD. AAC	APPD. AAE

REVISED PER
FCN-XX.

MOD. PKG. NO.	DRAWING NO.	REV.	SEQ.
XX-XXXX	XXXXXX	000	XXX

~~**AS-BUILT CLASS 1**~~

DRAWN (DATE) N/A	(DRAWING TITLE)		
CHKD. (DATE) N/A			
SUPV. (DATE) N/A			
APPD. (DATE) N/A	LOCATION	CALLAWAY ENERGY CENTER	CLASS
UNION ELECTRIC COMPANY ST. LOUIS, MO.		DRAWING NO.	REV. 0

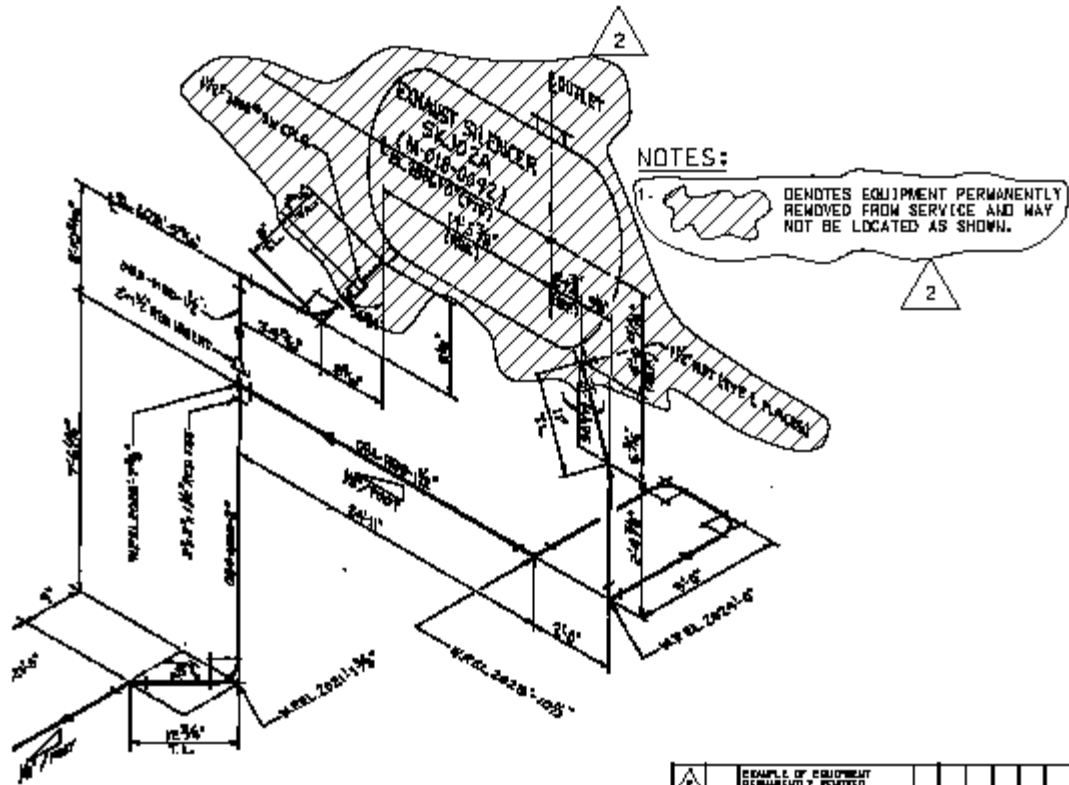
PROC-0166C
08/31/12

1

Attachment 4

Permanently Removed From Service Equipment

Sheet 1 of 1



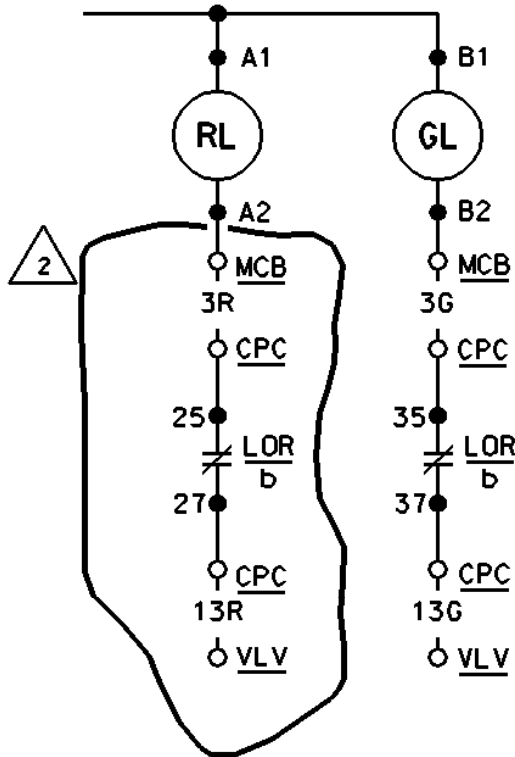
▲	SWT	EXAMPLE OF EQUIPMENT PERMANENTLY REMOVED FROM SERVICE.	VAL	PAV		PAV						
▲	WOM	REFLECTS TURNING TO US.	VAL	THE		AMP						
▲	3/8"	INDICATES CONSTRUCTION FROM LATE 1960'S THROUGH 1970'S. THIS IS NOT TO BE CONFUSED WITH THE 3/8" DIA. PIPING WHICH IS SHOWN IN THE 1970'S. THE 3/8" DIA. PIPING IS SHOWN IN THE 1970'S. THE 3/8" DIA. PIPING IS SHOWN IN THE 1970'S.										
NO.	DATE	REVISED BY	BY	CHKD	APP	APP						
SCALE	1:200	ORIGINATOR	TUL									
BECHTEL												
SNUPPS												
SMALL PIPING ISOMETRIC STANDBY DIESEL SYS. EXH. SILENCER DRAINS & JACKET WATER BY DISCH.												
AS-BUILT												
<table border="1"> <tr> <td>JOB NO.</td> <td>10456</td> <td>ENGINE MODEL NO.</td> <td>M-23KJ04</td> <td>REV.</td> <td>2</td> </tr> </table>							JOB NO.	10456	ENGINE MODEL NO.	M-23KJ04	REV.	2
JOB NO.	10456	ENGINE MODEL NO.	M-23KJ04	REV.	2							
<table border="1"> <tr> <td>APPROVED BY</td> <td></td> <td>DATE</td> <td></td> </tr> </table>							APPROVED BY		DATE			
APPROVED BY		DATE										

PROC-0156E
02/05/07

Attachment 5

As-Built Drawing Developed From ECP Drawing

Sheet 1 of 1



REV. 1	DATE XXXXXX	
DRAWN AAD	CHKD. AAC	SUPV. AAS
INCORP. RFR-00001A.		
REV. 2	DATE XXXXXX	
DRAWN AAD	CHKD. AAC	SUPV. AAS
INCORP. (MP NO.)		

B

IF APPLICABLE
AS-BUILT CLASS 1

A

DRAWN (DATE) N/A	(EXISTING TITLE)		
CHKD. (DATE) N/A			
SUPV. (DATE) N/A			
APPD. (DATE) N/A	LOCATION	CALLAWAY ENERGY CENTER	CLASS
UNION ELECTRIC COMPANY ST. LOUIS, MO.		(EXISTING DWG. NO.)	REV. 2

PRDC-0166D
08/31/12

1

Attachment 6

Drafting Standards Index

Sheet 1 of 1

A-2994 thru A-2999	Bechtel Drawing Identification System
A-2001	Architectural Index Sheet
E-21006	Single Line & Schematic Diagram Standards, Notes & Symbols
E-21013	Electrical Equip. & Cable – Installation/Inspection/Testing Details
E-27000A	Termination List Notes
E-2C8900	Communications Systems – Notes/Symbols/Details
E-2F8900	Fire Detection/Protection System – Notes/Symbols/Details
E-2G8900	Grounding – Notes/Symbols/Details
E-2L8900	Lighting – Notes/Symbols/Details
E-2L9900, E-UL9900	Lighting Panel Schedules
E-2R8900	Raceway – Notes/Symbols/Details
J-220101	Symbols & Legend – Cont. Logic Diagram
J-030101 thru J-030102	Symbols & Legend – Instrument Loop Diagram
J-24017	Nameplate Engraving Detail
J-24018	SNUPPS Abbreviation List
J-26005	Plant Annunciator System – Alarm List
J-26060	Plant Computer Input/Output Summary
J-27G10	Instrument Piping – Class Specification
M-220101 thru M-220104	System Flow and P&ID – Symbols & Legend
M-260202	Pipe Supports – General Notes
M-27LF01	Plumbing & Drainage System – Notes/Symbols/Schedules
MS-01	Piping Class Summary
MS-02	Piping Class Sheets
MS-03	Master Valve Identification
MS-04	Branch Conn. Rq. Typical Branches 2-1/2" & Larger
MS-05	Line Vents & Drains
MS-06	End Preparation Data Revision Status Sheet
MS-08	Pipe Spool Field Weld & Shop Weld ID Number Procedure
MS-09	Socket Weld & Threaded Welding Half-Couplings
MS-10	Pipe Supports Anchor Identification Procedure
MS-25C	Small Pipe Standard
1145E00	Plant System – Flow Diagram Legend
8600X88095	Electrical Symbols
8600X88438	Fire Protection System – Piping Flow Diagram Symbols & Designation
8600X89718	Symbols & Legends for P&ID
8600X89747	Symbols & Legends for P&ID
8600X89846	P&ID – Title Sheet Index
As-Built Manual	Callaway Plant As-Built Manual