

<u>Ownership matrix</u>	<b>RPP-27195</b>
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## 1.0 PURPOSE AND SCOPE

This procedure provides the Tank Operations Contractor (TOC) a standard work process for checking, which ensures engineering documents are technically correct and valid for the intended specified application, and the engineering documents comply with applicable engineering procedures and standards.

This procedure is performed in accordance with TFC-ENG-DESIGN-C-52, and applies to TOC personnel.

TFC-ENG-DESIGN-C-52 determines if a document requires checking in accordance with this procedure. The types of documents checked include, but are not limited to:

- Calculations
- Technical reports
- Drawing change notices (DCN)
- Engineering change notices (ECN)
- Drawings released by DCN/ECN
- Drawings released by Engineering data transmittals (EDT)
- Specifications (e.g., construction specifications, procurement specifications, etc.).

This procedure also applies to the checking of calculations completed in accordance with TFC-ENG-DESIGN-C-10 by other organizations; e.g., 222-S Laboratory Analytical Services, Environmental Safety Health and Quality (ESH&Q).

## 2.0 IMPLEMENTATION

This procedure is effective on the date shown in the header.

This procedure also applies to legacy facility modification (FM) ECNs and document modification (DM) ECNs. Where the procedure mentions “ECNs,” the step also applies to “FM ECNs.” Where the procedure mentions “DCNs,” the step also applies to “DM ECNs” written against drawings.

## 3.0 RESPONSIBILITIES

(7.1.1)

### 3.1 Engineering Document Originators

- Determine whether or not the document is an engineering document and whether it is ready for checking.
- Resolve comments or concerns identified during the checking process.

### 3.2 Checkers

Those performing checking shall attach the signed checklist to the releasing document in Smartplant.

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### 3.3 Engineering Managers

Ensure engineering documents are checked by qualified personnel technically competent in the discipline being checked. For example, a design to install a new motor operated valve contains mechanical and electrical design. The checker must be competent in both disciplines or obtain interdisciplinary reviews from other competent individuals to assist in the checking process for the portions where they are not competent.

## 4.0 PROCEDURE

### 4.1 General Requirements

1. Checkers shall be qualified to check the document (i.e., competent in the discipline being checked) by training or experience.
2. The checking of the document confirms the technical accuracy and procedural compliance of the design document.
3. The checker shares equally with the originator the responsibility for the content and accuracy of the design document.
4. When a new engineering document is released, all aspects of the design will be checked to ensure compliance with all applicable procedures, codes, and standards.
5. When an engineering document is revised, the portions of the document that change with the revision and any portions of the document affected by the revision must be checked. In addition, when the engineering document is a drawing, the entire drawing must be checked against the latest released version to verify no changes have been made other than those authorized. If the checker does find errors to the non-revised portion of the document, those errors are to be brought to the attention of the originator so that they may be addressed.
6. Personnel performing document checks shall either mark-up/highlight a paper copy of the document or utilize the track changes feature or other tracking mechanism when performing electronic checking of documents like specifications or calculations in Microsoft Word or Excel.
7. When highlighting a paper copy, the following color coding shall be utilized:
  - Yellow for marking out all correct work and to highlight that all items have been checked/verified
  - Red to identify revision required or new item/deletion
  - Green to identify items for comment or questions
  - Blue to be used by the originator to circle required changes or additions on the check print/document as they are incorporated into the document and to be used by the checker/verifier to place a check mark on the check print adjacent to the

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required changes or additions to indicate that they have been incorporated correctly.

## 4.2 Checking Requirements

The checker performs checking as stated below.

1. When reviewing calculations, the checker ensures that all referenced engineering calculations, from which data are directly taken, do not contain unverified assumptions.
2. The Calculation Checklist form (SPF-021), available on the SmartPlant Form website, shall be completed and maintained with the check print when calculations are checked. The original completed checklist(s) shall be released with the calculations and maintained with the package in accordance with TFC-ENG-DESIGN-C-10.
3. The Technical Report Checklist (Figure 1) shall be filled out when technical reports are checked. The checklist shall be signed and attached to the released document.
4. The DCN/ECN Checklist (Figure 2) shall be filled out when DCNs or ECNs are being checked. The checklist shall be signed and attached to the released DCN/ECN.
5. The Drafting Check Checklist for ECN Incorporation (Figure 3) shall be filled out when checking drawings where ECNs have been incorporated. The checklist shall be signed and attached to the released EDT/ECN.
6. The Drafting Check Checklist for New Drawings (Figure 4) shall be filled out when checking new drawings/sheets. The checklist shall be signed and attached to the released EDT.
7. The Engineering Review Checklist for New Drawings (Figure 5) shall be filled out when checking new drawings/sheets. The checklist shall be signed and attached to the released EDT.
8. The Specification Checklist (Figure 6) shall be filled out when specifications are checked. The checklist shall be signed and attached to the released document.
9. The checker confirms the engineering document is in compliance with applicable controlling procedures and standards (e.g., TFC-ENG-DESIGN-C-06, TFC-ENG-DESIGN-C-09, TFC-ENG-DESIGN-C-25, TFC-ENG-DESIGN-C-34, TFC-ENG-DESIGN-P-17, TFC-ENG-STD-12, etc.).

### 4.3 Checking a Document

- |            |  |
|------------|--|
| Originator | <ol style="list-style-type: none"> <li>1. Prepare a check package for the document being checked that includes copies of all references, cut sheets, and criteria documentation, such as specifications, functions, requirements, etc. <ol style="list-style-type: none"> <li>a. If it is not apparent that the assigned checker possesses the necessary qualifications, contact Engineering management.</li> </ol> </li> <li>2. Submit the check package to the checker.</li> </ol>   |
| Checker    | <ol style="list-style-type: none"> <li>3. Examine the checking package as compared to Attachment A and/or the nature of the document to be checked to ensure a complete package was provided. <ol style="list-style-type: none"> <li>a. If the package is incomplete, contact the originator for missing information.</li> </ol> </li> <li>4. Check the document in accordance with the requirements of this procedure, and applicable checklists in the figures. <p>NOTE: A Review Comment Record form (A-6005-747) may also be used to submit comments; however, it is preferred that comments be entered into SPF.</p> <ol style="list-style-type: none"> <li>a. Check calculations using the Calculation Checklist form (SPF-021).</li> <li>b. Check technical reports using Figure 1.</li> <li>c. Check DCNs/ECNs using Figure 2.</li> <li>d. Check drafting on ECN incorporations using Figure 3.</li> <li>e. Check drafting on new drawings using Figure 4.</li> <li>f. Check technical information on new drawings using Figure 5.</li> <li>g. Check specifications using Figure 6.</li> </ol> </li> <li>5. Return the checked package and comments to the document originator.</li> </ol> |
| Originator | <ol style="list-style-type: none"> <li>6. Resolve and/or incorporate comments from the checker.</li> <li>7. Return the check package to the checker.</li> <li>8. If a Review Comment Record (A-6005-747) was used, include the closed out copy with the design document package.</li> </ol>  |

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Checker 9. Attach the signed checklist to the releasing document in Smartplant.

NOTE 1: Additional organization-specific review checklists may also be included.

NOTE 2: Where calculations are prepared in support of documents that have their own procedural preparation and review requirements, a document-specific review checklist may be substituted for the Calculation Checklist (SPF-021). If no checklist is provided in the document-specific procedure, the Calculation Checklist (SPF-021) shall be used.

10. For calculations only, print name and sign the Calculation Checklist (SPF-021) to signify that the resolution of review comments is complete and that the calculation complies with this procedure.

a. Include the completed checklist at the beginning of the calculation.

Engineering Manager 11. For calculations only review the Calculation Checklist (SPF-021) to ensure all items are checked either "Yes," "No," or "NA;" and that comments are provided for boxes checked "No".

12. Print name and sign the Calculation Checklist (SPF-021) to signify that the resolution of review comments is complete and that the calculation complies with this procedure.

13. Include the completed checklist at the beginning of the calculation.

## 5.0 DEFINITIONS

No terms or phrases unique to this procedure are used.

## 6.0 RECORDS

The following records are generated by the performance of this procedure:

- Review Comment Record (A-6005-747)
- Calculation Checklist (SPF-021)
- Signed checklists if requested by the DA.

The record custodian identified in the Company Level Records Inventory and Disposition Schedules (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM\_DC-C-02.

## **7.0 SOURCES**

### **7.1 Requirements**

7.1.1 TFC-PLN-02, "Quality Assurance Program Description."

### **7.2 References**

7.2.1 TFC-BSM-IRM\_HS-C-01, "Software Development, Implementation, and Management."

7.2.2 TFC-ENG-DESIGN-C-06, "Engineering Change Control."

7.2.3 TFC-ENG-DESIGN-C-09, "Engineering Drawings."

7.2.4 TFC-ENG-DESIGN-C-10, "Engineering Calculations."

7.2.5 TFC-ENG-DESIGN-C-25, "Technical Document Control."

7.2.6 TFC-ENG-DESIGN-C-34, "Development of Technical Requirements for Procurements."

7.2.7 TFC-ENG-DESIGN-C-52, "Technical Reviews."

7.2.8 TFC-ENG-DESIGN-P-17, "Design Verification."

7.2.9 TFC-ENG-STD-10, "Drawing Standard."

7.2.10 TFC-ENG-STD-12, "Tank Farm Equipment Identification Numbering and Labeling Standard."

7.2.11 TFC-ENG-STD-25, "Design and Installations for Potentially Flammable Atmospheres."

7.2.12 TFC-ENG-STD-45, "Software Development, Implementation, and Management."

**Figure 1. Technical Report Checklist.**

Report Number \_\_\_\_\_ Revision: \_\_\_\_\_

Report Title: \_\_\_\_\_

The following checklist is used by checkers to ensure technical reports are complete and in compliance with engineering procedures (i.e., TFC-ENG-DESIGN-C-25). This checklist is also applicable to ECNs that revise these types of documents.

Item No.	Yes	No	N/A	Item
				<b>Version/Format</b>
1				If revising an existing report, are the changes being made against the current revision in SPF?
2				Is the Document Release and Change Form (DRCF) properly filled out?
3				Are all of the pages properly labeled with Report Number, Revision Number, and Sequential Page Number?
4				Are the Subject and Purpose clearly stated and do they meet the end users' needs?
				<b>References</b>
5				Are all References properly documented within the report and can they be easily verified within Document Control, online, or within the library, etc.? If reference documents are not readily available, are they attached?
6				Have the correct design bases documents been identified (e.g., codes, standards, DOE Orders, TOC standards, regulatory requirements, etc.)?
				<b>Open Items/Input</b>
7				Is there a reference/source for each input?
8				Do the identified references/sources fully support the inputs?
9				Are all assumptions used to support the report individually listed and numbered?
10				Is there a justification written for each assumption that includes a technical basis?
11				Do the justifications adequately support the assumptions?
12				If the report has open items, TBDs, and/or HOLDS, is there a method identified to track them?
				<b>Results/Conclusion</b>
13				Are the results of the report consistent with the input and assumptions?
14				Do the results of the report affect any other technical documents?
15				Do the results substantiate the conclusion?
				<b>Approvals</b>
16				Does the DRCF identify the method of verification and checking and does it have a signature block for the verifier/checker?
17				Does the DRCF identify the appropriate approvers required by TFC-ENG-DESIGN-C-52?

Item No.	Comments

Checker: \_\_\_\_\_

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**Print Name**

**Signature**

**Date**

**Figure 2. DCN/ECN Checklist.**

DCN/ECN Number(s) \_\_\_\_\_

DCN/ECN (package) Title: \_\_\_\_\_ Project No.: \_\_\_\_\_

The following checklist is used by engineering checkers to ensure ECNs are complete, accurate, and in compliance with engineering procedures.

Item No.	Yes	No	N/A	Item
1				The design is compliant with applicable TFC-ENG-STDs.
2				The design is compliant with applicable Modification Travelers.
3				Related calculations were prepared in accordance with TFC-ENG-DESIGN-C-10 (if internally prepared), or a vendor on the Evaluated Supplier List if externally prepared.
4				Applicable calculation results are consistent with the design drawings/ECNs/DCNs.
5				The design can be constructed/fabricated and installed.
6				The design is free from interferences with existing equipment and field conditions.
7				Dimensions and tolerances are reasonable with respect to fabrication and the design is not over or under dimensioned (constructability).
8				Design interfaces with other SSCs are adequately identified in accordance with TFC-ENG-STD-10.
9				References are traceable, correct, and appropriate.
10				Design inputs are correct, appropriate, and complete.
11				The design is consistent with field walkdown results. If a walkdown was not performed, indicate "N/A."
12				"WAS" conditions are consistent with the drawing plus work-completed ECNs or clearly noted otherwise.
13				Are drawings implemented by the ECN/DCN correct?
14				ECN/DCN instructions were properly followed and in accordance with TFC-ENG-DESIGN-C-06.
15				The design considers operational, radiological, and maintenance impacts.
16				The design updates design basis calculations.
17				Potential safety impacts are identified and resolved.
18				Potential software impacts are identified and resolved.
19				Testing is addressed (e.g., post-maintenance, acceptance, operability, etc.).
20				Do all new Equipment Identification Numbers (EIN) comply with TFC-ENG-STD-12?
21				If the ECN installs safety instrumented system (SIS) or safety instrumented alarm (SIA) components, is the ECN adding a note to the drawing referring to "SRED" requirements?
22				Do Parts/Material List additions/changes comply with TFC-ENG-STD-10?
23				[DCN Only] The changes do NOT contradict, or conflict with changes in released ECNs not yet work completed.
24				For changes affecting any location identified in the summary tables of TFC-ENG-STD-45 classified as a flammable hazard location; have the requirements of TFC-ENG-STD-45 been considered and addressed?
25				Potential Technical Safety Requirement (TSR) violations will not result from the changes as related requirements have been satisfied, OR the change could not affect a Safety Significant SSC.

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**Figure 2. DCN/ECN Checklist (cont.).**

<b>Item No.</b>	<b>Comments</b>

**Checker:** \_\_\_\_\_

**Print Name**
**Signature**
**Date**

**Figure 3. Drafting Check Checklist for ECN Incorporations.**

ECN Number(s) \_\_\_\_\_

ECN (package) Title: \_\_\_\_\_ Project No.: \_\_\_\_\_

The following checklist is used by drafting checkers to ensure ECN incorporations onto drawings are complete, accurate, and in compliance with engineering drawing standards.

Item No.	Yes	No	N/A	Item
1				Does the ECN form contain a signature in the Modification Work Complete Approval field?
2				Are the ECN number/numbers listed correctly in the revision description block?
3				Has the drawing revision number been changed in the revision description block and in the title block to the next higher revision number?
4				Have the new changes and/or modifications called out in the ECN been correctly incorporated? Have both the attachment pages AND the written description given on the first few pages been checked to make sure all changes have been incorporated?
5				Has the check against the previous revision identified any unauthorized changes?
6				Does the full size copy of the newly revised drawing plot properly with the correct line weights and line type scales?
7				Is the overall graphic quality of the full size copy equal to or better than the previous revision? (Although we are not going to fix large amounts of items on existing drawings that do not meet our current standards, the new revision we release should be equal to in quality and appearance or better than the previous revision.)
8				Are the detail and section callout numbers and letters unique and do not duplicate those already on the drawing or in the drawing set? If they do duplicate existing numbers and letters, have new number and letter designations been assigned and applied to the drawing set correctly?
9				Are new details, plans, sections, etc., being added to the drawing drawn to an appropriate size and scale so when the drawing is reproduced at 11 x 17, the views are clear and easily readable? Do they meet our drafting standards?
10				Is all new text shown on the drawing the correct text size and font?
11				Are all new leaders and dimensions shown on the drawing done using the correct arrowhead shape and size and the proper dimension style?
12				Have general notes that have been deleted from the drawing had double lines drawn through the note indicating it is no longer valid or the word "DELETED" put in place of the note instead of just being erased?
13				If a parts list is being modified, check to make sure we are not duplicating part numbers? If we are, have the new part numbers been changed and applied correctly? Have all deleted parts had double lines drawn through the part instead of just being erased?
14				When checking a new sheet being created/added because of an ECN incorporation, check the following: a) Is the title block filled in correctly with the appropriate data? b) Does the new drawing meet all of our drafting standards? c) Has the ECN been listed as the releasing document for the new sheet? See the new drawing checking list to see a more complete list of checking requirements.

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**Figure 4. Drafting Check Checklist for New Drawings.**

ECN/EDT Number(s) \_\_\_\_\_

ECN/EDT (package) Title: \_\_\_\_\_ Project No.: \_\_\_\_\_

The following checklist is used by drafting checkers to ensure new drawings are complete, accurate, and in compliance with engineering drawing standards.

<b>Item No.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Item</b>
1				Are all of the components of the title block filled in correctly in SPF and the drawing? Drawing Title? Drawing Number? Revision Number? Index Number? Sheet Number? Scale? Building Number?
2				Are the drawing titles consistent per the drafting standard from sheet to sheet?
3				Is the releasing document (ECN or EDT) properly identified?
4				Is the "Next Used On" space filled out on every sheet?
5				Does the full size copy of the newly revised drawing plot properly with the correct line weights and line type scales?
6				Are all of the views on the sheet drawn at an adequate scale to be able to clearly show the intended work and/or modification? Is the scale large enough to easily dimension and place notes and callouts? Is the scale large enough to be clear on an 11 x 17 sheet?
7				Are the drawings arranged in a logical fashion and easy to follow from plan to views to sections and details?
8				Is all of the normal text and dimensioning 1/8" high Roman characters and the titles 1/4" high Roman characters?
9				Does the placement of the dimensions and callouts follow good standard drafting practice?
10				Are all of the dimensional arrowheads the same size and scaled/sized correctly?
11				Does the symbology on the drawing conform to either the standard tank farm symbology or the Hanford Site approved symbology?
12				Is the drawing number and sheet number shown for continuation to other sheets correct?
13				Do the abbreviations on the drawing conform to ANSI standard abbreviations?
14				Is the cross-hatching, if any, done at an appropriate scale and orientation?

**Figure 4. Drafting Check Checklist for New Drawings. (cont.)**

Item No.	Yes	No	N/A	Item
15				Is all of the text on the drawing spelled correctly?
16				Is the dimensioning style the correct one for the drawing discipline?
17				Do all flag notes on the drawing correctly tie the note to the correct area of the drawing?
18				On multiple sheet drawing sets, is there a reference to see sheet one for general notes?
19				Are the line type scales proper for the scale of the drawing?
20				Do all leaders come off from either the top left center of the top line or the lower right center of the bottom line of the callouts?
21				Have fabrication drawings been inappropriately mixed with installation drawings?
22				Is the text on callouts, tables, dimensions, etc. far enough away from any lines that they will still be clearly readable even at a reduced scale?
23				The width factor on the text should be 1 except for places where there is insufficient room for the text. If the text width factor is less than 1, is it still very clear and easy to read, even at a reduced scale?
24				Has there been the required room left above the title block for the document control release stamp?
25				Are the general notes on sheet 1? If the general notes have to be continued on another sheet, is there two-way traceability?
26				Overall, is the drawing consistent in all aspects of its layout, text, notes, dimensioning, etc. or does it mix styles inappropriately?
27				Are all of the parts and materials called out on the drawings fully specified with either manufacturer's part numbers, ASTM numbers or other appropriate standards numbers?
28				Are all of the fabrication/construction requirements called out on the drawing or in the general notes (e.g., weld requirements, painting requirements, compaction requirements, tests, inspections, etc.)?
29				Has an effort been made to avoid overcrowding on the drawing? Is there sufficient "white" space around the views? Is there room on the sheets to add future details or sections?
30				Is the reference drawing column filled out correctly and adequately?
31				Are the drafting scales properly called out on every view or detail?
32				If applicable, is the drawing laid out so that north is either pointing up or to the left of the drawing sheet?

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**Figure 5. Engineering Review Checklist for New Drawings.**

EDT Number(s) \_\_\_\_\_

EDT (package) Title: \_\_\_\_\_ Project No.: \_\_\_\_\_

The following checklist is used by engineering checkers to ensure new drawings are complete, accurate, and in compliance with engineering procedures.

<b>Item No.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Item</b>
1				The design is compliant with applicable TFC-ENG-STDs.
2				The design is compliant with applicable Modification Travelers.
3				Related calculations were prepared in accordance with TFC-ENG-DESIGN-C-10 (if internally prepared), or a vendor on the Evaluated Supplier List if externally prepared.
4				Applicable calculation results are consistent with the design drawings.
5				The design can be constructed/fabricated and installed.
6				The design is free from equipment interferences with other equipment and field conditions.
7				Dimensions and tolerances are reasonable with respect to fabrication and the design is not over or under dimensioned (constructability).
8				Design interfaces with other SSCs are adequately identified in accordance with TFC-ENG-STD-10.
9				Drawing sheets conform to TFC-ENG-STD-10.
10				References are traceable, correct, and appropriate.
11				Assumptions are utilized properly and in accordance with TFC-ENG-DESIGN-C-10.
12				The design is consistent with field walkdown results. If a walkdown was not performed, indicate "N/A."
13				The design considers operational, radiological, and maintenance impacts.
14				The design updates design basis calculations.
15				Potential safety impacts are identified and resolved.
16				Potential software impacts are identified and resolved.
17				Testing is addressed (e.g., post-maintenance, acceptance, operability, etc.).
18				EINs comply with TFC-ENG-STD-12, and have they been entered in the document's Related Equipment tab in SPF?.
19				If the ECN installs safety instrumented system (SIS) or safety instrumented alarm (SIA) components, is the ECN adding a note to the drawing referring to "SRED" requirements?
20				The location of existing equipment/components being impacted or that may pose as an obstacle or interference to the design has been verified and are shown correctly on the drawings.

<b>Item No.</b>	<b>Comments</b>

Checker: \_\_\_\_\_  
Print Name
Signature
Date

**Figure 6. Specification Checklist.**

Report Number \_\_\_\_\_ Revision: \_\_\_\_\_

Report Title: \_\_\_\_\_

The following checklist is used by checkers to ensure specifications are complete and in compliance with engineering procedures (i.e., TFC-ENG-DESIGN-C-01). This checklist is also applicable to ECNs that revise these types of documents. DRCF required approvers vary according to the type of document being released. Required approvers are identified in SPF.

Item No.	Yes	No	N/A	Item
				<b>Version and Scope</b>
1				If revising an existing specification, are the changes being made against the current revision in SPF?
2				Are all of the pages properly labeled with specification number, revision number, and sequential page number?
3				Is the scope of the specification defined and consistent with the statement of work for the procurement?
				<b>Type of Procurement</b>
4				Is the acquisition of computer software involved? If so, check requirements in TFC-BSM-IRM HS-C-01.
5				Is the specification for procurement of items and services such as catalog items, developmental technology, and engineered equipment or design/build procurements? If so, check the specification against the requirements in TFC-ENG-DESIGN-C-34, Section 4.1, "General Specification Requirements."
6				Is the specification for construction procurement? If so, check the specification against the requirements in TFC-ENG-DESIGN-C-34, Section 4.2, "Construction Specification."
				<b>Required Sections</b>
7				Are applicable documents (government, non-government, and non-code of record) identified?
8				Does the Documentation section provide requirements for operations, installation, and maintenance manuals?
9				Does the Support section provide requirements for training and onsite support?
				<b>Approvals</b>
10				Does the DRCF have the signature block of the checker?

Item No.	Comments

Checker: \_\_\_\_\_  
Print Name
Signature
Date

<b>Checking of Engineering Documents</b>	<b>Manual Document Page Issue Date</b>	<b>Engineering TFC-ENG-DESIGN-P-54, REV A-12 22 of 22 January 5, 2021</b>
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## ATTACHMENT A – CHECK PACKAGE TYPES AND CONTENTS

(These lists are intended to be a guide and may not be all inclusive. However, deviation from these lists needs to be defensible in the event of inquiry.)

1. Calculation Check Package
  - a. Calculation and releasing coversheet
  - b. Calculation Checklist form (SPF-021)
  - c. Catalogue cutsheets
  - d. Copies of applicable reference pages (e.g., for equations, constants, material properties, etc.).
2. Technical Reports and Specification Packages
  - a. Report or specification and releasing coversheet
  - b. Applicable pages of reference documents
  - c. Copies or links to external reports
  - d. Copies or links to basis information (e.g., calculations, inventories, regulatory documents, memos, etc.).
3. Drawing Checking Package Contents
  - a. Essential/Support/Reference Drawings
    - i. Copies of the ECNs/DCNs being incorporated
    - ii. Check print of the newly revised drawing that needs to be checked
    - iii. Copy of the previous revision of the drawing being checked
    - iv. Copy of the drafting check report from SPF listing the drawing number, sheet number, current revision number, and listing of all outstanding ECNs/DCNs against the drawing.
  - b. Engineering Change Notices (ECN) and Drawing Change Notices (DCN)
    - i. ECN/DCN being checked
    - ii. Copy or link to the existing revision of the existing drawing being modified by the ECN/DCN
    - iii. Copy of the drafting check report from SPF
    - iv. All cut sheets from manufacturers, catalog pages, or any data that were used to develop the new/or revised drawing sheet and/or to assign part numbers
    - v. Walkdown or as-built field verification data
    - vi. ECNs/DCNs are stamped or marked “Preliminary, Not for Construction.”
  - c. New Drawings
    - i. Copies of releasing EDT
    - ii. For all drawings except panel schedules, a “D” or “C” size drawing, as applicable, for the checker to use as markup copy; check prints for panel schedules shall be “B” size copies
    - iii. Copies of all existing drawings that are being referenced on the new drawing
    - iv. All cut sheets from manufacturers, catalog pages, design sketches, statements of work, or any other data that was used to develop the new design
    - v. Copies of any other released drawings that were used to develop the new design
    - vi. Copies of any existing drawings that will be modified by the new design
    - vii. Copies of any new ECNs/DCNs that have been created to modify existing drawings that interface with the new drawing
    - viii. Stamped or marked “Preliminary, Not for Construction.”