

~~CONFIDENTIAL/NO~~  
UNCLASSIFIED # 2712  
SAC 200133330000  
Redacted Copy



Date: October 1, 1997  
From: H. R. Leos Location: Applied Technology, 11-2  
To: Richard Contreras Location: Manufacturing, 12-42 Up  
Subject: FL Container Packing Checklist, Appendix 3, for Existing Pits Received From Rocky Flats  
Re: Memo from H. R. Leos, dated September 24, 1997; Subject: Pit Visual Inspection Checklist amendments to Existing Pits Received From Rocky Flats

Attached are the FL container packing checklists as requested from Rocky Flats and received on September 26, 1997 for the following Type 83/93 Pits:

S/Ns
2550
7689

Please take the necessary action to attach these FL container packing checklists to their respect Pit Visual Inspection Checklist which were submitted to you per the referenced memo. Should additional information be required, please contact me at Ext. 4148.

Howard R. Leos  
RFETS Project Manager

97h11001:HRL

Attachments: As stated

CC w/o attachments:

- Dan Ferguson, DOE/AAO, 12-36
- H. A. Woltermann, Applied Technology, 11-2
- J. W. Angelo, Manufacturing-6
- S. G. Hallett, Applied Technology, T9-059
- Tyfan Lanier, Manufacturing-42 Up
- Gary Britten, Radiation Safety, 12-42
- Skinner Frasier, Program Engineering, 12-6B
- Charles Caldwell, Packaging & Shipping, 12-107

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1ST REVIEW DATE: 5/11/79	2. CLASSIFICATION CHANGED TO:
AUTHORITY: <input type="checkbox"/> DC <input type="checkbox"/> DP	3. CONTAINS NO DOE CLASSIFIED INFO
NAME: <i>[Handwritten]</i>	4. COORDINATE WITH:
2ND REVIEW DATE: 5/12/79	5. CLASSIFICATION CANCELED
AUTHORITY: <input type="checkbox"/> DO	6. CLASSIFIED INFO BRACKETED
NAME: <i>C. Phillips, C+H</i>	7. OTHER SPECIFY:

**WITH ATTACHMENTS**

Classified By: C. Phillips, Class. Anal.  
(Name/Personal Identifier & Title) P/1

Derived From: TR-URS-2  
(Guide/Source Document & Source Data)

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APPENDIX 3  
Page 1 of 2

FL CONTAINER PACKING CHECKLIST

STEP	DESCRIPTION	DATA/STATUS	COMMENTS
4.1.4	Pit serial number.	83-2550 (no.)	
4.2.3	Container serial number.	70034 (no.)	
4.2.4	Fixture - base, clamping ring support bracket, extension & hardware: visually checked for defects (bent, broken, incorrect or missing components, bad threads, etc) extension only checked for required marking i.e. drawing number and extension size.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
4.2.12(1)	Torque wrench equipment no. and calibration expiration date	RF 93817 (no.) 11-97 (date)	
4.2.12(2)	Fixture bolts torqued to 17 in.-lb (± 5 in.-lb).	17 (in.-lb)	
4.2.21(1)	Torque wrench equipment no. and calibration expiration date	RF 93817 (no.) 11-97 (date)	
4.2.21(2)	Hold down ring bolts torqued to 25 in.-lb (± 5 in.-lb).	25 (in.-lb)	
4.2.29(1)	Torque wrench equipment no. and calibration expiration date	RF 95557 (no.) 10-97 (date)	
4.2.29(2)	Containment vessel lid bolts torqued to 70 in.-lb (± 5 in.-lb).	70 (in.-lb)	
4.2.30	Containment vessel serial number.	0017 (no.)	
4.2.31	MAINT DATE (within previous 12 months)	6-24-97 (date)	
5.1	Containment vessel seal leak rate less than or equal to $1 \times 10^{-3}$ STD cc/sec.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	5-25-98 7-14-97
5.7	Fiberboard packing in place, as required.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
5.8	Refractory insert in place, as required.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	

Issue A

06/02/97  
RAS

PACKAGING LANL PITS FOR SHIPMENT (U)

M-30528-26

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**UNCLASSIFIED**

70034

**APPENDIX 3**  
Page 2 of 2

STEP	DESCRIPTION	DATA/STATUS	COMMENTS
5.10	Plastic plug is seated in the container lid.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
5.13(1)	Torque wrench equipment no. and calibration expiration date	RF9557 (no.) 10-97 (date)	
5.13(2)	Container lid bolts torqued to 70 in.-lb (± 5 in.-lb).	70 (in.-lb)	
6.1.3	Two security seals applied.	2022 (no.) 2024 (no.)	
6.2.1	Radiological surveys completed.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
6.2.2	Check for radioactive material label. Two places, Transport Index marked (where applicable).	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
6.2.4	Nameplate welded in place and all marking legible.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	

DB  
BC

Performed By: D. S. Pomonis     D. S. Pomonis     1510835     17-14-97  
 Name (print)     Signature     Employee No.     Date

Issue A

08/02/97  
RAS

PACKAGING LANL PITS FOR SHIPMENT (U)

M-30528-27

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**APPENDIX 3**  
Page 1 of 2

**FL CONTAINER PACKING CHECKLIST**

STEP	DESCRIPTION	DATA/STATUS	COMMENTS
4.1.4	Pit serial number.	93-7683 (no.)	
4.2.3	Container serial number.	70088 (no.)	
4.2.4	Fixture - base, clamping ring support bracket, extension & hardware: visually checked for defects (bent, broken, incorrect or missing components, bad threads, etc) extension only checked for required marking i.e. drawing number and extension size.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
4.2.12(1)	Torque wrench equipment no. and calibration expiration date	RF 93817 (no.) 11-97 (date)	
4.2.12(2)	Fixture bolts torqued to 17 in.-lb (± 5 in.-lb).	17 (in.-lb)	
4.2.21(1)	Torque wrench equipment no. and calibration expiration date	RF 93817 (no.) 11-97 (date)	
4.2.21(2)	Hold down ring bolts torqued to 25 in.-lb (± 5 in.-lb).	25 (in.-lb)	
4.2.29(1)	Torque wrench equipment no. and calibration expiration date	RF 95537 (no.) 10-97 (date)	
4.2.29(2)	Containment vessel lid bolts torqued to 70 in.-lb (± 5 in.-lb).	70 (in.-lb)	
4.2.30	Containment vessel serial number.	0059 (no.)	
4.2.31	MAINT DATE (within previous 12 months)	6-17-97 (date)	
5.1	Containment vessel seal leak rate less than or equal to $1 \times 10^3$ STD cc/sec.	<input checked="" type="checkbox"/> SAT. <input type="checkbox"/> UNSAT	572088 7-14-97
5.7	Fiberboard packing in place, as required.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
5.8	Refractory insert in place, as required.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	

Issue A

06/02/97  
RAS

PACKAGING LANL PITS FOR SHIPMENT (U)

M-30528-26

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SEP-26-97 FRI 18:22

WSLLC-SP & I

TEL NO. 303 888 4147

P.05

SEP-28-97 FRI 14:48

BLDG 750

FAX NO. 303 888 4402

P.05

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70088

APPENDIX 3  
Page 2 of 2

STEP	DESCRIPTION	DATA/STATUS	COMMENTS
5.10	Plastic plug is seated in the container lid.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
5.13(1)	Torque wrench equipment no. and calibration expiration date	RF95552 (no.) 10-97 (date)	
5.13(2)	Container lid bolts torqued to 70 in.-lb (± 5 in.-lb).	70 (in.-lb)	
6.1.3	Two security seals applied.	70 79022 (no.) 70 79081 (no.)	
6.2.1	Radiological surveys completed.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
6.2.2	Check for radioactive material label. Two places, Transport Index marked (where applicable).	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
6.2.4	Nameplate welded in place and all marking legible.	<input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	

003  
203

Performed By: CO. J. H. [Signature] 1501687 12-14-97  
Name (print) Signature Employee No. Date

Issue A

06/02/97  
RAS

PACKAGING LANL PITS FOR SHIPMENT (U)

M-90528-27

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MASON & HANGER CORPORATION

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1ST REVIEW-DATE: 5/17/99	DETERMINATION (CIRCLE NUMBER)
AUTHORITY: <input checked="" type="checkbox"/> DC <input type="checkbox"/> DD	<input checked="" type="radio"/> 1 CLASSIFICATION RETAINED
NAME: [Signature]	<input type="radio"/> 2 CLASSIFICATION CHANGED TO:
2ND REVIEW-DATE: 5/17/99	<input type="radio"/> 3 CONTAINS NO DOE CLASSIFIED INFO
AUTHORITY: DD	<input type="radio"/> 4 COORDINATE WITH:
NAME: C. Phillips, CM	<input type="radio"/> 5 CLASSIFICATION CANCELED
AW	<input type="radio"/> 6 CLASSIFIED INFO BRACKETED
	<input type="radio"/> 7 OTHER (SPECIFY: 5 pages of encls re)

WITH ATTACHMENTS/ENCL

Redacted Copy

AUG 30 1997

Mr. John R. Kirby, Lead  
Production Operations Team  
Amarillo Area Office  
USDOE  
Amarillo, TX 79120-0020

Re: Model FL Container Sunlight Controls

Dear Mr. Kirby:

This letter is in response to Mark Blackburn's (DOE/AAO) phone message to Bob Stephenson on August 14, 1997, instructing Mason & Hanger Corporation to incorporate Model FL sunlight controls into Engineering Instruction PE97-093. Mark relayed a phone message from Steve Nunley (DOE/AL/NESD) in which he expressed two concerns. The first dealt with packaged Model FL containers not being exposed to sunlight. The second dealt with temperature controls for packaged FLs with Type 83, Type 93, or Type 100 pits to 100°F rather than the allowed 110°F level.

Mason & Hanger already has a formal procedure in place to control packaged FL container exposure to sunlight. A Technical Procedure Change Request (#24251) to procedure 7-5650, "General Safety Requirements for Zone 4," was submitted June 25, 1997. This change request adds the following to 7-5650, step 11.1.5: "Model FL containers cannot be exposed to sunlight, (except those containing W45, W56, W70, or W71 pit types)". A copy of this change request was included in our submission to DOE on July 25, 1997. Because the only opportunity for packaged FL containers to be exposed to direct sunlight is during transfers into or out of Zone 4, this procedure implements the required exposure controls.

Mason & Hanger chose to control all pits to the 100°F or less level so as to put in place more uniform administrative controls rather than different controls for each pit type. This is a conservative approach that complies with the SARP and with Steve Nunley's letters.

In an August 12, 1997, letter from J. C. Yarbrough to Steve Nunley subject, "Defense Programs Pit Surveillance Activities," Mason & Hanger committed to providing the DOE a position paper on the FL thermal issues by August 29, 1997. The plan to provide the paper has been revised. This will be an agenda item at the August 27, 1997, meeting of the Joint Thermal Team. We are planning three weeks to prepare the paper plus one week review. The new date for submission to DOE is September 30, 1997.

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Classified By: C. Phillips <sup>Class Analyst</sup>  
(Name/Personal Identifier & Title) P817  
Derived From: COX-93-782 3/93  
(Guide/Source Document & Source Date)

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Mr. John R. Kirby  
Model FL Container Sunlight Controls

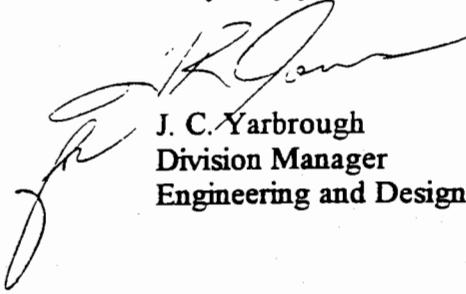
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Page 2

Mason & Hanger has suspended all movement of Defense Program support pits in Model FL containers until formal notice to resume is received from DOE.

Should further information be required, please contact Charles Caldwell at (806)477-4033.

Very truly yours,



J. C. Yarbrough  
Division Manager  
Engineering and Design

JCY:saa

Attachment

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Index No. FX-3014  
Page No. 1 of 2  
Issue 4  
Date October 27, 1995

24251



TECHNICAL PROCEDURE CHANGE REQUEST

(Ref Plant Standard STD-0143, STD-0148)

(PLEASE FILL ALL APPLICABLE BLANKS)

SECTION I - REQUESTOR

REQUESTOR (PRINT) Cassie J. Turner BADGE 08108  
PHONE # 4056 DEPT # 326 MAIL DROP Trans 12-3  
PROCEDURE # 7-5650 ISSUE DT PROGRAM # Multi  
REQUESTED COMPLETION DATE 6-23-97

REQUIRED CHANGE/REASON FOR CHANGE (Use additional pages as needed):

See attached page

Reason: Incorporate Requirements For Use of the Model FL Type B Package - memo dated May 27, 1997 from DOE INESD

SECTION II - DOCUMENT CUSTODIAN

CHANGE TO BE INCORPORATED:  NO  YES  IMMEDIATE OR  ROUTINE  
DOE QAIP AFFECTED  NO  YES → IF YES, SEND COPY TO DOE/QAB, 12-29

REASON FOR DENIAL:  
OR IMMEDIATE INCORPORATION:

(PLEASE PRINT NAME)	SIGNIFICANT CHECK APPROPRIATE BOX:	INSIGNIFICANT	ANNOTATION REQUIRED	SIGNATURE/DATE
<u>Tom Ellis</u> DOCUMENT CUSTODIAN	<input type="checkbox"/>	<input checked="" type="checkbox"/>	→ <input checked="" type="checkbox"/>	<u>[Signature]</u> 16-20-97
<u>STEVE UFFORD</u> FACILITY MANAGER/PROGRAM MANAGER	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<u>[Signature]</u> 16-20-97
<u>ERNEST M. VITALIANI</u> SAFETY REPRESENTATIVE	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<u>[Signature]</u> 6/25/97
<u>N/A</u> DESIGN AGENCY	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<u>[Signature]</u> 16-20-97
<u>N/A</u> DESIGN AGENCY	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<u>[Signature]</u> 16-20-97

DESIGN AGENCY COMMENTS (Procedure section reviewed or N/A, etc)

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Index No. FX-3014

Issue No. 4

Date October 27, 1995

Date October 27, 1995

SECTION II: (Continued)

**TRAINING REQUIREMENTS FOR SIGNIFICANT CHANGES**

PLEASE PRINT NAME:	NO TRAINING NEED APPROPRIATE BOX:	NO TRAINING	NO TRAINING	SIGNATURE/DATE
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ /
DOCUMENT CUSTODIAN				
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ /
FACILITY MANAGER/PROGRAM MANAGER				
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ /
SAFETY REPRESENTATIVE				

**SECTION III - INDEPENDENT REVIEW**

Validation Required:  NO  YES

NOTE: Validation is required on all new procedures per STD-6143.

Independent Reviewer: \_\_\_\_\_

Print Name Signature/Date

**SECTION IV - ENGINEERING EVALUATION/VALIDATION TEAM**

Additional changes required:  NO  YES

PLEASE PRINT NAME:	SIGNATURE/DATE	EDGE
_____	_____	_____
Facility Manager/Line Supervisor/Operations Manager		
_____	_____	_____
Human Factor Engineer		
_____	_____	_____
User	Optional	
_____	_____	_____
User	Optional	
_____	_____	_____
User	Optional	

**SECTION V - TRAINING**

Training Requirements Acknowledges:  NO  YES

Training Completed \_\_\_\_\_

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## TECHNICAL PROCEDURE CHANGE REQUEST

PAGE 3 OF CHANGE REQUEST NUMBER 24251

CHANGE/COMMENTS SECTION: (Continued)

INSERT Step After 11.1.4 and renumber

11.1.5 Model FL containers CANNOT be exposed to sunlight, (except those containing W45, W56, W70, or W71 pit types.)

ADD Table after 11.2.3

Maximum ambient temperatures for the following pits types in Model FL containers

Model FL Container Ambient Maximum Temps.			
Program	Part #	MC/Type	Max. Ambient Temp.
48	250076	MC1397	
54	421333	Type 96	
55	250050	MC1324	
61	421641	Type 110	
61	421896	Type 114	
61	422155	Type 118	
62	250271	MC2406	
68	250203	MC1978	
76	421979	Type 116	
78	422075	Type 117	
88	422617	Type 126	

DOE  
BC(3)

DOE  
BC(3)

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UNCLASSIFIED #192891  
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3

SAC 200:33350000



MASON & HANGER CORPORATION

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1ST REVIEW DATE: 5/17/99	DETERMINATION (CIRCLE NUMBER(S))
AUTHORITY: C, DD	1. CLASSIFICATION RETAINED
NAME: C. Phillips	2. CLASSIFICATION CHANGED TO:
2ND REVIEW DATE: 5/17/99	3. CONTAINS NO DOE CLASSIFIED INFO
AUTHORITY: DD	4. COORDINATE WITH:
NAME: C. Phillips, CTH	5. CLASSIFICATION CANCELED
	6. CLASSIFIED INFO BRACKETED
	7. OTHER (SPECIFY):

July 28, 1997

Redacted Copy

Gerald L. Dittman  
Lawrence Livermore National Laboratory  
P. O. Box 808, L-125  
Livermore, CA 94550

George F. Niederauer  
Los Alamos National Laboratory  
P. O. Box 1663, K575  
Los Alamos, NM 87545

Subject: Thermal Modeling

Gentlemen:

As we continue to expand our pit storage mission at Pantex, a number of recent events have prompted us to further evaluate our pit movement and staging procedures. As you are aware, we are currently receiving additional pits for storage from Rocky Flats ETS as well as planning strategies with regard to relocating a large quantity of these components from Zone 4 to Zone 12 for interim storage. Both of these tasks will require considerable logistical planning to be successful. Although it is true that we have defined guidance for dealing with pits packaged in Type FL shipping containers through the approved FL SARP, we feel that the same level of guidance is not currently available for pits packaged in ALR8 containers. Pits in these containers, of course, represent by far our greatest inventory.

The most definitive information, related to permissible pit storage conditions, specifically limits maximum temperatures achievable at the pit surface. We do not have every pit surface instrumented to measure this value directly. We do, however, presently have a mathematical model provided by the Labs that correlates measured ambient air temperature with estimated pit surface temperature in ALR8s. (The model was derived from actual data collected at Pantex from instrumented pits stored in Zone 4 magazines.) This model assumes that the ALR8 container is not subjected to any direct solar irradiation.

To date, limiting pit movement within and between Zones in the late evening and early morning has been marginally acceptable since the process has not involved moving large numbers of pits over a brief duration. Once massive relocation of pits commences however, limiting these operations to nighttime hours will be quite slow and costly. As a result, I am requesting your assistance in providing scoping thermal calculations for pits in ALR8 containers that relates pit surface

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(Name/Personal Identifier & Title) PCH

Derived From: CG-MD-1  
(Guide/Source Document & Source Date)

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Gerald L. Dittman, LLNL  
George F. Niederauer, LANL  
July 28, 1997

Page 2

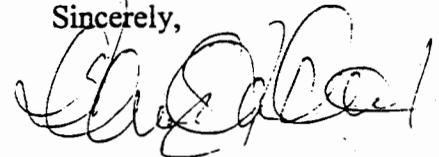
temperature with ambient air temperature and direct solar exposure of the container.

DOE  
(BK3)

This model would then be used by members of the joint Thermal Team to make decisions related to on-site pit staging. Our ultimate goal is to establish acceptable boundary conditions for pits in ALR8s when exposed to relatively high temperatures and direct solar irradiation. Although we are also interested in similar information for pits packaged in AT400As, we assume that the container and contents have likely been exhaustively studied during container development. Please share your thoughts on this assumption.

Should this problem interest you, please prepare a detailed estimate of cost and time required to perform this service and return to me as soon as possible (preferably by August 15). This estimate will be used to secure Pantex funding for the purpose of establishing contracts. If you wish to discuss any aspect of this request further, please contact me at (806) 477-5226. Thank you for your assistance in this matter.

Sincerely,



Steven G. Hallett  
Nuclear Materials Program Manager

mbf

Distribution:

- J. Kirby, DOE/AAO
- R. Rabie, LANL
- S. Abdallah, LLNL
- J. W. Angelo, Manufacturing
- H. A. Woltermann, Applied Technology
- P. A. Foster, Applied Technology
- H. R. Leos, Applied Technology
- K. L. Moore, Manufacturing
- W. R. Stephenson, Packaging and Shipping
- S. J. Ufford, Transportation

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