National Nuclear Security Administration

Advance Change Directive

NNSA ACD 401.1A

Approved: 01-31-24
Expiration: 01-31-25

SUBJECT: UPDATING WEAPON QUALITY POLICY AND PROCESS REQUIREMENTS DEFINITION FOR CONDITIONAL PRODUCTS AND THEIR USE IN WEAPONS AND WEAPON-RELATED ASSEMBLIES.

PURPOSE: Define and establish the use of Conditional Products and NNSA Conditionally Accepted Products until revisions can be incorporated into NNSA Policy (NAP) 401.1A, *NNSA Weapon Quality Policy*.

URGENCY: This Advance Change Directive (ACD) expands on exiting policies related to the use of non-conforming product that meets the communicated design allowance but are lacking a Specification Exception Release (SXR) to be considered fully acceptable. Products of this pedigree are required to be held while exception documents are researched, written, and approved. The allowances contained herein will ensure compliance to the requirements of NAP 401.1A and provide for continued flow of assessed risk Conditional Products through the Production Agency (PA) facilities. If events were to occur without this ACD in place, production at PA facilities would likely stop for an unknown duration as specification exceptions are written and released.

APPLICABILITY: This ACD applies to all Federal NNSA elements,[1] including NNSA Nuclear Security Enterprise (NSE) Management and Operating Contractor (M&O) sites, M&O employees, and Federal Field/Production Office (F/PO) employees at each site which use NAP 401.1A policy in the design, manufacturing, and acceptance of Weapon Products. The changes stated herein take effect upon release and take precedent over the latest released version of NAP 401.1A and embedded NAP 401.1, Attachment 3: *Weapon Quality Process Requirements.*

BACKGROUND: Recent unrelated issues at PA sites have resulted in significant quantities of product held for release of Engineering Authorizations, specifically SXRs, providing authority to consider non-conforming product, conforming, or Mark Quality. While assessments by the Design Agency (DA) were deemed low to nil risk, the logistics of performing validation of the initial assessment and releasing required SXRs took considerable time and resources, leading to part shortages at the next assembly PA. In fact, inventory available at the next assembly PA was also placed in a hold status until the needed SXRs were released, further paralyzing the supply chain. As a result, scheduled deliveries of weapon product shipments to the Ultimate User were put at risk.

The stated changes in this ACD have been developed at the request of the Federal Program Offices and Federal leadership at the PA facilities as a solution to resulting delays in the supply chain where product is held awaiting release of specification exceptions and the responsible DA engineer has determined the risk to be acceptable. The intent is to provide direction for the F/PO to follow as they encounter delays in production and would otherwise wait for the SXRs before the production process with the non-conforming product could resume.

By allowing the leverage of already-existing control systems in the Manufacturing Execution

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[1] In accordance with the responsibilities and authorities assigned by Executive Order 12344, codified at 50 U.S. Code sections 2406 and 2511, and to ensure consistency throughout the joint Navy/DOE Naval Nuclear Propulsion Program, the Deputy Administrator for Naval Reactors (Director) will implement and oversee requirements and practices pertaining to this Directive for activities under the Director's cognizance, as deemed appropriate.

Systems (MES) at the respective sites, product can proceed to predetermined point in the process with administrative holds placed in the MES system, thus preventing the shipment of material to the next PA or the Ultimate User. With the release of this ACD, the definition of ***Conditional Product*** and ***NNSA Conditionally Accepted Product*** are created. This new terminology enables product historically considered "non-conforming" now to be considered "Conditional" when there is a verifiable, written statement from a design authority that has the requisite technical authority to determine that there is a high degree of probability that the needed SXR will likely be released.

REQUIREMENTS: All requirements with specified changes to NAP 401.1A and NAP 401.1, Attachment 3 listed below must be followed:

1. Language added to NAP 401.1A, page 5, section 8, Definitions, to include "Conditional Product" and "NNSA Conditionally Accepted Product."

   Conditional Product. Product that is lacking a Specification Exception Release (SXR) needed to be otherwise considered Mark Quality; however, there is documented evidence the needed SXR will likely be released by the Design Agency (DA), there is no impact to safety, and there is an urgent need for the product. Conditional Product is a subset of nonconforming product and is allowed to proceed with production activities until a control point is reached. Conditional Product also includes products with requirements for a Qualification Evaluation Release (QER), but currently have a Conditional Qualification Evaluation Release (CQER) released. The Federal Program Manager (FPM), or appropriate acceptor of risk, must review the relevant supporting documentation and authorize the product to be identified as Conditional Product. If the needed SXR is not obtainable or applicable to entire lots, all product not covered by the SXR will be returned to non-conforming status, and assemblies that consumed Conditional Product not covered by the SXR will be considered non-conforming.

   NNSA Conditionally Accepted Product. Conditional Product that has successfully completed NNSA Verification Inspection that otherwise lacks only a SXR to support full acceptance and has documented evidence that needed SXR will likely be released by the DA. NNSA Conditionally Accepted Product also includes products with requirements for a QER, but currently have a CQER released, once verification inspection is complete against CQER requirements. The FPM determines if categorizing product as Conditional Product or NNSA Conditionally Accepted Product is in the best interest of the NNSA and must be approved by the Director WQD. If the needed SXR is not obtainable or applicable to entire lots, all product not covered by the SXR will be returned to non-conforming status, and assemblies that consumed NNSA Conditionally Accepted Product not covered by the SXR will be considered non-conforming.

2. Language added to NAP 401.1A, Attachment 2, page AT2-27, section 6.6.12, Conditional Product:

   Conditional Product must be controlled by the PA using F/PO-approved control systems (e.g., KCNSC – QIR or NPO – IQR). The control method and number will be listed on any applicable Certificate of Inspection (COI) when submitted for NNSA Conditional Product Acceptance.

3. Language added to NAP 401.1A, Attachment 2, page AT2-29, section 7.4, NNSA Conditionally Accepted Product:

a. NNSA Conditionally Accepted Product may be stamped with Acceptance Stamps provided it will be controlled using F/PO approved control systems (e.g., KCNSC – QIR or NPO – IQR.) The control method and number should be listed on any applicable COI. Movement of NNSA Conditionally Accepted Product from PA to PA is accomplished using the Circle-T process.

b. NNSA Conditionally Accepted Product cannot ship to the Ultimate User prior to resolution of stated condition(s) and therefore become NNSA Accepted Product.

c. All elements of NNSA Accepted Products, as stated in Para 7.2, apply to NNSA Conditionally Accepted Product.

4. Language changed in NAP 401.1, Attachment 3, page A3-17, section 3.1.4.e, Verification Inspections Submittals to:

"(i) The COI is the official document used

1) by Contractors to identify and certify product that the submitted material meets design requirements or is Conditional Product;"

5. Language changed in NAP 401.1, Attachment 3, page A3-17, section 3.1.4.e., Verification Inspection Submittals to:

"ii. Contractors:

3) Certify on a COI that the listed material meets the applicable specification and quality requirements of the contract or meets the definition of Conditional Product (see Appendix 3.1-D)."

6. Language added to NAP 401.1, Attachment 3, page A3-19, Section 3.1.4.h., Verification Inspection Criteria,

"i. Determine acceptability of submitted product based upon the following criteria:

4) When performing Verification Inspection on Conditional Product, supporting Conditional Product documentation is applicable to product presented for Verification Inspection. All the above requirements except 3) for stated conditions, requiring verifiable documentation of SXR intent from a responsible technical design authority, are performed with consideration of stated conditions."

7. Language changed in NAP 401.1, Attachment 3, page A3-29, Appendix 3.1-D, Instructions for Certificate of Inspection:

4. Product Definition, change "Record information to identify the DA Product Design Definition, by issue or controlled summary documents (i.e., Addendum Index), which defines the material, including engineering authorizations (i.e., Specification Exception Release (SXR), Special Instructions Engineering Release (SIER), Advance Change Order (ACO)). If material has been reprocessed and reaccepted to specific DA requirements, identify the applicable reprocessing definition. Record the Quality Evaluation Report (QER) on First Production Units (FPUs) and continue to list all conditional QERs until the product is acceptable. Identify the subcontractor when the material has been purchased. List control number and/or Circle-T Plan date/revision for Conditional Product. Once conditions are met, the COI will be re-opened to include any released documents related to the Conditional Product status and state that all conditions have been met. Summary logs will be revised to indicate full Acceptance.

8. Language changed in NAP 401.1, Attachment 3, page A3-44, Table 1: NNSA Stamps to:

   Diamond – "Diamond Stamp indicates material is Mark Quality, NNSA Accepted Product, or NNSA Conditionally Accepted Product."

   Circle T – "(2) It is applied to both material and packages being shipped to another NNSA site. The Circle T stamp is applied to product according to the class stated in the approved Circle T Plan. The Circle-T Plan is approved by the Director, NNSA Weapon Quality Division.

For questions or comments on the ACD please contact the NNSA HQ Weapons Quality Division (NA-121.3) at WQA@nnsa.doe.gov.

BY ORDER OF THE ADMINISTRATOR:

Jill Hruby
Administrator