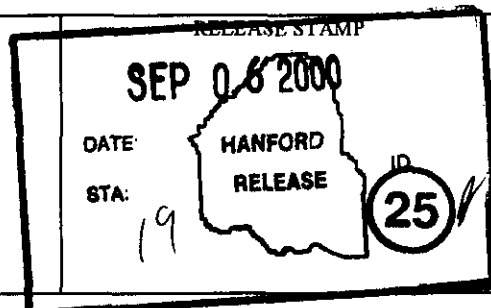


S

## ENGINEERING CHANGE NOTICE

Page 1 of 21. ECN **662318**Proj.  
ECN

|  |   |  |   |  |
|--|---|--|---|--|
| 2. ECN Category (mark one)<br><br>Supplemental <input type="checkbox"/><br>Direct Revision <input checked="" type="checkbox"/><br>Change ECN <input type="checkbox"/><br>Temporary <input type="checkbox"/><br>Standby <input type="checkbox"/><br>Supersedure <input type="checkbox"/><br>Cancel/Void <input type="checkbox"/>  | 3. Originator's Name, Organization, MSIN, and Telephone No.<br><b>T. Nuxall, CVDF, R3-86,<br/>372-3739</b><br><br>6. Project Title/No./Work Order No.<br><b>SNF/W-441<br/>Spent Nuclear Fuel<br/>Cold Vacuum Drying</b><br><br>9. Document Numbers Changed by this ECN (includes sheet no. and rev.)<br><b>SNF-4887, Rev. 1</b> | 4. USQ Required?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br><br>7. Bldg./Sys./Fac. No.<br><b>CVDF<br/>142-K</b><br><br>10. Related ECN No(s).<br><b>N/A</b> | 5. Date<br><b>9/2/00</b><br><br>8. Approval Designator<br><b>S<sup>N</sup>Q</b><br><br>11. Related PO No.<br><b>N/A</b>                     |  |
| 12a. Modification Work<br><br><input type="checkbox"/> Yes (fill out Blk. 12b)<br><input checked="" type="checkbox"/> No (NA Blks. 12b, 12c, 12d)  | 12b. Work Package No.<br><br><b>N/A</b>   | 12c. Modification Work Complete<br><br><b>N/A</b><br><br>Design Authority/Cog. Engineer<br>Signature & Date  | 12d. Restored to Original Condition (Temp. or Standby ECN only)<br><br><b>N/A</b><br><br>Design Authority/Cog. Engineer<br>Signature & Date |  |
| 13a. Description of Change<br><br><b>SCHe</b><br><br><b>Deletion of Valve Leakage Test from Critical Characteristics.</b><br><br><b>USQ Approval: CVD-00-1598 DEK 9-3-00</b>   |   |  |   | 13b. Design Baseline Document? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 14a. Justification (mark one)<br>Criteria Change <input type="checkbox"/> Design Improvement <input checked="" type="checkbox"/> Environmental <input type="checkbox"/> Facility Deactivation <input type="checkbox"/><br>As-Found <input type="checkbox"/> Facilitate Const <input type="checkbox"/> Const. Error/Omission <input type="checkbox"/> Design Error/Omission <input type="checkbox"/>  |   |  |   |  |
| 14b. Justification Details<br>Updated to reflect current requirements. Value leakage test is performed by the Supplier, and is thus by inspection. The intent of the document is not to repeat this leakage test but to verify it was completed.<br>The design verification method for SS/SC components is by independent review in accordance with EN-6-027-01. Documentation of this review is accomplished by the independent review approval signature provided on page 2 of this ECN. |   |  |   |  |
| 15. Distribution (include name, MSIN, and no. of copies)<br>See distribution sheet.  |   |  |   |  |



## ENGINEERING CHANGE NOTICE

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1. ECN (use no. from pg. 1)

662318

|   |                 |                             |              |                             |                            |                          |
|---|-----------------|-----------------------------|--------------|-----------------------------|----------------------------|--------------------------|
| 16. Design<br>Verification<br>Required  | 17. Cost Impact |                             |              |                             | 18. Schedule Impact (days) |                          |
|   | ENGINEERING     |                             | CONSTRUCTION |                             |                            |                          |
|   | Additional      | <input type="checkbox"/> \$ | Additional   | <input type="checkbox"/> \$ | Improvement                | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> Yes |                 |                             |              |                             |                            |                          |
| <input type="checkbox"/> No             | Savings         | <input type="checkbox"/> \$ | Savings      | <input type="checkbox"/> \$ | Delay                      | <input type="checkbox"/> |

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

|                                |                          |                                  |                          |                               |                                     |
|--------------------------------|--------------------------|----------------------------------|--------------------------|-------------------------------|-------------------------------------|
| SDD/DD                         | <input type="checkbox"/> | Seismic/Stress Analysis          | <input type="checkbox"/> | Tank Calibration Manual       | <input type="checkbox"/>            |
| Functional Design Criteria     | <input type="checkbox"/> | Stress/Design Report             | <input type="checkbox"/> | Health Physics Procedure      | <input type="checkbox"/>            |
| Operating Specification        | <input type="checkbox"/> | Interface Control Drawing        | <input type="checkbox"/> | Spares Multiple Unit Listing  | <input type="checkbox"/>            |
| Criticality Specification      | <input type="checkbox"/> | Calibration Procedure            | <input type="checkbox"/> | Test Procedures/Specification | <input type="checkbox"/>            |
| Conceptual Design Report       | <input type="checkbox"/> | Installation Procedure           | <input type="checkbox"/> | Component Index               | <input type="checkbox"/>            |
| Equipment Spec.                | <input type="checkbox"/> | Maintenance Procedure            | <input type="checkbox"/> | ASME Coded Item               | <input type="checkbox"/>            |
| Const. Spec.                   | <input type="checkbox"/> | Engineering Procedure            | <input type="checkbox"/> | Human Factor Consideration    | <input type="checkbox"/>            |
| Procurement Spec.              | <input type="checkbox"/> | Operating Instruction            | <input type="checkbox"/> | Computer Software             | <input type="checkbox"/>            |
| Vendor Information             | <input type="checkbox"/> | Operating Procedure              | <input type="checkbox"/> | Electric Circuit Schedule     | <input type="checkbox"/>            |
| OM Manual                      | <input type="checkbox"/> | Operational Safety Requirement   | <input type="checkbox"/> | ICRS Procedure                | <input type="checkbox"/>            |
| FSAR/SAR                       | <input type="checkbox"/> | IEFD Drawing                     | <input type="checkbox"/> | Process Control Manual/Plan   | <input type="checkbox"/>            |
| Safety Equipment List          | <input type="checkbox"/> | Cell Arrangement Drawing         | <input type="checkbox"/> | Process Flow Chart            | <input type="checkbox"/>            |
| Radiation Work Permit          | <input type="checkbox"/> | Essential Material Specification | <input type="checkbox"/> | Purchase Requisition          | <input type="checkbox"/>            |
| Environmental Impact Statement | <input type="checkbox"/> | Fac. Proc. Samp. Schedule        | <input type="checkbox"/> | Tickler File                  | <input type="checkbox"/>            |
| Environmental Report           | <input type="checkbox"/> | Inspection Plan                  | <input type="checkbox"/> | NA                            | <input checked="" type="checkbox"/> |
| Environmental Permit           | <input type="checkbox"/> | Inventory Adjustment Request     | <input type="checkbox"/> |                               | <input type="checkbox"/>            |

**20. Other Affected Documents:** (NOTE: Documents listed below will not be revised by this ECN.) Signatures below

indicate that the signing organization has been notified of other affected documents listed below.

**Document Number/Revision**

**Document Number/Revision**

Document Number Revision

NA

## 21. Approvals

|                      | Signature | Date   |
|----------------------|-----------|--------|
| Design Authority     | C. Miska  | 9/2/00 |
| Cog. Mgr.            | C. Haller | 9/2/00 |
| QA                   | H. Chafin | 9/2/00 |
| Safety               | J. Brehm  | 9/5/00 |
| Environ.             | N/A       |        |
| Independent Reviewer | B. Parker | 9/2/00 |

|              | Signature | Date  |
|--------------|-----------|-------|
| Design Agent |           | _____ |
| QA           |           | _____ |
| Safety       |           | _____ |
| Design       |           | _____ |
| Environ.     |           | _____ |
| Other        |           | _____ |

**DEPARTMENT OF ENERGY**

Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

## DISTRIBUTION SHEET

|   |                        |                           |
|---|------------------------|---------------------------|
| <b>To</b><br>Distribution<br><br><b>Project Title/Work Order</b><br>W-441, P5 CGI Package | <b>From</b><br>SNF-CVD | <b>Page</b> 1 <b>of</b> 1 |
|   |                        | <b>Date</b> 9/2/00        |
|   |                        | <b>EDT No.</b>            |
|   |                        | <b>ECN No.</b> 662318     |

[illegible]

# SCHe Helium Supply Bottles and Associated Isolation Valves

Prepared for the U.S. Department of Energy  
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the  
U.S. Department of Energy under Contract DE-AC06-96RL13200

**Fluor Hanford**

P.O. Box 1000

Richland, Washington

SNF-4887  
Revision 2

ECN 662318

# SCHe Helium Supply Bottles and Associated Isolation Valves

Project No: W-441

Document Type: RPT

Division: SNF

C Miska  
FH

Date Published  
September 2000

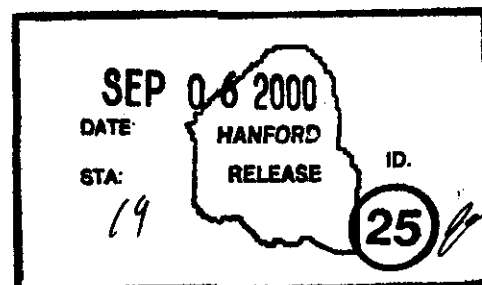
Prepared for the U.S. Department of Energy  
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the  
U.S. Department of Energy under Contract DE-AC06-96RL13200

**Fluor Hanford**  
P.O. Box 1000  
Richland, Washington

  
Release Approval

9/6/2000  
Date



Release Stamp

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Total Pages: 13

## RECORD OF REVISION

(1) Document Number

SNF-4887

Page 1

(2) Title

SCHe Helium Supply Bottles and Associated Isolation Valves

## Change Control Record

[illegible]

## Commercial Grade Item Upgrade Dedication Form

SNF-4887, Rev. 2

ECN No. N/A CGI No. CGI-SNF-D-13-2-P5-050  
Title: SCHe Helium Supply Bottles and Associated Isolation Valves

Page 1 of 9

## Section 1 Part Information

Item No.: N/AManufacturer: N/ASupplier: N/AMfg. Part/Model No.: N/ASupplier's P/N: N/APart Description: N/AEnd Use Description: N/A

## Section 2a Component Information

Equipment No.: SCHe-TK-5\*01 with  
SCHe-V-\*114; SCHe-TK-5\*02 with  
SCHe-V-\*115; SCHe-TK-5\*03 with  
SCHe-V-\*116; SCHe-TK-5\*04 with  
SCHe-V-\*117Specification No.:  
SNF-5304 (W-441-P5)Manufacturer:  
Taylor-Wharton,  
SherwoodPast P.O. No.:  
N/AManufacturer's Part/Model No.:  
Taylor-Wharton: HPS NPP51;  
Sherwood: TV68061-55Equipment Supplier (if different from manufacturer):  
Norco and others to be determinedEquip. Supplier's Part No.: N/A

Component Description:

**These gas bottles and associated valves provide the safety grade helium source for emergency MCO purge.**

## Section 2b Commercial Availability of the Item

1. Is the Item available from a catalogue from a qualified NQA1 supplier or ISO 9000 supplier (coordinate with project CGI interface Engineer or BTR)? ☐ YES (go to #2 below) ☒ NO (go to procedure step 6.3.2, proceed to dedicate Item)

If not available from a qualified NQA1 supplier, is it available from an ISO 9000 supplier? (coordinate w/ project CGI Interface Engineer or BTR) ☐ YES (go to #2 below, procedure step 6.3.2, dedicate Item) ☒ NO (procedure step 6.3.2, dedicate Item)

2. List of Candidate qualified suppliers or ISO 9000 suppliers N/A

3. Recommended Procurement Strategy (coordinate with project CGI interface Engineer or BTR): **The bottles and associated valves will be procured as commercial grade. A CGI Upgrade Dedication Form will be prepared. Bottle is steel and is size "1A". Bottles will be fabricated to requirements of DOT standards (49 CFR 178.37). Valves are furnished as part of the helium bottles. The Documentation supplied by the fabricator will include serial number identification for the bottles. The bottles are not individually seismically tested. The facility equipment rack/restraints holding them require seismic design and certification. Seismic testing of the assembled panel will be done with a "1A" bottle and connecting flex hose installed. The DOT fabrication report provided by the fabricator will include, but not limited to documentation for: date of fabrication, liquid penetrant certification report and hydrotest report.**

## Section 2c CGI Determination

CGI Determination Questions:

#1: Is the Item subject to design or specification requirements that are unique to nuclear facilities or activities?

☐ YES (the Item is not commercial grade)☒ NO (continue)

#2: Is the Item used in applications other than nuclear facilities or activities?

☐ NO (the item is not commercial grade)☒ YES (continue)

#3: Is the Item ordered from manufacturer/supplier on the basis of specifications set forth in the manufacturer's catalog?

☐ NO (the item is not commercial grade)☒ YES (continue)**☒ All three criteria have been satisfied. The Item meets the definition of commercial grade.**

## Section 2d Reason for Dedication



## Commercial Grade Item Upgrade Dedication Form

SNF-4887, Rev. 2

ECN No. N/A CGI No. CGI-SNF-D-13-2-P5-050  
 Title: SCHe Helium Supply Bottles and Associated Isolation Valves

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| Section 2d Reason for Dedication  |  |   |                         |
|---|--|---|-------------------------|
| The above Commercial Grade (CG) described item is being Dedicated for use in the application cited for the following reason(s): |  |   |                         |
| <input checked="" type="checkbox"/>   | Item is being purchased from a non-ESL manufacturer supplier as CG to be used in a Safety Class application.       |   |                         |
| <input type="checkbox"/>  | Item is being purchased from a non-ESL manufacturer supplier as CG to be used in a Safety Significant application. |   |                         |
| <input type="checkbox"/>  | Item was purchased from a non-ESL manufacturer supplier as CG to be used in a Safety Class application.            |   |                         |
| <input type="checkbox"/>  | Item was purchased from a non-ESL manufacturer supplier as CG to be used in a Safety Significant application.      |   |                         |
| <input type="checkbox"/>  | Other ('like-for-like', similar, substitution, replacement evaluation)   |   |                         |
| Section 3 Failure Effects Evaluation  |  |   |                         |
| A. Part/Component Safety Function:  |  |   |                         |
| 1. <b>SCHe Pressure Boundary Integrity-- Prevents helium leakage from the SCHe System.</b>                                      |  |   |                         |
| 2. <b>Maintain critical function before and after Seismic event.</b>  |  |   |                         |
| 3. <b>Supply Helium for MCO emergency helium purge.</b>   |  |   |                         |
| B. Part/Component Functional Mode:  |  |   |                         |
| Safety Function #1: [ ] Active [X] Passive  |  | Active - Mechanical or Electrical change of state is required to occur for the component to perform its safety function   |                         |
| Safety Function #2: [ ] Active [X] Passive  |  | Passive - Change of state is not required for the component to perform its safety function                                |                         |
| Safety Function #3: [ ] Active [X] Passive  |  |   |                         |
| C. Host Component Safety Function (if applicable): <b>N/A</b>   |  |   |                         |
| D. Failure Mode(s) and the effects on component or system safety function (see Worksheet 1):                                    |  |   |                         |
| 1. <b>Fracture of the pressure boundary or of the piping connection resulting in loss of helium from the SCHe supply.</b>       |  |   |                         |
| 2. <b>Foreign matter introduced during bottle shipment and change out could block flow in the hose or in the regulator.</b>     |  |   |                         |
| Section 4 Environmental & Natural Phenomena Hazard Design   |  |   |                         |
| Environmental Qualification Required:   |  | If yes: Environmental Qualification Requirements  |                         |
| Yes [ ]   |  | Limiting Environmental Conditions:  |                         |
| No [X] Environmental Condition B  |  | Required Safety Functions:  |                         |
|   |  | Qualification Period:   |                         |
| Natural Phenomena Hazard (NPH) Design Required:   |  | If yes: NPH Design Requirements   |                         |
| Yes [X] HNF-PRO-97, SNF-5304  |  | Performance Category: <b>PC-3</b>   |                         |
| No [ ]  |  | NPH Design Req'ts.: <b>Seismic Condition A</b>  |                         |
|   |  | Required Safety Functions: <b>Pressure Boundary Integrity; Maintain critical function before and after Seismic Event.</b> |                         |
| Section 5 Component Functional Classification   |  |   |                         |
| <input checked="" type="checkbox"/>   | Safety Class (SC)  | <input type="checkbox"/>  | General Service (GS)    |
| <input type="checkbox"/>  |  | <input type="checkbox"/>  | Safety Significant (SS) |
| If part/component classification is different from host component/system, document basis. <b>N/A</b>                            |  |   |                         |
| Sections 6 and 7 (Reserved)   |  |   |                         |
| Section 8 References (for Functional Classification)  |  |   |                         |
| National Codes/Standards: <b>DOT 49 CFR 178.37</b>  |  |   |                         |
| Safety Analysis Report (SAR): <b>HNF-3553, Annex B</b>  |  |   |                         |
| Drawings: <b>H-1-82165, HNF-SD-SNF-SEL-002</b>  |  |   |                         |
| Vendor Manual/Manufacturer/Supplier Information: <b>Taylor-Wharton, Sherwood Technical Information</b>                          |  |   |                         |

## Commercial Grade Item Upgrade Dedication Form

SNF-4887, Rev. 2

ECN No. N/A CGI No. CGI-SNF-D-13-2-P5-050  
 Title: SCHe Helium Supply Bottles and Associated Isolation Valves

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| Section 9 Critical Characteristics  |   |             |   |          |
|---|---|-------------|---|----------|
| Critical Characteristics  | Acceptance Criteria/Tolerances  | Acc Meth    | ID  | Function |
| <b>Bottle</b>   |   |             |   |          |
| 1. Item Identification Critical Characteristics (necessary for reasonable assurance that the Item delivered is the Item specified)  |   |             |   |          |
| Construction Documentation for: DOT 49 CFR 178.37 DOT-3AA3600 & TC-3AAM154BAR   | Fabrication Report information including: serial numbers, date of fabrication, liquid penetrant certification report, verification of leak test (stem, seat, and rupture disc) of the isolation valves, and hydrotest report. All items acceptable. | 1, IN       | X   |          |
| Nameplate - Manufacturer  | Taylor-Wharton  | 1, IN       | X   |          |
| Bottle Size   | Nominal 9" Diameter X 51" Height  | 1, IN       | X   |          |
| Procurement and/or Model No.  | Bottle: Taylor-Wharton  | 1, IN       | X   |          |
| 2. Physical Critical Characteristics (for reasonable assurance that the Item delivered is the Item specified)   |   |             |   |          |
| Material, Bottle  | Steel (Note 3)  | 1, IN; 1, T | X   |          |
| <b>Valve</b>  |   |             |   |          |
| 1. Item Identification Critical Characteristics (necessary for reasonable assurance that the Item delivered is the Item specified)  |   |             |   |          |
| Nameplate - Manufacturer  | Sherwood  | 1, IN       | X   |          |
| Procurement and/or Model No.  | TV 68061-55   | 1, IN       | X   |          |
| 2. Physical Critical Characteristics (for reasonable assurance that the Item delivered is the Item specified)   |   |             |   |          |
| Material, Valve Body  | Brass (Note 3)  | 1, IN; 1, T | X   |          |
| Size  | Inlet: 3/4"-14 NGT - Tapered; Outlet: CGA 680   | 1, IN       | X   |          |
| <b>Bottle &amp; Valve:</b>  |   |             |   |          |
| 3. Performance Critical Characteristics (for reasonable assurance that the Item will perform its intended safety function(s))   |   |             |   |          |
| Environmental   | Note 1  |             |   |          |
| Seismic Condition A Event   | Note 2  | 1, T        |   | X        |
| 4. Notes and Legend: Rev. 1: Rev'd bottle mfr. to Taylor-Wharton, Isol. Valve to Sherwood.<br>Rev. 2: Deleted Valve Leakage Test under performance CCs.<br>1. The helium bottle and valve are not subject to degradation at ambient conditions of 40°F and 60% RH or 115°F and 22% RH and is suitable for Environmental Condition B application.<br>2. Maintain critical function before and after Seismic event. SNF-5304, provides a seismic testing plan for these components at a seismic spectra defined in SNF-4895. Equipment that has been shaker-table tested should not be installed in a plant (Ref. IEEE Standard 344-1987, Section 7). Consequently, the seismic test constitutes a destructive test.<br>3. Material verification acceptance method may be by either inspection or test. |   |             | Acceptance Method (Acc Meth):<br>1. Special Test and Inspection:<br>1, IN for Inspection<br>1, T for Test<br>2. Commercial Grade Survey<br>3. Source Verification<br>4. Vendor/Item History |          |
| Section 10 Initial Review and Approval  |   |             |   |          |
| Approvals: <i>see above</i><br>Designated Engineer: <i>Carl Van Kesterwijk 9/2/00</i><br>Design Authority: <i>hmk 9-2-00</i><br>QA Engineer: <i>Hank M. Chelgin 9/2/00</i>  |   |             |   |          |

ECN No. N/ACGI No. CGI-SNF-D-13-2-P5-050

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Title: **SCHe Helium Supply Bottles and Associated Isolation Valves**

| WORKSHEET 1   |  |  |   |
|---|--|--|---|
| DETERMINATION OF FAILURE MECHANISMS   |  |  |   |
| Section 1   |  |  |   |
| Typical Failure Mechanisms  | Definition   | X = Applicable to Component under Evaluation<br>X? Indicate Failure Mode |   |
| Fracture  | Separation of a solid accompanied by little or no macroscopic plastic deformation.   | X  | Fracture of the bottle or the connection would fail the pressure boundary and stop the supply of emergency helium to that purge path. |
| Corrosion   | The gradual deterioration of a material due to chemical or electrochemical reactions, such as oxidation, between the material and its environment.               |  |   |
| Erosion   | Destruction of materials by the abrasive action of moving fluids, usually accelerated by the presence of solid particles carried with the fluid.                 |  |   |
| Open Circuit  | An electrical circuit that is unintentionally broken so that there is no complete path for current flow.   |  |   |
| Short Circuit   | An abnormal connection by which an electrical current is connected to ground, or to some conducting body, resulting in excessive current flow.                   |  |   |
| Blockage  | Clogging of a filtering medium resulting in the inability to perform its purification function or blockage of flow.  | X  | Foreign matter introduced during bottle changeout could block flow in the valve.  |
| Seizure   | Binding of a normally moving item through excessive pressure, temperature, friction, jamming.  |  |   |
| Unacceptable Vibration  | Mechanical oscillations produced are beyond the defined permissible limits due to unbalancing, poor support, or rotation at critical speeds.                     |  |   |
| Loss of Properties  | A loss of mechanical and physical properties of a material due to exposure to high temperatures, radiation exposure.   |  |   |
| Excess Strain   | Under the action of excessive external forces the material of the part has been deformed or distorted.   |  |   |
| Mechanical Creep  | From prolonged exposure to high temperature and stress, the object will show a slow change in its physical (shape and dimension) and mechanical characteristics. |  |   |
| Ductile Fracture  | Fracture characterized by tearing of metal accompanied by appreciable gross plastic deformation.   |  |   |
| Section 2 Additional Failure Modes Applicable to the Component Under Evaluation   |  |  |   |
| 1. Foreign matter introduced inside the hose during bottle change out could block flow in the hose or in the regulator. |  |  |   |

## Commercial Grade Item Upgrade Dedication Form

SNF-4887, Rev. 2

ECN No. **N/A**CGI No. **CGI-SNF-D-13-2-P5-050**

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Title: **SCHe Helium Supply Bottles and Associated Isolation Valves**

## Checklist 1 - Acceptance Method 1 - Special Test/Inspection Verification

| SECTION 1   |      |  |   |
|---|------|--|---|
| Item Description:<br><b>SCHe Helium Supply Bottles and Associated Valves</b>  |      | Equip #: <b>SCHe-TK-5*01 with SCHe-V-*114</b>  |   |
| System #: <b>13-2</b>   |      | <b>SCHe-TK-5*02 with SCHe-V-*115</b>   |   |
| Model #: <b>Taylor-Wharton: HPS NPP51</b>   |      | <b>SCHe-TK-5*03 with SCHe-V-*116</b>   |   |
| <b>SCHe-TK-5*04 with SCHe-V-*117</b>  |      |  |   |
| Manufacturer (Address/Phone):<br><b>Taylor - Wharton</b><br><b>521 Green Cove Rd</b><br><b>Huntsville, AL 35803</b><br><b>(256)650-9100; P.O.: 11638-3</b>  |      | Supplier <b>NorLab</b><br>(Address/P<br>hone): <b>1121 W. Amity,</b><br><b>Boise, ID 83705</b><br><b>(208)336-1643</b> |   |
| SECTION 2 CRITICAL CHARACTERISTICS TO BE VERIFIED BY METHOD 1.  |      |  |   |
| Insp  | Test | Post-<br>Test  |   |
| X   |      |  | Construction Documentation  |
| X   |      |  | Nameplate - Manufacturer  |
| X   |      |  | Bottle Size   |
| X   |      |  | Procurement and/or Model No. (Bottle and Valve)                     |
| X   | X    |  | Material, Bottle (Verification may be by either inspection or test) |
| X   | X    |  | Material, Valve (Verification may be by either inspection or test)  |
| X   |      |  | Size, Valve   |
|   | X    |  | Seismic Condition A   |
| SECTION 3 BY INSPECTION * See Attachment H, Table H-1 of Desk Instruction for Sampling Size, References (See Section 7)   |      |  |   |
| <b>Bottle</b>   |      |  |   |
| Characteristic: <b>Construction Documentation</b>   |      | Sample Size*: <b>100%</b>  |   |
| Acceptance Criteria: <b>Fabrication report including: serial numbers, date of fabrication, liquid penetrant certification, verification of leak test (stem, seat, and rupture disc) of the isolation valves, and hydrotest certification. All items acceptable.</b> |      |  |   |
| Receipt Inspection Plan / Report #:   |      |  |   |
| Characteristic: <b>Nameplate - Manufacturer</b>   |      | Sample Size*: <b>100%</b>  |   |
| Acceptance Criteria: <b>Taylor-Wharton</b>  |      |  |   |
| Receipt Inspection Plan / Report #:   |      |  |   |
| Characteristic: <b>Bottle Size</b>  |      | Sample Size*: <b>100%</b>  |   |
| Acceptance Criteria: <b>Nominal 9" Diameter X 51" Height</b>  |      |  |   |
| Receipt Inspection Plan / Report #:   |      |  |   |
| Characteristic: <b>Procurement and/or Model No.</b>   |      | Sample Size*: <b>100%</b>  |   |
| Acceptance Criteria: <b>Bottle: Taylor-Wharton</b>  |      |  |   |
| Receipt Inspection Plan / Report #:   |      |  |   |
| Characteristic: <b>Material, Bottle</b>   |      | Sample Size*: <b>100%</b>  |   |
| Acceptance Criteria: <b>Steel</b>   |      |  |   |
| Receipt Inspection Plan / Report #:   |      |  |   |

## Commercial Grade Item Upgrade Dedication Form

SNF-4887, Rev. 2

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Title: SCHe Helium Supply Bottles and Associated Isolation Valves**Valve**Characteristic: **Nameplate - Manufacturer**Sample Size\*: **100%**Acceptance Criteria: **Sherwood**

Receipt Inspection Plan / Report #:

Characteristic: **Model No.**Sample Size\*: **100%**Acceptance Criteria: **TV 68061-55**

Receipt Inspection Plan / Report #:

Characteristic: **Material, Valve Body**Sample Size\*: **100%**Acceptance Criteria: **Brass**

Receipt Inspection Plan / Report #:

Characteristic: **Size**Sample Size\*: **100%**Acceptance Criteria: **Inlet: 3/4"-14 NGT - Tapered; Outlet: CGA 680**

Receipt Inspection Plan / Report #:

**Section 4 By Special Test \*** See Attachment H, Table H-1 of Desk Instruction for Sampling Size, References (See Section 7)Characteristic for Test: **Seismic Condition A**

Samp Size\*: [ ]Normal[ ]Reduced[ ]Tightened

Acceptance Criteria: **Maintain Critical Function Before and After Seismic Event. SNF-5304, provides a seismic testing plan for these components at a seismic spectra defined in SNF-4895.**

Sample Size: **SNF-5304, provides the seismic testing plan for these components. The seismic testing is conducted for one complete panel with the components assembled on the panel and tested as a complete assembly. The Test seismically qualifies the entire assembly, including mountings, piping, and components. The number of components tested is dictated by the panel assembly design.**

Actual Test Value:

Test Plan and Report #:

# Commercial Grade Item Upgrade Dedication Form

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Title: SCHe Helium Supply Bottles and Associated Isolation Valves

## SECTION 5 TEST / INSPECTION SUMMARY (Acceptance Method 1)

### 1. SUMMARY OF VERIFIED CRITICAL CHARACTERISTICS, THEIR VERIFICATION METHODS, AND RESULTS

ITEM DESCRIPTION: Supply Bottle

| Critical Characteristics     |   |    |          | Verification Results |                     |                   |                  |                  |                        |                        |      |
|------------------------------|---|----|----------|----------------------|---------------------|-------------------|------------------|------------------|------------------------|------------------------|------|
| Critical Characteristics     | Acceptance Criteria/Tolerances  | ID | Function | Method<br>T/IN       | Procedure<br>or RR# | Check-<br>list ID | Number<br>Tested | Number<br>Failed | Verifying Organization | Printed Name Signature | Date |
| Construction Documentation   | Fabrication Report information including: serial numbers, date of fabrication, liquid penetrant certification report, verification of leak test (stem, seat, and rupture disc) of the isolation valves, and hydrotest report. All items acceptable. | X  |          | 1, IN                |                     |                   |                  |                  |                        |                        |      |
| Nameplate - Manufacturer     | Taylor-Wharton  | X  |          | 1, IN                |                     |                   |                  |                  |                        |                        |      |
| Bottle Size                  | Nominal 9" Diameter X 51" Height  | X  |          | 1, IN                |                     |                   |                  |                  |                        |                        |      |
| Procurement and/or Model No. | Bottle: Taylor-Wharton  | X  |          | 1, IN                |                     |                   |                  |                  |                        |                        |      |
| Material, Bottle             | Steel   | X  |          | 1, IN                |                     |                   |                  |                  |                        |                        |      |
| Seismic Condition A          | Maintain critical function before and after Seismic Event   | X  | 1, T     |                      |                     |                   |                  |                  |                        |                        |      |

### 2. DISPOSITION OF UNVERIFIED OR FAILED CRITICAL CHARACTERISTICS

| Critical Characteristic | Disposition |
|-------------------------|-------------|
|                         |             |
|                         |             |
|                         |             |

### 3. Signature Indicates All Critical Characteristics Verified Satisfactory or Acceptably Dispositioned and Commercial Grade Dedication Is Satisfactory And Complete.

|                                   |            |                         |            |
|-----------------------------------|------------|-------------------------|------------|
| Testing Agency Approval: _____    | Date _____ | Design Authority: _____ | Date _____ |
| Testing Agency QA Engineer: _____ | Date _____ | QA Engineer: _____      | Date _____ |
|                                   |            | BUYER VERIFICATION      |            |

# Commercial Grade Item Upgrade Dedication Form

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Title: SCHe Helium Supply Bottles and Associated Isolation Valves

## SECTION 5 TEST / INSPECTION SUMMARY (Acceptance Method 1)

### 1. SUMMARY OF VERIFIED CRITICAL CHARACTERISTICS, THEIR VERIFICATION METHODS, AND RESULTS

ITEM DESCRIPTION: Valve

| Critical Characteristics        |  | Verification Results |          |                 |                     |                  |                  |                  |                        |                        |      |
|---------------------------------|--|----------------------|----------|-----------------|---------------------|------------------|------------------|------------------|------------------------|------------------------|------|
| Critical Characteristics        | Acceptance Criteria/Tolerances                               | ID                   | Function | Method<br>T/I/N | Procedure<br>or RR# | Check-<br>Ist ID | Number<br>Tested | Number<br>Failed | Verifying Organization | Printed Name Signature | Date |
| Nameplate -<br>Manufacturer     | Sherwood   | X                    |          | 1, IN           |                     |                  |                  |                  |                        |                        |      |
| Procurement and/or<br>Model No. | TV68061-55   | X                    |          | 1, IN           |                     |                  |                  |                  |                        |                        |      |
| Material, Valve Body            | Brass  | X                    |          | 1, IN           |                     |                  |                  |                  |                        |                        |      |
| Size                            | Inlet: 3/4" -14 NGT - Tapered;<br>Outlet: CGA 680            | X                    |          | 1, IN           |                     |                  |                  |                  |                        |                        |      |
| Seismic Condition A             | Maintain critical function before and after<br>Seismic Event | X                    | 1, T     |                 |                     |                  |                  |                  |                        |                        |      |

### 2. DISPOSITION OF UNVERIFIED OR FAILED CRITICAL CHARACTERISTICS

| Critical Characteristic | Disposition |
|-------------------------|-------------|
|                         |             |
|                         |             |
|                         |             |

### 3. Signature Indicates All Critical Characteristics Verified Satisfactory or Acceptably Dispositioned and Commercial Grade Dedication Is Satisfactory And Complete.

|                                   |                         |                    |
|-----------------------------------|-------------------------|--------------------|
| Testing Agency Approval: _____    | Design Authority: _____ | BUYER VERIFICATION |
| Testing Agency QA Engineer: _____ | QA Engineer: _____      |                    |
| Date: _____                       | Date: _____             |                    |
| Date: _____                       | Date: _____             |                    |

## Commercial Grade Item Upgrade Dedication Form

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Title: **SCHe Helium Supply Bottles and Associated Isolation Valves****Section 6 Contacts / Phone Numbers**

| Title                | Name        | Phone    |
|----------------------|-------------|----------|
| Design Authority     |             |          |
| QA                   |             |          |
| QC                   |             |          |
| Cog - Engineer       |             |          |
| CGI Engineer         | Larry Price | 372-8770 |
| Procurement Engineer |             |          |
| Other                |             |          |

**Section 7 Supporting Documentation for This Checklist**

| Initial Procurement Documents       |  | For Critical Characteristics |
|-------------------------------------|--|------------------------------|
| <input type="checkbox"/>            | Drawings:  |                              |
| <input type="checkbox"/>            | Manuals (specify type & number):                             |                              |
| <input type="checkbox"/>            | Design Calculations  |                              |
| <input type="checkbox"/>            | Installation Instructions                                    |                              |
| <input type="checkbox"/>            | Operation Instructions                                       |                              |
| <input type="checkbox"/>            | Calibration Instructions                                     |                              |
| <input type="checkbox"/>            | Manufacturer's Recommended Spare Parts List                  |                              |
| <input checked="" type="checkbox"/> | Other: <b>Taylor-Wharton, Sherwood Technical Information</b> |                              |
| Procurement Documents               |  |                              |
| <input type="checkbox"/>            | Certificate of Conformance/Compliance                        |                              |
| <input type="checkbox"/>            | Seismic Qualification Certificate                            |                              |
| <input type="checkbox"/>            | Environmental Qualification Certificate                      |                              |
| <input checked="" type="checkbox"/> | Test Report (s): <b>PSI-425-00001</b>                        | <b>Cylinders</b>             |
| <input type="checkbox"/>            | Inspection Report (s):                                       |                              |
| <input type="checkbox"/>            | CMTRs for ASME Pressure Retaining Materials                  |                              |
| <input type="checkbox"/>            | Valve Seat Leakage Report                                    |                              |
| <input type="checkbox"/>            | Weld Records   |                              |
| <input type="checkbox"/>            | Material Traceability Record                                 |                              |
| <input type="checkbox"/>            | Other:   |                              |