**Nuclear** 

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January 15, 1986

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TMI-2 Cleanup Project Directorate
Attn: Dr. W. D. Travers
 Director
US Nuclear Regulatory Commission
c/o Three Mile Island Nuclear Station
Middletown, PA 17057

Dear Dr. Travers:

Three Mile Island Nuclear Station, Unit 2 (TMI-2) Operating License No. DPR-73 Docket No. 50-320 Defueling Canister Checklist

Your letter NRC/TMI-85-086 dated November 8, 1985, granted approval for use of the defueling canisters subject to four (4) provisions. One of these provisions was that GPU Nuclear notify your staff of any planned reduction in GPU Nuclear's augmented Quality Assurance (QA) review program for defueling canisters supplied by Nuclear Energy Services (NES) Manufacturing.

The augmented QA review program has been continued at NES and GPU Nucler intends to continue the program for all future shipments of canisters from NES Manufacturing. However, per your request, we are advising you that the experience gained in the use of the detailed checklists has resulted in the development of more efficient versions of those checklists for the filter, fuel, and knockout canisters (Attachment). The revised filter and knockout canister checklists will be used for all future shipments of these type canisters. The revised fuel canister checklist will be used following GPU Nuclear QA's approval of the completed initial checklist for the first shipment of NES fuel canisters.

The attached checklists have evolved from the checklists which were prepared for the first shipment of canisters. Certain items included in those checklists have been deleted. The deletions are based on either verification of certain generic activities or lack of identification of issues of concern during the previous review.

GPU Nuclear Corporation is a subsidiary of the General Public Utilities Corporation

Dr. Travers

The following is a list of significant revisions to the "first shipment" checklists.

- o The "first shipment" checklists consisted of several Material, Fabrication and Welding/NDE checklists. These three types of checklists have been combined into a single "follow-on shipment" checklist. This consolidation has been accomplished to foster efficiency in the review process, eliminate redundancy between various checklists, and reduce the overall volume of the completed checklist package.
- The following checklist requirements, related to procurement of materials by NES, have been deleted since these activities have been reviewed generically:
  - Selection/Qualification of Suppliers
  - Imposition of QA program requirements on Suppliers
  - Imposition of 10 CFR 21 on Suppliers
- Review of activities associated with the receipt inspection by NES has been deleted since essentially all material was previously reviewed in the "first shipment" checklists.
- Review of activities associated with the following areas has been deleted since no deficiencies were identified as a result of reviews performed by the "first shipment" checklist teams and the Supplier Quality Representatives:
  - Activities associated with Bechtel's review/approval of NES's welding/NDE procedures.
  - Control and disbursment of welding filler material by NES.
  - Use of the current and appropriate welding procedure(s).
  - Verification of fit-up and cleanliness inspections.
  - Minimum preheat and maximum interpass temperature.

In addition, we plan to complete a single checklist for each shipment of each type canister rather than a checklist for each canister as was discussed with your staff. The amount of time associated with the review of each canister shipment and completion of checklists will be significantly reduced and thus the process will be more efficient.

Sincerely timmast F. R. Standerfer Vice President/Director, TMI-2

FRS/RDW/eml

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REVIEWER \_\_\_\_\_ DATE \_\_\_\_\_ FOLLOW ON FILTER CANISTER CHECKLIST - NO. F-\_\_\_\_ REV. \_\_\_ PAGE 1 OF 2\_\_\_\_

DRAWING NO.		QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1154018F Rev. 5 This Chec)	1 2 Note 13 <u>ASSEM</u> Klist applie		DIM. 149 3/4"+ 1/4" (12' - 5 3/4") DIM 3.200 Typ (MAX.) Envelope of Canister Within Perfect Cylinder of 14 15/16" DIA.	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to required criteria</li> </ul> </li> <li>Identification,</li> </ol>	<ul> <li>c. Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No</li> <li>4. Are the applicable NCRs dispositioned? Yes No</li> <li>NCR Nos.</li> <li>5. Are the SDDRs dispositioned?</li> </ul>
TVR No.	Shell No.	Cani No.	ster	Control, and Disposi- tion of NCRs 5. Implementation of SDDRs 6. Assembly Inspection Notes: o NCRs - See Att. No. 1. Item o SDDRs - See Att. No. 2. 2. Item o Calibration - See Att. No. 1 Item	Yes

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154018F 3 Weld - Upper Head		
Rev. 5 4 4 4 5 Weld 1 Weld 1 Weld - Lower Head Weld 2 Hold - Drain Tube To Upper Head 1/16 Weld 3 Assembly *Details on the attached MATRIX of approved/ certified welding and NDE Personnel and Welding Materials.	WELDING         1. Verify welder qualification for WPS utilized         COMPLETED WELD VERIFICA-         TION         2a. Visual Examination/         Qualification         b. Liquid Penetrant         Examination and         Qualification         c. Welder and weld         number identified         on weld or on         documentation, i.e.,         (weld map)         d. PT material batch         numbers recorded on         traveller and C of         Cs are available         NON-DESTRUCTIVE EXAMINA-         TION         3a. Personnel qualified to perform         the examination         b. Review RT and UT	Yes No b. L. P. Examiner Nos. L. P. Examiner Nos. L. P. Examiners are qualified? Yes No c. Are welder and weld numbers identified? Yes No d. Batch Nos. Penetrant Developer Remover Are C of Cs available? Yes No *3a. RT/UT Examiner No.(s) Examiner is qualified? Yes No

REVIEWER \_\_\_\_\_ DATE \_\_\_\_\_ FOLLOW ON FILTER CANISTER CHECKLIST - NO. F-\_\_\_\_ REV. 1 PAGE 1 OF 2

DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1154020E Rev. 2 This Checkl	1 2 <u>Sub-Asse</u> ist also		DIM. 14" + 1/16" Zone C-12 DIM. 1" + 1/16" Zone C-4 <u>Filter Canister</u> sub-assembly to canister:	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to required criteria</li> </ul> </li> </ol>	<ol> <li>Traveller Nos.</li> <li>Have the travelers incorporated the design dwg. and SDDR data? Yes No</li> <li>Are the inspectors qualified? Yes No</li> <li>Are the inspectors qualified? Yes No</li> <li>Inspectors on Master QA</li> <li>Issuance Log ? Yes No</li> <li>Are the tools/gauges calibrated? N/A Yes No</li> <li>Are the tools/gauges calibrated?</li> <li>N/A Yes No</li> <li>C. Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No</li> <li>Are the applicable NCRs dispositioned? Yes No</li> <li>NCR Nos.</li> </ol>
	shell ko.	Canis No.		acceptance to required criteria	5. Are the SDDRs dispositioned? YesNo SDDR Nos

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
NO. 1154020E Rev. 2 *Details on	NO. 3 4 <u>Subasse</u> the atta	mbly sched MATT	DESCRIPTION Weld - Zone D-12 1/16 Weld 1 Weld - Zone F-4 Weld 2 Weld 2 RIX of approved/ IDE Personnel	VERIFICATION WELDING 1. Verify welder qual- ification for WPS utilized	Traveller Nos

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIP	TION		REQUIREMENT FOR VERIFICATION		VERIFICATION
1150959D Rev. 4 This Che	1 2 3 Note 3*	o applies	DIM. 64° Zone B-7 DIM. 90° Zone C-6 DIM750 L&D Add Catalys 4 & 6) in P Specified P Welding of Assy. Filter Cani- upper Head	) <u>+</u> .005 .019 5) ts (P/Ns ortions I rior to Screen ster weldment	<u>IN</u> 3.	<pre>for next operation (release to shop) Identification of latest approved draw- ings on Travellers PROCESS INSPECTIONS Dimensional Inspection a. Qualification of Inspectors b. Use of calibrated equipment c. Evidence of inspection and acceptance to required criteria</pre>	2. 3a. b.	Traveller Nos. Have the travelers incorporated the design dwg. and SDDR data? Yes No Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No Are the tools/gauges calibrated? N/A Yes No Do the travellers have evidence of inspection and acceptance to the required criteria? + Yes No Are the applicable NCRs dispositioned? Yes No NCR Nos.
TVR			Shell	Canister	1. 1	Identification, Control, and Disposi- tion of NCRs		Yes No SDDR Nos.
No. N	D. NO.	Oper.	No. No.	<u>No.</u>	ю. N	Implementation of SDDRs Assembly Inspection otes: NCRs - See Att. No. 1. Item SDDRs - See Att. No. 2, Item Calibration - See Att. No. 1 Item	add ver the	TVR Operation No. that has the ition of catalyst independently ified for each head. Also, denote verifier(s) with a "N" for NES and B" for Bechtel.

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1150959D Rev. 4	4		Weld - Zone D-5	WELDING 1. Verify welder qual- ification for WPS	Traveller Nos.
	5		Weld - Zone C-4		*1. Welder Nos *2a. Visual Examiner Nos Visual Examiners are qualified
	welding a	ached MA	PT in Accordance with ASME Sec. V, Art. 6 (1983 w/no Addenda) TRIX of approved/ Personnel and	Qualification b. Liquid Penetrant Examination and Qualification c. Welder and weld number identified on weld or on documentation, i.e., (weld map) d. PT material batch numbers recorded on traveller and C of Cs are available	Yes No b. L. P. Examiner Nos L. P. Examiners are qualified? Yes No c. Are welder and weld numbers identified? Yes No d. Batch Nos. Penetrant Developer Remover Are C of Cs available? Yes No *3a. RT/UT Examiner No.(s) Examiner is qualified? Yes No

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIP	TION		REQUIREMENT FOR VERIFICATION		VERIFICATION
1154045D Rev. 5	Note 2 Lower H	ead Cataly	Add Catalys 4 & 5) in p Specified P Welding of Assy. Canister Lo Assy.	ortions Prior to Screen	2.	latest approved draw- ings on Travellers PROCESS INSPECTIONS	2. 3a. b.	Traveller Nos Have the travelers incorporated the design dwg. and SDDR data? Yes No Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No Are the tools/gauges calibrated? N/A Yes No Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No Are the applicable NCRs dispositioned? Yes No NCR Nos.
· · · · · · · · · · · · · · · · · · ·	HEAD	Note 2 TVR * Oper. No.	Shell No.	Canister No.	N 0	required criteria Identification, Control, and Disposi- tion of NCRs Implementation of SDDRs Assembly Inspection otes: NCRs - See Att. No. 1, Item SDDRs - See Att. No. 2, Item Calibration - See Att. No. 1 Item		Are the SDDRs dispositioned? Yes

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DRAWING NO.	ITEM QUAN NO. TITY	DECODIDUTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1150917D Rev. 1 This Check	1 2 3 4 <u>Lower Head</u> list also appli	DIM. <u>14.093</u> O.D. Zone C-6 DIM. <u>3/8</u> Zone C-8 DIM. <u>5/16 MIN.</u> Zone B-5 DIM. <u>2 3/4</u> Zone B-4	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to required criteria</li> </ul> </li> </ol>	c. Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No 4. Are the applicable NCRs dispositioned? Yes No NCR Nos. 5. Are the SDDRs dispositioned?
TVR I HD	CMIR.	Shell Canister	4. Identification, Control, and Disposi-	Yes No SDDR Nos,
No. No		No. No.	tion of NCRs	SDDR NOS.
			5. Implementation of SDDRs 6. Assembly Inspection Notes: 0 NCRs - See Att. No. 1 Item 0 SDDRs - See Att. No. 2, Item 0 Calibration - See Att. No. 1 Item	

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1150944C Rev. 1 This Check	1 2 <u>SKIRI</u> list also	MARCE HUND	Dim. <u>14.062</u> <u>13.969</u> Dia. Zone B-3 Dim. 4-1/2 Zone D-2	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and</li> </ul> </li> </ol>	<ol> <li>Traveller Nos</li></ol>
Contraction (Vision Contraction)	CMIR No.	Shell No.	Canister No.	acceptance to required criteria 4. Identification, Control, and Disposi- tion of NCRs 5. Implementation of SDDRs 6. Assembly Inspection	5. Are the SDDRs dispositioned? Yes No SDDR Nos.
				Notes: O NCRS - See Att. No. 1. Item O SDDRS - See Att. No. 2, Item O Calibration - See Att. No. 1 Item	

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DATE

FOLLOW ON FILTER CANISTER CHECKLIST - NO. F- 7 REV. 1 PAGE 1 OF 1

DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1150945C Rev. 1 This Check	1 SHELL	applies	Dim. 14.000 + .093 Dia031 Zone C-2	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection a. Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>c. Evidence of inspection and acceptance to required criteria</li> </ol>	<ul> <li>c. Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No</li> <li>4. Are the applicable NCRs dispositioned? Yes No NCR Nos.</li> </ul>
	MIR No.	Shell No.	Canister No.	<ul> <li>4. Identification, Control, and Disposition of NCRs</li> <li>5. Implementation of SDDRs</li> <li>6. Assembly Inspection Notes:</li> <li>o NCRs - See Att. No. 1. Item</li> <li>o SDDRs - See Att. No. 2.</li> <li>o Calibration - See Att. No. 1</li> <li>Item</li> </ul>	5. Are the SDDRs dispositioned? Yes No SDDR Nos.

REVIEWER DATE

FOLLOW ON FILTER CANISTER CHECKLIST - NO. F- 8 REV. 1 PAGE 1 OF 2

DRAWING NO.	ITEM NO.		DESCRIPTION	N		REQUIREMENT FOR VERIFICATION		VERIFICATION
1150949D Rev. 5	1		Dim. 136-1/8 + (11' - 4-1/8") Zone D-6	1/16	1.	Issuance of Material for next operation (release to shop)		Traveller Nos Have the travelers incorporated
	2		Dim. 3/4 Zone C-7		2.	Identification of latest approved draw- ings on Travellers	3a.	the design dwg. and SDDR data? Yes No Are the inspectors qualified? Yes No Inspectors on Master QA
	3		Dim. 1-3/8 Zone C-4		IN	PROCESS INSPECTIONS	b.	Issuance Log? Yes No Are the tools/gauges calibrated?
	Note 10		Pellets loaded 1/4" of the tub fill length		3.	Dimensional Inspection a. Qualification of Inspectors	ALC: ST	N/A Yes No Do the travellers have evidence of inspection and acceptance to the required criteria?
				•		b. Use of calibrated equipment	4.	Yes No Are the applicable NCRs dispositioned?
his Checkl	2 Augusta	l Plugs-Pelle papplies t	l <u>ts</u> o Canister: Note	10 1		c. Evidence of inspection and acceptance to required criteria		Yes No Nor Nos.
		anister b.	Tube TVR No. Oper. No.	RT	4.	Identification, Control, and Disposi- tion of NCRs	5.	Are the SDDRs dispositioned? YesNo SDDR Nos
					5.	Implementation of SDDRs		
					б. N	Assembly Inspection otes:		
					0	NCRS - See Att. No. 1 Item SDDRS - See Att. No. 2, Item Calibration - See Att. No. 1 Item	* Ad ad de th	d TVR Operation No. that has the ddition of pellets that was indepen- ently verified for each tube. Denote be verifier(s) with a "N" for NES and a "B" for Bechtel.

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1150949D Rev. 5	4		Weld - Zone D-7	WELDING 1. Verify welder qual-	Traveller Nos.
	welding a	ached MAT	Weld 1 Weld - Zone D-4 Weld 2 PT in accordance with ASTM El65	ification for WPS utilized <u>COMPLETED WELD VERIFICA-</u> <u>TION</u> <u>Za.</u> Visual Examination/ Qualification b. Liquid Penetrant Examination and Qualification . c. Welder and weld number identified on weld or on documentation, i.e., (weld map) d. PT material batch numbers recorded on traveller and C of Cs are available	Visual Examiners are qualified Yes No b. L. P. Examiner Nos. L. P. Examiners are qualified? Yes No c. Are welder and weld numbers identified? Yes No d. Batch Nos. Penetrant Developer Remover Are C of Cs available? Yes No *3a. RT/UT Examiner No.(s) Examiner is qualified? Yes No

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCI	RIPTION		REQUIREMENT FOR VERIFICATION		VERIFICATION
1150957B Rev. 1	1 2 Upperhea	d Plug	Dim. 1" Length c Dim. : Plug Det	999 997 Dia.		<pre>for next operation (release to shop) Identification of latest approved draw- ings on Travellers PROCESS INSPECTIONS Dimensional Inspection a. Qualification of Inspectors b. Use of calibrated equipment c. Evidence of inspection and</pre>	2. 3a. b. c.	Traveller Nos Have the travelers incorporated the design dwg. and SDDR data? Yes No Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No Are the tools/gauges calibrated? N/A Yes No Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No Are the applicable NCRs dispositioned? Yes No NCR Nos.
	MIR b.	HD No.	Shell No.	Canister No.	- c	acceptance to required criteria Identification, Control, and Disposi- tion of NCRs Implementation of SDDRs Assembly Inspection NCRs - See Att. No. 1 Item SDDRs - See Att. No. 1 Calibration - See Att. No. 1 Item	5.	Are the SDDRs dispositioned? Yes No SDDR Nos.

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REVIEWER \_\_\_\_\_ DATE \_\_\_\_\_ FOLLOW ON FILTER CANISTER CHECKLIST - NO. F- 10 REV. 1 PAGE 1 OF 2

DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
			DIM. 4.500 R Zone D-7' DIM. 4.800 Zone C-6 DIM. 14.083 DIA. T4.093 DIA. Zone B-6 DIM. 13.437000 DIA. Zone A-6 DIM. 3 <sup>7</sup> /8 Zone B-8 DIM. 3 <sup>7</sup> /8 Zone B-8 DIM. 3 <sup>7</sup> /8 Zone B-8 DIMS. For Lifting Socket (Zone D-3): a. 2.125 DIA. b. <sup>7</sup> /4X 45° C. <sup>19</sup> /10 d. 8° e. 378 DIA. f. 2 <sup>5</sup> /18 DIM. 2.625 DIA. Thru	VERIFICATION 1. Issuance of Material for next operation (release to shop) 2. Identification of latest approved draw- ings on Travellers IN PROCESS INSPECTIONS 3. Dimensional Inspection a. Qualification of Inspectors b. Use of calibrated equipment c. Evidence of inspection and acceptance to required criteria 4. Identification, Control, and Disposi- tion of NCRs 5. Implementation of SDDRs	<ol> <li>Traveller Nos.</li> <li>Have the travelers incorporated the design dwg. and SDDR data? Yes No</li> <li>3a. Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No</li> </ol>
•	UPPER	HEAD	2 <u>2007 (Typ 2 Pics)</u> <u>4 AQ &amp; 200</u> Zone C-4	6. Assembly Inspection Notes: o NCRs - See Att. No. L Item o SDDRs - See Att. No. 2, Item o Calibration - See Att. No. 1 Item	

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION		EMENT FOR FICATION	v	ERIFICATION
1150958D REV. 3	1		DIN. 4.500 R Zone D-7	TVR No.	CMIR No.	Shell No.	Canister No.
	2		DIM. (4.800) Zone C-6				
	3		DIM. 14.083 14.093 DIA. Zone B-6				
	•		DIM. 13.437000 DIA. Zone A-6				
	5		DIM. 3 78 Zone B-8				
	6		DIM. 3 7/8 Zone B-8				
	7		DIMS. For Lifting Socket (Zone D-3):				
		:	a. 2.125 DIA. b. <sup>14</sup> X 45° c. <sup>13</sup> 16 d. 8° e. 3 <sup>1</sup> / <sub>8</sub> DIA: f. 2 <sup>5</sup> / <sub>8</sub>	Note: The of F	above table is to 5-10, in Summary P	o provide inform Form.	nation contained on Page 1
	8		DIM. 2.625 DIA. Thru 2 <u>UNPT(Typ 2 Pics)</u> Tone C-4				
		UPPER	HEAD				

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DATE

FOLLOW ON FUEL CANISTER CHECKLIST - NO. F- 1 REV. 1 PAGE 1 OF 1

DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION		REQUIREMENT FOR VERIFICATION		VERIFICATION
1154045D       Note       Add Catalysts         Rev. 5       2       (P/N 4&5) in portions         specified prior to welding of Screen       Assembly         Lower Head Catalyst       Assembly         This Checklist also applies to canister:       Note 2 *		<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to required criteria</li> </ul> </li> </ol>		2. Ja. b.	Traveller Nos Have the travelers incorporated the design dwg. and SDDR data? Yes No Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No Are the tools/gauges calibrated? N/A Yes No Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No Are the applicable NCRs dispositioned? Yes No NCR Nos.		
TVR Head Operation	tion She	<u>No.</u>	N O O	Identification, Control, and Disposi- tion of NCRs Implementation of SDDRs Assembly Inspection otes: NCRs - See Att. No. 1. Item SDDRs - See Att. No. 2, Item Calibration - See Att. No. 1 Item	ad ve th	Are the SDDRs dispositioned? Yes No SDDR Nos. SDDR Nos. Mo SDDR Nos. Mo SDR No SDR Nos. MO SDR NOS. MO SDR NOS. MO SDR NOS. MO SDR NOS. MO	

REVIEWER \_\_\_\_ DATE \_\_\_\_ FOLLOW ON FUEL CANISTER CHECKLIST - NO. F- 2 REV. 1 PAGE 1 OF 1

DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION VERIFICATION
1150917D Rev. 1 This Check	1 2 3 4 <u>Lower</u> list also		Dim. $\frac{14.093}{13.969}$ O.D. Zone C-6 Dim. $\frac{3}{8}$ Zone C-8 Dim. $\overline{16}$ Min. Zone B Dim. 2 $\frac{3}{4}$ Zone B-4	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li>IN PROCESS INSPECTIONS</li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Use of calibrated equipment</li> <li>Evidence of Inspection and acceptance to required criteria</li> </ul> </li> <li>In Traveller Nos</li></ol>
			Shell Canister No. No.	4. Identification, Control, and Disposition of NCRs 5. Implementation of SDDRs 6. Assembly Inspection Notes: 0 NCRs - See Att. No. 1 Item 0 SDDRs - See Att. No. 2, Item 0 Calibration - See Att. No. 1 Item

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DRAWING ITEM REOUIREMENT FOR QUAN-DESCRIPTION VERIFICATION TITY VERIFICATION NO. NO. 1154026F Note Fill cavity with 1. Traveller Nos. 1. Issuance of Material Rev. 5 4 Catalysts (P/N 21 for next operation & 22) in Portions 2. Have the travelers incorporated (release to shop) Specified the design dwg. and SDDR data? Yes No 2. Identification of 3a. Are the inspectors qualified? latest approved draw-Yes No Inspectors on Master QA ings on Travellers Issuance Log? Yes No IN PROCESS INSPECTIONS b. Are the tools/gauges calibrated? N/A Yes No c. Do the travellers have evidence Dimensional Inspection a. Qualification of of inspection and acceptance Inspectors to the required criteria? Yes No b. Use of calibrated Are the applicable NCRs 4. equipment dispositioned? Yes No No NCR Nos. c. Evidence of inspection and Upper Head Catalysts acceptance to required criteria This Checklist also applies to Canister: Note 2\* 5. Are the SDDRs dispositioned? 4. Identification, TVR Head Operation Canister Shell Yes No. No. No. Control, and Disposi-No. No. No. tion of NCRs 5. Implementation of SDDRS \*Add TVR Operation No. that has the addition of catalyst independently 6. Assembly Inspection verified for each head. Also, denote Notes: the verifier(s) with a "N" for NES and a "B" for Bochtel. o NCRs - See Att. No. 1 Item o SDDRs - See Att. No. 2, Item o Calibration - See Att. No. 1 Item

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REVIEWER \_\_\_\_ DATE \_\_\_\_ FOLLOW ON FUEL CANISTER CHECKLIST - NO. F- 4 REV. 1 PAGE 1 OF 2

DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
This Checklist also a		Weldment applies t		<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li>IN PROCESS INSPECTIONS</li> <li>Dimensional Inspection a. Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to required criteria</li> </ol>	Yes No Inspectors on Master QA Issuance Log? Yes No b. Are the tools/gauges calibrated? N/A Yes No c. Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No 4. Are the applicable NCRs dispositioned? Yes No NCR Nos.
		Head CMTR		4. Identification,	5. Are the SDDRs dispositioned?
No.	1	No:.		Control, and Disposi- tion of NCRs	Yes No SDDR Nos
				5. Implementation of SDDRs	
				6. Assembly Inspection	
				Notes:	
				o NCRs - See Att. No Item	1
				o SDDRs - See Att. No. 2, Item o Calibration - See Att. No. 1	

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1154026F 1 Weld-Skirt to	the second se	
Rev. 5 Head Weld 1 1/8 *Details on the attached MATRIX of approved/ <u>certified welding and NDE Personnel and</u> Welding Materials	<pre>WELDING 1. Verify welder qual- ification for WPS utilized COMPLETED WELD VERIFICA- TION 2a. Visual Examination/ Qualification b. Liquid Penetrant Examination and Qualification c. Welder and weld number identified on weld or on documentation, i.e., (weld map) d. PT material batch numbers recorded on traveller and C of Cs are available NON-DESTRUCTIVE EXAMINA- TION RADIOGRAPHIC/ ULTRASONIC EXAMINATION 3a. Personnel qual- ified to perform the examination b. Review RT and UT records</pre>	d. Batch Nos. Penetrant Developer Remover Are C of Cs available? Yes No 3a. RT/UT Examiner No.(s) Examiner is qualified? Yes No

REVIEWER \_\_\_\_ DATE \_\_\_\_ FOLLOW ON FUEL CANISTER CHECKLIST - NO. F- 5 REV. 1 PAGE 1 OF 2

DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
	Note 9 wer Asse		Completed lower ass'y must be shown to fit within a 14 5/16 max. dia. perfect cylinder for length.	for next operation (release to shop) 2. Identification of latest approved draw- ings on Travellers 3. Are th Yes 3. Are th Yes 3. Are th Yes 3. Are th Yes 5. Dimensional Inspection a. Qualification of Inspectors b. Use of calibrated equipment 5. Duidense of	travellers have evidence pection and acceptance required criteria?
TVR No.		Assemb. No.	ly Canister No.	Identification, Control, and Disposi- tion of NCRs	e SDDRs dispositioned?
				<ul> <li>Implementation of SDDRs</li> <li>Assembly Inspection Notes:</li> <li>NCRs - See Att. No. 1. Item</li> <li>SDDRs - See Att. No. 2, Item</li> <li>Calibration - See Att. No. 1 Item</li> </ul>	

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REVIEWER \_\_\_\_\_ DATE \_\_\_\_\_ FOLLOW ON FUEL CANISTER CHECKLIST - NO. F- 5 REV. 1 PAGE 2 OF 2

DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1150999F Sht. 1 of 3 Rev. 4	A	ached MA	SDDR 2-M101A-22 RT per ART. 2 of Section V of 1983 Edition, ASME Code (w/o Addenda) UT per ART. 5 of Section V of 1983 Edition, ASME Code (w/o Addenda)	WELDING         1. Verify welder qualification for WPS utilized         COMPLETED WELD VERIFICA-         TION         2a. Visual Examination/ Qualification         b. Liquid Penetrant Examination and Qualification         c. Welder and weld number identified on weld or on documentation, i.e., (weld map)         d. PT material batch numbers recorded on traveller and C of Cs are available         NON-DESTRUCTIVE EXAMINA- TION         RADIOGRAPHIC/ ULTRASONIC EXAMINATION         3a. Personnel qual- ified to perform the examination         b. Review RT and UT records	Traveller Nos *1. Welder Nos *2a. Visual Examiner Nos Visual Examiners are qualified Yes No b. L. P. Examiner Nos L. P. Examiners are qualified Yes No c. Are welder and weld numbers identified? Yes No d. Batch Nos. Penetrant Developer Remover Are C of Cs available? Yes No *3a. RT/UT Examiner No.(s) Examiner is qualified? Yes No b. RT/UT records in package are complete? Yes No

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- NO. F- 6 REV. 1 PAGE 1 OF 2

REQUIREMENT FOR DRAWING ITEM OUAN-DESCRIPTION NO. TITY VERIFICATION VERIFICATION NO. 1150999F 1 DIM 145 7/8 + 1/8 1. Traveller Nos. 1. Issuance of Material Sht. 2 of 3 (12'-1 7/8") for next operation Rev. 4 2. Have the travelers incorporated (release to shop) 2 Top face of bulkhead the design dwg. and SDDR data? relation to length 2. Identification of Yes No of bulkhead: 3a. Are the inspectors qualified? latest approved draw-Yes No Inspectors on Master QA ings on Travellers -A-Issuance Log? Yes No IN PROCESS INSPECTIONS L B .005 F.I.M. b. Are the tools/gauges calibrated? N/A Yes No c. Do the travellers have evidence 3. Dimensional Inspection .002 a. Oualification of of inspection and acceptance 3 Inspectors Dim. 1 to the required criteria? Bottom Plate to Lower Yes No b. Use of calibrated Head Weld 4. Are the applicable NCRs equipment dispositioned? Yes No No NCR Nos. c. Evidence of inspection and TVR NO. S/N-D Shell S/N acceptance to required criteria 5. Are the SDDRs dispositioned? Identification, 4. Yes No \_\_\_\_\_ No \_\_\_\_\_ • Control, and Disposition of NCRs 5. Implementation of SDDRS 6. Assembly Inspection Notes: O NCRs - See Att. No. 1 Item o SDDRs - See Att. No. 2, Item o Calibration - See Att. No. 1 Item

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1150999F 4 Sht.2 of 3 Rev. 4		Weld-Bulkhead to Shell	WELDING 1. Verify welder qual- ification for WPS	Traveller Nos.	
			Weld 1	utilized	*1. Welder Nos
	5		Weld-lower head to Shell	TION	
			Weld 2	Za. Visual Examination/ Qualification b. Liquid Penetrant	Visual Examiners are qualified Yes No b. L. P. Examiner Nos.
	6		Weld-Shroud Ass'y to Bottom Plate	Examination and Qualification c. Welder and weld	L. P. Examiners are qualified? Yes No
	7		Weld 3 Weld-Bottom Plate	number identified on weld or on documentation, i.e., (weld map)	c. Are welder and weld numbers identified? Yes No d. Batch Nos.
			weld 4	d. PT material batch numbers recorded on traveller and C of	Penetrant Developer Remover
*Details on	the atta	ached MAT	RIX of approved/	Cs are available	Are C of Cs available? Yes No
certified v Materials.	welding a	and NDE P	ersonnel and Welding	TION	*3a. RT/UT Examiner No.(s) Examiner is qualified?
				RADIOGRAPHIC/ ULTRASONIC EXAMINATION	Yes No b. RT/UT records in package are complete?
				3a. Personnel qual- ified to perform the examination	Yes No
				b. Review RT and UT records	

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION VERIFICATION
1150983C Rev. 1 This Checklin	1  Shel ist also		DIM. 14.000 + 0.093 - 0.031 DIA.  Zone C-2	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li>IN PROCESS INSPECTIONS</li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to required criteria</li> </ul> </li> <li>Issuance log? Yes No Inspectors on Master QA Issuance Log? Yes No</li> <li>Are the tools/gaugescalibrated? N/A Yes No</li> <li>Dimensional Inspection A. Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to required criteria</li> <li>Are the SDDRs dispositioned?</li> <li>Are the SDDRs dispositioned?</li> </ol>
TVR	CMIR	·· sh	ell Canister	4. Identification, Control, and Disposi- SDDR Nos.
No.	No.	No. No.	tion of NCRs SDDR Nos.	
No. N				5. Implementation of SDDRs 6. Assembly Inspection Notes: o NCRs - See Att. No. 1 Item o SDDRs - See Att. No. 2, Item o Calibration - See Att. No. 1 Item

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCR	IPTION		REQUIREMENT FOR VERIFICATION		VERIFICATION
1150988C Rev. 1 his Checkl		Zone B-2			<u>IN</u> 3.	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to required criteria</li> </ul> </li> </ol>	Yes No 3a. Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No b. Are the tools/gauges calibrated N/A Yes No c. Do the travellers have eviden of inspection and acceptance to the required criteria? Yes No 4. Are the applicable NCRs dispositioned? Yes No NCR Nos.	Have the travelers incorporated the design dwg. and SDDR data? Yes No Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No Are the tools/gauges calibrated? N/A Yes No Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No Are the applicable NCRs dispositioned? Yes No NCR Nos.
TVR No.	CMIR No.	TT IT IT	Shell No.	Canister No.	4.	Identification, Control, and Disposi- tion of NCRs Implementation of SDDRs		Yes No SDDR Nos
					- N - O	Assembly Inspection otes: NCRS - See Att. No. 1. Item SDDRS - See Att. No. 2, Item Calibration - See Att. No. 1 Item		

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1150989F Rev. 4 Part II	1		DIMSSect. W-W 3 3/8 2 1 1/8 2 1 1/8 2 1 1/8 2 1 1/8 2 001 14 + 1/64 DIA. 8.751 + .002 DIA. -A- Lifting Socket 3 1/8 DIA 2.125 DIA. 1/4 x 45° Ro 13/16 2 3/8 DIMSSection. Y-Y .125 .130 .205 + .005 DIMSSect. 2-2 .100 .105 .130 + .005	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li>IN PROCESS INSPECTIONS</li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to required criteria</li> </ul> </li> <li>Identification, Control, and Disposi- tion of NCRs</li> <li>Implementation of</li> </ol>	<ol> <li>Traveller Nos</li></ol>
	HEA	D	(Continued)	SDDRs 6. Assembly Inspection Notes: 0 NCRs - See Att. No. 1, Item 0 SDDRs - See Att. No. 2, Item 0 Calibration - See Att. No. 1 Item	

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1150989F Rev. 4 Part II			DIMS. Sect. Z-Z (Continued) 1.605 + .005 000 DIA. DIMS - Plan 10.125 + 0.005 SQ 5.063 Typ 1.500 + .010 R Typ .888 + .002 DIA. $A \otimes 0.005 \otimes$ Typ .750 + .010 Typ 100 typ 6.437 Typ SDDR 2-M-101A-29 Dimensions Vary as Stated in SDDR for Heads #251, 252, 253 and 260 (Continued)	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to required criteria</li> </ul> </li> <li>Identification, Control, and Disposi- tion of NCRs</li> <li>Implementation of SDDRs</li> <li>Assembly Inspection</li> </ol>	<ol> <li>Traveller Nos</li></ol>
	HEA	D		Notes: o NCRs - See Att. No. 1. Item o SDDRs - See Att. No. 2, Item o Calibration - See Att. No. 1 Item	

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REVIEWER \_\_\_\_ DATE \_\_\_\_ FOLLOW ON FUEL CANISTER CHECKLIST - NO. F- 9 REV. 1 PAGE 3 OF 3

DRAWING NO.	ITEM NO.	QUAN- TITY	DESCR	IPTION		REQUIREMENT FOR VERIFICATION		VERIFICATION
1150989F Rev. 4 Part I	1 	r Head	2 22 50 1 5/8 t 450 t .792 <u>+</u> Thru 8 on a 12 DIA B.	YP 002 DIA <u>Places</u> .250 C. ) 0.005 (%) h Hole)	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection a. Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to required criteria</li> <li>Identification,</li> </ol>	2. Ha th Ye Ja. Ar Ye In Is b. Ar N// c. Do of to Ye 4. Ar di Ye NC	Traveller Nos Have the travelers incorporated the design dwg. and SDDR data? Yes No Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No Are the tools/gauges calibrated? N/A Yes No Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No Are the applicable NCRs dispositioned? Yes No NCR Nos Are the SDDRs dispositioned?	
TVR No.	HD No.	CMTR	Shell No.	Canister No.	1	Control, and Disposi- tion of NCRs		Yes No SDDR Nos.
					0	Implementation of SDDRs Assembly Inspection otes: NCRs - See Att. No. 1. Item SDDRs - See Att. No. 2, Item Calibration - See Att. No. 1 Item		

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION VERIFICATION
1150992E Rev. 1	1	tom Plate	DIM. 13 13/32 DIA. -A- Zone C-9 DIM. 5 Zone B-7	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li>Identification of latest approved draw- ings on Travellers</li> <li>IN PROCESS INSPECTIONS</li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and</li> </ul> </li> <li>Issuance Log? Yes No         <ul> <li>No</li> <li>Are the tools/gauges calibrated? N/A Yes No</li> <li>Are the cols/gauges calibrated? N/A Yes No</li> <li>Are the applicable NCRs dispositioned? Yes No</li> </ul> </li> </ol>
TVR No.	Shell No.		anister o.	<pre>acceptance to required criteria 4. Identification, Control, and Disposi- tion of NCRs 5. Implementation of SDDRs 6. Assembly Inspection Notes: 0 NCRs - See Att. No. 1 Item 0 SDDRs - See Att. No. 2, Item 0 Calibration - See Att. No. 1 Item</pre>

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION VERIFICATION
1154006D Rev. 1	1	DIM 1/8 Zone A-5		<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li>IN PROCESS INSPECTIONS</li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Use of calibrated equipment</li> <li>Evidence of</li> </ul> </li> <li>In Issuance of Material for next operation (release to shop)</li> <li>Traveller Nos.</li> <li>Have the travelers incorporated the design dwg. and SDDR data? Yes No</li> <li>Are the inspectors qualified? Yes No</li> <li>Are the tools/gauges calibrated? N/A Yes No</li> <li>Dimensional Inspection A. Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of</li> <li>Traveller Nos.</li> <li>Have the travelers incorporated the design dwg. and SDDR data? Yes No</li> <li>Are the inspectors qualified? N/A Yes No</li> <li>Are the tools/gauges calibrated? N/A Yes No</li> <li>Are the applicable NCRs dispositioned? Yes No</li> </ol>
15/22 1	Lower 1 Shell	Inpact Pla	ate A nister	NCR Nos.
TVR No.	No.	: 		<ul> <li>4. Identification, Control, and Disposition of NCRs</li> <li>5. Are the SDDRs dispositioned? Yes No SDDR Nos.</li> <li>6. Assembly Inspection Notes:</li> <li>0 NCRs - See Att. No. 1 Item o SDDRs - See Att. No. 2, Item o Calibration - See Att. No. 1 Item</li> </ul>

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1154007D 1 Rev. 1		Inpact P	DIM 3/16 Zone A-5	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and</li> </ul> </li> </ol>	<ol> <li>Traveller Nos.</li> <li>Have the travelers incorporated the design dwg. and SDDR data? Yes No</li> <li>Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No</li> <li>Are the tools/gauges calibrated? N/A Yes No</li> <li>Are the tools/gauges calibrated? N/A Yes No</li> <li>C. Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No</li> <li>Are the applicable NCRs dispositioned? Yes No</li> <li>NCR Nos.</li> </ol>
TVR No.	Shell No.		Canister required crite No. No. No. No. No. No. Notes:	Control, and Disposi- tion of NCRs 5. Implementation of SDDRs 6. Assembly Inspection Notes: o NCRs - See Att. No. 1. Item o SDDRs - See Att. No.	5. Are the SDDRs dispositioned? Yes No SDDR Nos.

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DRAWING ITEM OUAN-REQUIREMENT FOR DESCRIPTION TITY VERIFICATION VERIFICATION NO. NO. 1154014F 1 DIMS. Plan Upper 1. Traveller Nos. 1. Issuance of Material Surface for next operation Rev. 3 (release to shop) Have the travelers incorporated 2. 22 1/20 the design dwg. and SDDR data? 2. Identification of Yes No 450 Typ 3a. Are the inspectors qualified? latest approved draw-Yes No Inspectors on Master QA ings on Travellers 100 2 Places 5.906 Issuance Log? Yes No IN PROCESS INSPECTIONS 2 R Typ (4 Places) b. Are the tools/gaugescalibrated? -N/A N/A Yes No c. Do the travellers have evidence 3. Dimensional Inspection B .030 a. Qualification of +000 of inspection and acceptance 8.760 -.005 SQ Inspectors to the required criteria? Yes No b. Use of calibrated A (L) Ø.010(L) 4. Are the applicable NCRs equipment dispositioned? -B-Yes No No NCR Nos. c. Evidence of 2 Holes on a inspection and 12.875 DIA B.C. acceptance to required criteria ⊕ B S Ø.005 S 5. Are the SDDRs dispositioned? 4. Identification, 3/4-10 UNC 2B X Yes No \_\_\_\_\_ SDDR Nos. Control, and Disposi-1 3/4 DP (Full tion of NCRs Thread) 8 Holes on a 12.250 DIA в.с. 5. Implementation of SDDRs € BS Ø0.005 (S) 6. Assembly Inspection Notes: BULKHEAD o NCRs - See Att. No. 1 Item o SDDRs - See Att. No. 2, Item o Calibration - See Att. No. 1 Item

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1154014F 2 Rev. 3			DIMSSect 2-2 14.093 DIA OBO Ø.010 (%) 9.578 + .010 SQ -A-	for next operation (release to shop) 2. 2. Identification of latest approved draw- ings on Travellers 3a. IN PROCESS INSPECTIONS b. 3. Dimensional Inspection a. Qualification of Inspectors b. Use of calibrated equipment 4. c. Evidence of inspection and acceptance to required criteria 5.	<ol> <li>Have the travelers incorporated the design dwg. and SDDR data? Yes No</li> <li>Are the inspectors qualified? Yes No</li> <li>Inspectors on Master QA</li> <li>Issuance Log? Yes No</li> <li>Are the tools/gauges calibrated? N/A Yes No</li> <li>C. Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No</li> </ol>
VR Bulkhead ko. No.	Shel No.		Yes No		

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REVIEWER \_\_\_\_\_ DATE \_\_\_\_\_ FOLLOW ON FUEL CANISTER CHECKLIST - NO. F- 14 REV. 1 PAGE 1 OF 1

REQUIREMENT FOR

VERIFICATION

	ITY DESCRIPTION	VERIFICATION	VERIFICATION
1154021C 1 Rev. 1 2 3 	DIMS. 1 5/16 and 1½ Zone C-3 DIM640 ± .005 DIA. Zone B-3 DIM750 + .000 001 DIA (Threads) Zone C-2	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and</li> </ul> </li> </ol>	<ol> <li>Traveller Nos.</li> <li>Have the travelers incorporate the design dwg. and SDDR data? Yes No</li> <li>Are the inspectors qualified? Yes No</li> <li>Are the inspectors qualified? Yes No</li> <li>Inspectors on Master QA</li> <li>Issuance Log? Yes No</li> <li>Are the tools/gauges calibrated? N/A Yes No</li> <li>C. Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No</li> <li>Are the applicable NCRs dispositioned? Yes No</li> <li>NCR Nos.</li> </ol>
IVR CMTR No. No. :	Shell Canister No. No.		5. Are the SDDRs dispositioned? Yes No SDDR Nos.

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REVIEWER \_\_\_\_\_ DATE \_\_\_\_\_ FOLLOW ON KNOCKOUT CANISTER CHECKLIST - NO. F-\_\_\_\_ REV. \_\_\_ PAGE 1 OF \_\_\_\_

REQUIREMENT FOR DRAWING ITEM OUAN-DESCRIPTION VERIFICATION VERIFICATION TITY NO. NO. 1. Issuance of Material 1. Traveller Nos. Add Catalysts 1154045D Note (P/N 485) in Portions for next operation Rev. 5 2 2. Have the travelers incorporated specified prior (release to shop) the design dwg. and SDDR data? to welding of No Screen Assy 2. Identification of Yes 3a. Are the inspectors qualified? latest approved drawings on Travellers Yes No Inspectors on Master QA Issuance Log? Yes No IN PROCESS INSPECTIONS b. Are the tools/gauges calibrated? Yes No 3. Dimensional Inspection N/A c. Do the travellers have evidence a. Qualification of of inspection and acceptance Inspectors to the required criteria? Yes No b. Use of calibrated 4. Are the applicable NCRs equipment dispositioned? Yes No No Lower Head Catalysts c. Evidence of inspection and This Checklist also applies to canister: acceptance to required criteria Note 2\* TVR Head Oper. Shell Canister 5. Are the SDDRs dispositioned? 4. Identification, No. No. No. No. No. Yes No \_\_\_\_\_ SDDR Nos. Control, and Disposition of NCRs . 5. Implementation of SDDRs 6. Assembly Inspection Notes: o NCRs - See Att. No. 1 \*Add TVR Operation No. that has the Item o SDDRs - See Att. No. addition of catalyst independently 2, Item verified for each head. Also, denote the verifier(s) with a "N" for NES and o Calibration - See a "B" for Bechtel. Att. No. 1 ltem

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DRAWI NO.		ITEM NO.	QUAN- TITY	DES	SCRIPTION		REQUIREMENT FOR VERIFICATION		VERIFICATION
1150917 Rev. 1	סז	1			<u>14.093</u> O.D. 13.969 O.D.	1.	Issuance of Material for next operation (release to shop)	1. 2.	Traveller Nos Have the travelers incorporated the design dwg. and SDDR data?
		2		Dim.		2.	Identification of latest approved draw- ings on Travellers	3a.	Yes No Are the inspectors qualified? Yes No Inspectors on Master QA
				and a start of the		IN	PROCESS INSPECTIONS		Issuance Log? Yes No
		3		Dim.	5 Min. I6 Min.	3.	Dimensional Inspection	1.11	Are the tools/gauges calibrated? N/A Yes No
				a di sala di	e B-5		a. Qualification of Inspectors	с.	Do the travellers have evidence of inspection and acceptance to the required criteria?
		4		Dim.	$2\frac{3}{4}$		b. Use of calibrated equipment	4.	dispositioned?
This C	999 <del>- 11</del>	wer Head ist also	applies	to can	ister:		c. Evidence of inspection and acceptance to required criteria		Yes No
TVR	HD No.	CMIR No.	and the first divised	nell	Canister No.	4.	Identification,	5.	Are the SDDRs dispositioned?
No.	NO.	140.	•.				Control, and Disposi- tion of NCRs		SDDR Nos.
						5.	Implementation of SDDRs		
							Assembly Inspection		
							NCRS - See Att. No. 1.		
							SDDRs - See Att. No. 2, Item		
						•	Calibration - See Att. No. 1 Item		

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRI	PTION		REQUIREMENT FOR VERIFICATION		VERIFICATION
1150944C Rev. 1	1 2 <u>Skirt</u>		Dim. 14.06 13.96 20ne B-3 Dim. 4 1/2 20ne D-2		IN	Issuence of Material for next operation (release to shop) Identification of latest approved draw- ings on Travellers <u>PROCESS INSPECTIONS</u> Dimensional Inspection a. Qualification of Inspectors b. Use of calibrated equipment c. Evidence of inspection and acceptance to	2. 3a. b.	Traveller Nos Have the travelers incorporated the design dwg. and SDDR data? YesNO Are the inspectors qualified? YesNO Inspectors on Master QA Issuance Log? YesNO Are the tools/gauges calibrated? N/AYesNO Do the travellers have evidence of inspection and acceptance to the required criteria? YesNO Are the applicable NCRs dispositioned? YesNO NCR Nos
TVR No.	CMIR No.	Sł	A REAL PROPERTY AND A REAL	Canister No.	- 0 - 0	required criteria Identification, Control, and Disposi- tion of NCRs Implementation of SDDRs Assembly Inspection otes: NCRs - See Att. No. 1, Item SDDRs - See Att. No. 2, Item Calibration - See Att. No. 1	5.	Are the SDDRs dispositioned? Yes No

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION VERIF	ICATION
1150945C Rev. 1		ell applies	Dim. 14.000 +.093 031 Dia. Zone C-2	<ol> <li>Identification of latest approved draw- ings on Travellers</li> <li>IN PROCESS INSPECTIONS</li> <li>Dimensional Inspection         <ul> <li>Are the inspectors of Issuance Loop</li> <li>Are the tool</li> <li>Dimensional Inspection</li> <li>Qualification of</li> <li>Despectors</li> </ul> </li> </ol>	Avelers incorporated awg. and SDDR data? Dectors qualified? Dectors qu
	fIR	Shell No.	Canister No.	_ required criteria	Rs dispositioned?
				5. Implementation of SDDRs 6. Assembly Inspection Notes: 0 NCRs - See Att. No. 1. Jtem	
				o SDDRs - See Att. No. 2, Item o Calibration - See Att. No. 1 Item	

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION VERIFICATION
1154041 F Rev. 3	1 Note 12 Assembly	4	Dim. 149 $\frac{3}{4} \pm \frac{1}{4}$ Zone F-5 The envelope of each completed canister must be within a perfect cylinder of 14 5/16" Dia. for full length	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li>IN PROCESS INSPECTIONS</li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Use of calibrated equipment</li> <li>Evidence of Inspection and INCR Nos.</li> </ul> </li> <li>Issuance Inspection Accent the inspectors on Master QA Inspectors on Master QA</li> <li>Dimensional Inspection Accent the travellers have evidence of inspection and acceptance to the required criteria? Yes No Are the applicable NCRs</li> <ul> <li>Built of the travellers of Inspection and acceptance to the required criteria? Yes No Are the applicable NCRs</li> <li>MCR Nos.</li> </ul> </ol>
This Checkl	list also Shell		to canister: Canister	acceptance to required criteria
No.	No.		No.	5. Are the SDDRs dispositioned?
			•	Control, and Disposi- tion of NCRs
				5. Implementation of
		e de la fi		6. Assembly Inspection
				Notes: O NCRs - See Att. No. 1. Item O SDDRs - See Att. No. 2, Item O Calibration - See Att. No. 1 Item

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DRAWING I NO.	NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1154041F Rev. 3	2 3	ached M	Weldment Zone E-7 Weld 1 PT RT or UT 125 After Welding Weldment Zone D-3 Weld 2 PT RT RT KT KT RT KT RT KT RT KT RT KT KT KT KT KT KT KT KT KT KT KT KT KT	WELDING 1. Verify welder qual- ification for WPS utilized	Traveller Nos

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1 2 ,	Angle 90 <sup>0</sup> Zone B-14 Dim. Zone .750 <u>+</u> .00	4 B-14 2. 05 10 (5) IN	for next operation (release to shop)	<ol> <li>Traveller Nos.</li> <li>Have the travelers incorporate the design dwg. and SDDR data? Yes No</li> <li>3a. Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No</li> </ol>
	.750 ± .00	B-14 05 10 (5)	latest approved draw- ings on Travellers	Yes No 3a. Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No
1 1		10 (5) IN	PROCESS INSPECTIONS	Issuance Log? Yes No
1		3.	Dimensional Inspection	b. Are the tools/gauges calibrated
3	Dim. 20ne View A-a	A-14	a. Qualification of Inspectors	c. Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No
4	$\frac{2}{7}$ Angle 14 <sup>0</sup>		equipment	4. Are the applicable NCRs dispositioned? Yes No
5	Add Catalyst portions spe	s in cified	c. Evidence of inspection and acceptance to required criteria	NCR Nos
per Head	on screen as	sembly.4.	Identification, Control, and Disposi- tion of NCRs	5. Are the SDDRs dispositioned? Yes No SDDR Nos.
	lies to canist		Implementation of	
		Oper. No.		
			lotes:	
		c	Item SDDRs - See Att. No. 2, Item	*Add TVR Operation No. that has the addition of catalyst independently verified for each head. Denote the verifier(s) with a "N" for NES and a
p s	5 . er Head t also app	4 Angle 140 2 One B-12 5 Add Catalyst portions spe prior to well on screen as <u>Per Head</u> t also applies to canis	4     Angle 140 Zone B-12       5     Add Catalysts in portions specified prior to welding on screen assembly.       6.       Head       CMTR       Canister       No.       No.	4       Angle 14°         5       Angle 14°         5       Add Catalysts in portions specified prior to welding on screen assembly.       c. Evidence of inspection and acceptance to required criteria         ber Head       control, and Disposition of NCRs         t also applies to canister:       5. Implementation of SDDRs         Head       CMIR       Canister         No.       No.       No.         No.       No.       No.         No.       No.       No.         O       No.       No.         No.       No.       No.         O       No.       No.         No.       No.       No.         O       NCRs - See Att.       No.         O       SDDRs - See Att.       No.

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
NO. 1154046F Rev. 6 Lart II Part II	NO. 1 2	TITY	Weldment Zone E-9 1/8 PT Weld 1 Weldment	VERIFICATION WELDING 1. Verify welder qual- ification for WPS utilized COMPLETED WELD VERIFICA- TION 2a. Visual Examination/ Qualification b. Liquid Penetrant Examination and Qualification c. Welder and weld	VERIFICATION Traveller Nos T. Welder Nos Visual Examiner Nos Visual Examiners are qualified YesNo b. L. P. Examiner Nos L. P. Examiners are qualified? YesNo
15737-2-R20 Pa	3		Zone E-8	number identified on weld or on documentation, i.e., (weld map) d. PT material batch numbers recorded on traveller and C of Cs are available NON-DESTRUCTIVE EXAMINA-	c. Are welder and weld numbers identified?
Details on	the atta	ached MAT	Zone D-5	TION RADIOGRAPHIC/ ULTRASONIC EXAMINATION 3a. Personnel qual- ified to perform the examination b. Review RT and UT records	Examiner is qualified? Yes No b. RT/UT records in package are complete? Yes No

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION VERIFICATION
1154034F Rev. 2 This Checkl	1 Shell Asist also		Dim. 1" Zone E-3	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li>IN PROCESS INSPECTIONS</li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and</li> </ul> </li> <li>Issuance Iog? Yes No Inspectors on Master QA Issuance Log? Yes No</li> <li>Are the tools/gauges calibrated? N/A Yes No</li> <li>C. Evidence of inspection and</li> <li>Mave the travelers incorporate the design dwg. and SDDR data? Yes No</li> <li>Are the inspectors qualified? Yes No</li> <li>Are the tools/gauges calibrated? N/A Yes No</li> </ol>
TVR No.			Canister No.	<ul> <li>acceptance to required criteria</li> <li>4. Identification, Control, and Disposi- tion of NCRs</li> <li>5. Implementation of SDDRs</li> <li>6. Assembly Inspection Notes:</li> <li>o NCRs - See Att. No. 1 Item o SDDRs - See Att. No. 2, Item o Calibration - See Att. No. 1</li> </ul>

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DRAWING ITEM NO. NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
*Details on the at certified welding Materials.			WELDING         1. Verify welder qualification for WPS utilized         COMPLETED WELD VERIFICA-         TION         2a. Visual Examination/ Qualification         b. Liquid Penetrant Examination and Qualification         c. Welder and weld number identified on weld or on documentation, i.e., (weld map)         d. PT material batch numbers recorded on traveller and C of Cs are available         NON-DESTRUCTIVE EXAMINA- TION         RADIOCRAPHIC/ ULTRASONIC EXAMINATION         Ja. Personnel qual- ified to perform the examination         b. Review RT and UT records	Visual Examiners are qualified Yes No b. L. P. Examiner Nos. L. P. Examiners are qualified? Yes No c. Are welder and weld numbers identified? Yes No d. Batch Nos. Penetrant Developer Remover Are C of Cs available? Yes No *Ba. RT/UT Examiner No.(s) Examiner is qualified? Yes No

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION		REQUIREMENT FOR VERIFICATION		VERIFICATION
1154027F Rev. 3 Sheet 1	A	Assembly	SDDR 2-R200C-1 7 support spiders at a spacing of 15.75 inches	1. 2. <u>IN</u> 3.	latest approved draw- ings on Travellers PROCESS INSPECTIONS	За. b.	Traveller Nos Have the travelers incorporated the design dwg. and SDDR data? YesNO Are the inspectors qualified? YesNO Inspectors on Master QA Issuance Log? YesNO Are the tools/gauges calibrated? N/A YesNO Do the travellers have evidence of inspection and acceptance to the required criteria? YesNO Are the applicable NCRs dispositioned? YesNO NCR Nos
TVR No.	She No.	211.	Canister No.	0	required criteria Identification, Control, and Disposi- tion of NCRs Implementation of SDDRs Assembly Inspection otes: NCRs - See Att. No. 1, Item SDDRs - See Att. No. 2, Item Calibration - See Att. No. 1	5.	Are the SDDRs dispositioned? Yes NO SDDR Nos.

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1154027F Rev. 3 Sheet 2	1 4 Internal	LAssembly	Dim. 127 3/4 <u>+</u> 3/16 Zone E-7 Dim. 134 5/8 <u>+</u> 3/32	<ul> <li>latest approved draw- ings on Travellers</li> <li>IN PROCESS INSPECTIONS</li> <li>Dimensional Inspection <ul> <li>a. Qualification of Inspectors</li> <li>b. Use of calibrated equipment</li> <li>c. Evidence of</li> </ul> </li> </ul>	<ol> <li>Traveller Nos.</li> <li>Have the travelers incorporated the design dwg. and SDDR data? Yes No</li> <li>Are the inspectors qualified? Yes No</li> <li>Are the inspectors qualified? Yes No</li> <li>Inspectors on Master QA</li> <li>Issuance Log? Yes No</li> <li>Are the tools/gauges calibrated? N/A Yes No</li> <li>C. Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No</li> <li>Are the applicable NCRs dispositioned? Yes No</li> <li>NCR Nos.</li> </ol>
TVR NO.	She No.	911 · ·	Canister No.	inspection and acceptance to required criteria 4. Identification, Control, and Disposi- tion of NCRs 5. Implementation of SDDRs 6. Assembly Inspection Notes: o NCRs - See Att. No. 1 Item o SDDRs - See Att. No. 1 2, Item o Calibration - See Att. No. 1	5. Are the SDDRs dispositioned? Yes No SDDR Nos.

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
NO. 1154027F Rev. 3 Sht. 2 *Details of	NO. 2 3 n the att welding	TITY	DESCRIPTION Weldment Zone D-9 1/8 Weld 1 Weldment Zone C-8 1/8 Weld 2 NeId 2 RIX of approved/ Personnel and	VERIFICATION WELDING 1. Verify welder qual- ification for WPS utilized COMPLETED WELD VERIFICA- TION 2a. Visual Examination/ Qualification b. Liquid Penetrant Examination and Qualification c. Welder and weld number identified on weld or on documentation, i.e., (weld map) d. PT material batch numbers recorded on traveller and C of Cs are available	Traveller Nos. *1. Welder Nos. Welders are qualified? Yes_No *2a. Visual Examiner Nos. Visual Examiners are qualified Yes_No b. L. P. Examiners are qualified? Yes_No C. Are welder and weld numbers identified? Yes_No d. Batch Nos. Penetrant Developer Remover Are C of Cs available? Yes_No *3a. RT/UT Examiner No.(s) Examiner is qualified? Yes_No b. RT/UT records in package are complete?

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION		VERIFICATION
1150937D Rev. 1	1 Ring		Thickness Dim.	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of</li> </ul> </li> </ol>	2. F t 3a. A y 1 b. A c. D t 4. A	Traveller Nos Have the travelers incorporated the design dwg. and SDDR data? Yes No Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No Are the tools/gauges calibrated? WA Yes No Are the tools/gauges calibrated? NO Are the applicable NCRs Hispositioned? Yes NO ARE NO ARE NO ARE THE APPLICABLE NCRS Hispositioned? Yes NO ARE NOS
This Checkl	ist also	applies t Shell	co canister:	inspection andacceptance to		
No.	0.53	No.	No.	required criteria		
		*		4. Identification, Control, and Disposi- tion of NCRs 5. Implementation of SDDRs 6. Assembly Inspection	5. Ā Y S	Are the SDDRs dispositioned? VesNO SDDR Nos
				o Notes: O NCRs - See Att. No. 1. Item O SDDRs - See Att. No. 2, Item O Calibration - See Att. No. 1		

DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION		VERIFICATION
1150939D Rev. 1 <u>S</u>	1 upport P1	ate A	Thickness Dim. 5 In. Zone 3-D	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and</li> </ul> </li> </ol>	2. 3a. b.	Traveller Nos. Have the travelers incorporated the design dwg. and SDDR data? Yes No Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No Are the tools/gaugescalibrated? N/A Yes No Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No Are the applicable NCRs dispositioned? Yes No NCR Nos.
Traveller No.		Shell No.	Canister No.	acceptance to required criteria		
		••		inspection and acceptance to	5.	Are the SDDRs dispositioned? Yes No SDDR Nos.

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION		REQUIREMENT FOR VERIFICATION		VERIFICATION
1150943E Rev. 3	1		Angle 30 Zone H-11	1.	Issuance of Material for next operation	1.	Traveller Nos.
	2		Dim. 4.000 Zone H-12	2.			Have the travelers incorporated the design dwg. and SDDR data? Yes No
	3		Dim. 4.000 Zone G-9		latest approved draw- ings on Travellers	3a.	Are the inspectors qualified? Yes No Inspectors on Master QA
	4		Dim Zone H-7 2 3/16 Dia. thru 2"		PROCESS INSPECTIONS	b.	Issuance Log? Yes No Are the tools/gauges calibrated? N/A Yes No
			NPT x 1 1/4 DP	3.	Dimensional Inspection a. Qualification of Inspectors	c.	Do the travellers have evidence of inspection and acceptance to the required criteria?
	5		Dim. Zone H-5 2 3/16 x 2 1/2 DP,		b. Use of calibrated equipment	4.	Yes No Are the applicable NCRs dispositioned?
			2" NPT x 1 1/4 DP 4 A 8 Ø.020 (3)		c. Evidence of inspection and acceptance to		Yes No No NCR Nos.
	· 6	•.	Dim. Zone D-11 Dia. <u>14.083</u> 14.093	4.	required criteria Identification, Control, and Disposi-	5.	Are the SDDRs dispositioned? Yes No SDDR Nos.
	7		Dim.' 3 7/8 + 1/32 Zone CID-13	5.	tion of NCRs		SDDR Nos.
	8		Dim. 3 3/8		Implementation of SDDRs		
	9		Dia. 3 1/8	1	Assembly Inspection otes:		
			Zone E-6		NCRs - See Att. No. 1 Item SDDRs - See Att. No.		
Hea	ad				2, Item Calibration - See Att. No. l	·	

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPT	ION	1	REQUIREMENT FOR VERIFICATION		VERIFICATION
1150943E Rev. 3	10 11		Dia. 2.125 Zone E-6 Chamfer 1/ Zone D-5		1. 2.	Issuance of Material for next operation (release to shop) Identification of		Traveller Nos Have the travelers incorporated the design dwg. and SDDR data? Yes No
	12		Angle 8 <sup>0</sup> 20ne D-5		IN P	latest approved draw- ings on Travellers PROCESS INSPECTIONS		Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No
	13		Dim. 13/16 Zone D-4	•	3.	Dimensional Inspection a. Qualification of		Are the tools/gauges calibrated? N/A Yes No Do the travellers have evidenc
	14		Dim. 2 3/8 Zone D-4	•		<ul> <li>b. Use of calibrated</li> </ul>		of inspection and acceptance to the required criteria? Yes No
	B		SDDR 2-M10 (Dimension:	1A-36 s)		equipment c. Evidence of	4.	Are the applicable NCRs dispositioned? Yes No NCR Nos.
			(Dimensions re to Items 4 & S			inspection and acceptance to required criteria		
	Head No.	CMIR No.	Shell No:	Canister No.		Identification, Control, and Disposi- tion of NCRs	5.	Are the SDDRs dispositioned? Yes No SDDR Nos.
						Implementation of SDDRs		
					C. C. D.	Assembly Inspection tes:		
					0 0	NCRs - See Att. No. 1. Item SDDRs - See Att. No. 2, Item		···
et a sector de la constante		in an			0	Calibration - See Att. No. 1		

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DRAWING NO.	G ITEM QUAN- NO. TITY DESCRIPTION			REQUIREMENT FOR VERIFICATION		VERIFICATION		
1150946C Rev. 3	1 Note 10	Note		Dim. 131" Pellets shall be loaded within %" of tube length		for next operation (release to shop) 2. Identification of latest approved draw- ings on Travellers IN PROCESS INSPECTIONS 3. Dimensional Inspection a. Qualification of Inspectors	За. b.	Have the travelers incorporated the design dwg. and SDDR data? Yes No Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No Are the tools/gauges calibrated? N/A Yes No Do the travellers have evidence of inspection and acceptance to the required criteria? Yes No
TVR	Not	e 10*	mbly Shell	Canister	#	c. Evidence of inspection and		Yes No NCR Nos.
		0. 1	NO.	No.	-	acceptance to required criteria		
		*.		•	-4.	Identification, Control, and Disposi- tion of NCRs	5.	Are the SDDRs dispositioned? YesNo SDDR Nos
					-5.	Implementation of SDDRs		
			n de la caracteria nomena		-6.			
					- 0 - 0	NCRS - See Att. No. 1. Item SDDRS - See Att. No. 2, Item Calibration - See Att. No. 1	add	I TVR Operation No. that has the lition of poison to 1/4" of tube ligth. Denote the verifier(s) with N" for NES and a "B" for Bechtel.

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION	VERIFICATION
1150946C Rev. 3	2 the atta	uched MA	Weld - Both Ends	WELDING         1. Verify welder qual- ification for WPS utilized         COMPLETED WELD VERIFICA- TION         2a. Visual Examination/ Qualification         b. Liquid Penetrant Examination and Qualification         c. Welder and weld number identified on weld or on documentation, i.e., (weld map)         d. PT material batch numbers recorded on traveller and C of Cs are available	Traveller Nos. *1. Welder Nos. Welders are qualified? Yes_No *2a. Visual Examiner Nos. Visual Examiners are qualified Yes_No b. L. P. Examiner Nos. L. P. Examiner Nos. L. P. Examiner Nos. L. P. Examiner Nos. C. Are welder and weld numbers identified? Yes_No d. Batch Nos. Penetrant Developer Remover Are C of Cs available? Yes_No *3a. RT/UT Examiner No.(s) Examiner is qualified?

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DRAWING NO.	ITEM NO.	QUAN- TITY	DESCRIPTION	REQUIREMENT FOR VERIFICATION VERIFICATION
Rev. 1 13 13/32 -A-		Dim. 1 1/4" thick Zone B-6	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li>IN PROCESS INSPECTIONS</li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to the required criteria? Yes No</li> </ul> </li> <li>Issuance Log? Yes No</li> <li>Are the tools/gauges calibrated? N/A Yes No</li> <li>Dimensional Inspection a. Qualification of Inspectors</li> <li>Use of calibrated equipment</li> <li>Evidence of inspection and acceptance to the required criteria? Yes No</li> <li>Are the applicable NCRs dispositioned? Yes No</li> <li>Are The applicable NCRs</li> </ol>	
TVR No.	Shell No.		anister D.	<pre>inspection and acceptance to required criteria 4. Identification, Control, and Disposi- tion of NCRs 5. Implementation of SDDRs 6. Assembly Inspection Notes: 0 NCRs - See Att. No. 1 Item 0 SDDRs - See Att. No. 2, Item 0 Calibration - See Att. No. 1 Item</pre>

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REVIEWER \_\_\_\_\_ DATE \_\_\_\_\_ FOLLOW ON KNOCKOUT CANISTER CHECKLIST - NO. F-\_ 15 REV. 1 PAGE 1 OF 1

DRAWING NO.	ITEM NO.	QUAN- TITY	DESCR	IPTION		REQUIREMENT FOR VERIFICATION		VERIFICATION
1155233D Rev. 2	1 Note 12		of the ti length.	shall be ith-in ½"	<ol> <li>Issuance of Material for next operation (release to shop)</li> <li>Identification of latest approved draw- ings on Travellers</li> <li><u>IN PROCESS INSPECTIONS</u></li> <li>Dimensional Inspection         <ul> <li>Qualification of Inspectors</li> <li>Use of calibrated equipment</li> </ul> </li> </ol>		3a. b. c.	Have the travelers incorporate the design dwg. and SDDR data? Yes No Are the inspectors qualified? Yes No Inspectors on Master QA Issuance Log? Yes No Are the tools/gauges calibrated? N/A Yes No Do the travellers have evidenc of inspection and acceptance to the required criteria? Yes No Are the applicable NCRs dispositioned?
	Note 12 Oper.	Tube	Shell	Canister	4.	c. Evidence of inspection and acceptance to		Yes No No NCR Nos.
No. 1	No.	<u>No. (1)</u>	<u>No.</u>	No,	4.	required criteria Identification, Control, and Disposi- tion of NCRs	5.	Are the SDDRs dispositioned? Yes No SDDR Nos
					5.	Implementation of SDDRs		
					- N 0	Assembly Inspection otes: NCRs - See Att. No. 1 Item SDDRs - See Att. No. 2, Item Calibration - See Att. No. 1 Item	ad in De	d TVR Operation No. that has the dition of poison to ½" from the top dependently verified for each tube. note the verifier(s) with a "N" r NES or a "B" for Bechtel.