Section 5 Post Test Assessment

Only 1 package needed to undergo radiation profile inspection because only it and one other test specimen showed the same slight variation in the source location dimension after testing. This test specimen successfully passed the radiation profile inspection. The minor damage to the welded body structure indicates there is no need for radiographs to be taken for further examination.

The test results indicate the SENTRY transport package complies with the normal transport test requirements of 10 CFR part 71 and IAEA TS-R-1 1996. There was no loss or dispersal of radioactive contents, no significant increase in external surface radiation levels and no substantial reduction in the effectiveness of the packaging. There was no loss of shielding integrity resulting in more than a 20% increase in the radiation level at any external surface of the package.

However, the 1.2 meter free drop revealed a weakness in the lock cover assembly and potentially the #10-32 screws of the rear plate Posilock mechanism. The lock cover and rear plate Posilock will need to be modified to enable the SENTRY transport package to pass the hypothetical accident condition tests.

Appendix

- 1. Test Specimen Manufacturing Documentation
 - See network file location: K:\(\frac{1}{2}\) Released Files (PDF)\(\text{Test Plans & Reports}\) (TP)\(\text{TP180 SENTRY Transport Testing\)\(\text{Test Specimen Build\)\(\text{Route Cards & TMIs}\)
- 2. Measurement and Test Equipment Calibration Records
 - See network file location: K:\(\frac{1}{2}\) Released Files (PDF)\(\text{Test Plans & Reports}\) (TP)\(\text{TP180 SENTRY Transport Testing\(\text{Test Specimen Build\(\text{Equip Cal & Insp\)}}\) Records.
- 3. Test Worksheets (Equipment list, checklist and data sheets)

Note: Appendices 1 and 2 are for internal reference by QSA Global, Inc. and are not included as part of the Appendix submitted to the USNRC in support of the Type B(U) application for these packages.

Test Specimen & Equipment List

		Test Specimen			
Configuration	Drawing Number	Serial Number	Attach IIR	Attach NGR	Attach Route Cards
Basic	TP86015-330	TP180A	See TMI 189	NA	Yes
Basic	TP86015-330	TP180B	See TMI 189	NA	Yes
Basic	TP86015-330	TP180C	See TMI 189	NA	Yes
Basic	TP86015-330	TP180D	See TMI 189	NA	Yes
Basic	TP86015-330	TP180E	See TMI 189	NA	Yes
Tool Des		Tools & Equipment Enter the Model and So Mark NA when n	erial Number	Attach Inspo or Calibratio	
Prop Surface, Drawi	ng No. T10740	S/N 001		Y	es
Penetration Bar, Drawing No. T10129		S/N 01		Yes	
	gr 23 23 25				
ertificates. TEMPSIZTUZE	GASE	the test and attach the a)	705	
ertificates. TEMPSIZTURE WE16HT S	GAZE CALE)		
ertificates. TEMPENETURE WEIGHT S Bignature	GAZE CALE	5NG-20 F16385	3	405 405	

Penetration Test Checklist

Test: PENETRATION TEST			
Test Location: GSA ENGINEERING TEST AREA - BURLING FOR MA			
Step	Da	ita	
Record test specimen serial number:	TPIBOA		
2. Record the test specimen weight: 655 USS.			
3. Record the ambient temperature (°C):	66.1°F	Instrument S/N: Eいら-20	
Identify target location on test specimen.	PLUMGER LOCK	ON DUST GUER	
5. Photograph set-up with penetration bar touching target location on test specimen.			
6. Lift penetration bar 40 inches from target location on test specimen to lowest point on penetration bar. □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□			
7. Release the penetration bar.			
8. Photograph target location after impact.			
9. Record the damage to the test specimen. Use a separate sheet and attach, if needed. Small DENT ON Plash's DUST LOUIS AND BRASS PLUNGER LOCK			
 Engineering, Regulatory Affairs and Quality Assurance make a preliminary assessment relative to 10 CFR 71. Record the assessment on a separate sheet and attach. 			
Test witnessed by (Signature) Print Name Date			
Engineering: 5 Cresi	Engineering: S.GRENIER 9 OCT 2009		
Regulatory Affairs: P.M.	C. Polita	13 am/0	
Quality Assurance: C Raighan 13 Man 2010			
	V		

Penetration Test Data Sheet

Test Unit Model/Serial No.: TPISO A	Test: PENETRATION TEST			
Test Date: 9 00 2009	Test Time: 3:15 Pt/			
Describe the test orientation:				
PROJECTOR/PACKAGE ON SIDE WITH REARPLATE FACING UP.				
Describe on-site inspection (damage, broken parts, etc.):				
* IMPACT DENT ON PLUNGER LOCK FACE AND ON BLACK				
TREFOIL PLASTIZ DUST G	NONS.			
& GOULD NOT INSERT KEY	INTO LOCK AFTER TEST.			
* NO LOSS OF CONTENTS.				
WITNESSED BY MIKE FULLER	(REGULATURY)			
On-site test assessment:				
Was the test performed in accordance with 10 CFR 71, 14	AEA TS-R-1 1996, and this test plan? Yesor No.			
Does the test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test				
Should testing continue with this test specimen Yes) or No. If yes, next test:				
Engineering: 5. Gui 900107 Regulatory: Town 13/00 13/00 13/00				
Completed by: STEUG GREWIEM	Date: 9 OCT 2009			

Test Specimen Serial No.:	Last Test Performed: PENETRATION TEST		
Describe and measure (if appropriate) any damage or broken parts, etc.:			
Plugge Lock FACE AND PLASTIC TREFOIL DUST GUGE			
SHOWS DENT AT POINT OF IMPRACT.			
Describe and measure (if appropriate) any signs of permanent strain or deformation:			
DENT ON DUST GUER A	ms lock		
Describe the condition of the simulated source wire assemb	ly.		
COULD NOT UNLOCK PLUNG!	En lock TO ExaminE		
	NO AFFECT ON SWIEWIRE.		
Reassemble the package using a representative active source configuration is the same as they were immediately after the			
Measure and record a radiation profile of each test specime 1806.	n in accordance with QSA Global Work Instruction WI-Q-		
Compare the pre-test dose levels with post-test dose levels a of the package.	at the surface of the package and at 1 meter from the surface		
THIS WILL BE PERFURMED APTEN 4 FOUT DRUP			
OR 40-INCH PUNCTURE TEST.			
Is a radiograph required to inspect for hidden component de damage or failures found.	amage or failure? If radiography is performed, describe any		
NO RADIOGRAPH IS NECESSARY			
Completed by:	Date: 9 OCT 2009		
3.00-CO1.00	() () () ()		

Test: 4-FOOT DROP TEST			
Test Location: QSA GLOBAL BURLINGTON MA			
Step	D	ata	
Record test specimen serial number:	TP180/		
2. Record the test specimen weight:	655 LB	S.	
Record the ambient temperature (°C):	51°F	Instrument S/N: ENG-20	
4. Identify set-up orientation figure:	#1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
5. Record drop height.	4.2 FEET	(57 INChes	
6. Photograph set-up in at least two perpendicular planes.	V		
7. Begin video recording of the test so that impact is recorded.			
8. Release the test specimen.			
9. Stop the video recorder. Ensure the point of impact and orientation specified in the plan has been achieved.			
10. Record the damage to the test specimen. Use a separate sheet and attach, if needed.			
11. Engineering, Regulatory Affairs and Quality Assurance make a preliminary assessment relative to 10 CFR 71. Record the assessment on a separate sheet and attach.			
Test witnessed by (Signature)	Print Name	Date	
Engineering: 5-Grenum	S. GRENIGE	130072009	
Regulatory Affairs:	C. P. Nolde	13 am/0	
Quality Assurance: C August	C. Rayhon	13 Jan 10	

Test Unit Model/Serial No.: TPISOA	Test: 4-FOOT DROP TEST		
Test Date: 13 007 2009	Test Time: 3:00 PM		
Describe drop orientation and drop height:			
ORIENTATION # (PER PL	AN AT STINCHES		
Describe impact (location, rotation, etc.):			
IMPACT LOCATION ON REAR PORT TUBE FACE.			
SPECIMEN ROTATED 180° AFTER IMPACT.			
Describe on-site inspection (damage, broken parts, etc.):			
BOTTOM PORTION OF TUBE BEN'			
BRASS PLUGGE LOCK COMPRESSO			
On-site test assessment:	USR - NEEDED TO KEEP COLOR ON.		
 Was the test performed in accordance with 10 CFR 71, I. 	AEA TS-R-1 1996, and this test plan (Yes or No.		
Does the test specimen meet the requirements of 10 CFR	71 and IAEA TS-R-1 1996 for this test? (Yes) or No.		
 Any changes to subsequent drop orientations needed to a Standard, SENTRY 330 Special, and SENTRY Source justify. 	achieve maximum damage? Especially for the SENTRY 330 Changer configurations. Yes or To If yes, then identify and		
Did sufficient damage occur at or on the rear-plate attachment area to warrant further drop testing the SENTRY 110 Projector – Basic configuration because of its thinner rear-plate? Yes or 10.			
Should testing continue with this test specimen? Yes on No If yes, next test:			
• Will the test specimen pass the thermal test based on the accumulated damage assessment? Yes-or-No MA.			
Engineering (S) 130CC (Regulatory: A) Describe any post-test disassembly and inspection:	P. LI30 M. C. Conflan (4 gando 10		
* REAR PLATE AND DUST GOUGE ASSEMBLIE'S REMOUED AND			
TAKEN APART, REAR PLATE PARTS INTACT AND FUNCTIONAL,			
	CATES POSSIBLE FAILURE FOR 30-FOOT DRUG.		
Describe any change in source position (if possible):			
NO CHANGE IN SOURCE POSET	TIDE		
Describe results of radiography (if performed):			
NOT PERFORMED			
Completed by: S. Stone	Date: 13 OCT 2009		

Test Construe Contains		
Test Specimen Serial No.:	Last Test Performed: 4-FOOT DROP	
Describe and measure (if appropriate) any damage or broken parts, etc.:		
ONE BROKEN PIN ON DUST GUER ASSEMBLY.		
* BOHOM END OF REAR PLATE	PORTTUBE BENTIN About to IN.	
Describe and measure (if appropriate) any signs of perman	nent strain or deformation:	
# SEE ABOVE.		
Describe the condition of the simulated source wire assem	bly.	
NO AFFECT ON SIMULATED S	DURCE ASSEMBLY CONDITION OR	
Location.		
Reassemble the package using a representative active sour	ce, making sure that the source position and the package	
configuration is the same as they were immediately after the	le last test:	
Measure and record a radiation profile of each test specime 1806.	en in accordance with QSA Global Work Instruction WI-Q-	
Compare the pre-test dose levels with post-test dose levels at the surface of the package and at 1 meter from the surface of the package.		
THIS WILL BE DONE AT A LATER PATE OR AFTER		
PUNCTURE TEST.		
Is a radiograph required to inspect for hidden component damage or failure? If radiography is performed, describe any damage or failures found.		
NOT REQUIRED.		
Completed by:		
	Date:	
S. Genie	13 OCT 2009	

Test: 4- FOOT DROP TEST			
Test Location: QSA-GLOBAL BURLINGTON TAA			
Step	l	Data	
Record test specimen serial number:	TPIBOE	\$	
2. Record the test specimen weight: 656 LBS.			
Record the ambient temperature (°C):	51°F	Instrument S/N:	
4. Identify set-up orientation figure:	#2		
5. Record drop height.	4.8 FEET (57 INCHES)	
6. Photograph set-up in at least two perpendicular planes.	V		
7. Begin video recording of the test so that impact is recorded.			
8. Release the test specimen.	V		
9. Stop the video recorder. Ensure the point of impact and orientation specified in the plan has been achieved.			
10. Record the damage to the test specimen. Use a separate sheet and attach, if needed.			
 Engineering, Regulatory Affairs and Quality Assurance make a preliminary assessment relative to 10 CFR 71. Record the assessment on a separate sheet and attach. 			
Test witnessed by (Signature)	Print Name	Date	
Engineering: S. Gener	S. GRENIGR	13007 2009	
Regulatory Affairs:	L. Pidex	130m10	
Quality Assurance: C - Ray MM	c. Ray han	13/2n10	

Test Unit Model/Serial No.:	Test: 4- TOUT DROP TEST			
Test Date: 13 OCT 2009	Test Time: S:15 Ptg			
Describe drop orientation and drop height:				
PROP ORIENTATION # 2 PER PLAN AT 57 INCHES.				
Describe impact (location, rotation, etc.):				
IMPACT LOCATION ON PROTRUDING REAR PLATE PORTTUBE EDGE.				
SPECIMEN RUTATED 90° AFTE	se impact.			
Describe on-site inspection (damage, broken parts, etc.):				
NO OBVIOUS BROKEN PARTS.				
REAR PLATE PORT TUBE CRUSH	SD IN TOLARD DUST GOVER.			
On-site test assessment:				
Was the test performed in accordance with 10 CFR 71, IA	AEA TS-R-1 1996, and this test plan? Les or No.			
Does the test specimen meet the requirements of 10 CFR	71 and IAEA TS-R-1 1996 for this test? Yes or No.			
 Any changes to subsequent drop orientations needed to achieve maximum damage? Especially for the SENTRY 330 Standard, SENTRY 330 Special, and SENTRY Source Changer configurations. Yes or not five, then identify and justify. 				
Did sufficient damage occur at or on the rear-plate attachment area to warrant further drop testing the SENTRY 110 Projector – Basic configuration because of its thinner rear-plate? Yes or vo				
• Should testing continue with this test specimen? Yes or No. If yes, next test: 30-Foot DeoP				
• Will the test specimen pass the thermal test based on the accumulated damage assessment? - Yes or No・ハム.				
Engineering: 5-60-m. Regulatory: Ph. 130 MM QA: C. MMM 14M July Describe any post-test disassembly and inspection:				
Describe any post-test disassembly and inspection:				
NO DIS ASSEMBLY PORSOUNCE	۵.			
Describe any change in source position (if possible):				
-NO-CHANGE IN SOURCE POSITION	ABUT 1/8 INCH TOWARDS FRONT END.			
Describe results of radiography (if performed):				
NUT PERFORMED.				
Completed by: S. GEELIEM	Date: 13 act 2009			

Test Specimen Serial No.:	Last Test Performed: 4-FOOT DRUP TEST			
Describe and measure (if appropriate) any damage or broken parts, etc.:				
LIP OF THE WELDED PORT TUBE BENT IN TOWARDS THE				
DUST COVER BY ABOUT !	INCH, CAN NOT REMOVE DUST			
COUSE WITHOUT REMOVING DENT OR CUTTING COUSTS.				
Describe and measure (if appropriate) any signs of permanent strain or deformation:				
SEE ABUS.				
Describe the condition of the simulated source wire assem	bly.			
UNABLE TO REMOVE DUST C	OUGR TO ACCESS SOURCE WIRE,			
EXPECT NO DANAGE TO SUI	DRICE WIRE, SLIGHT CHANGE IN WORTHON.			
1806.	s at the surface of the package and at 1 meter from the surface			
Is a radiograph required to inspect for hidden component damage or failure? If radiography is performed, describe any damage or failures found.				
NOT RECURSO.				
Completed by:	Date: 13 027 2009			
	() () () ()			

Test: 4- FOOT DROP TEST			
Test Location: QSA-GLOBAL BURLINGTON MA			
Step	. D	Data	
Record test specimen serial number:	TP1800	2	
2. Record the test specimen weight:	652 LB	**************************************	
Record the ambient temperature (°C):	52°F	Instrument S/N: 5NG-20	
4. Identify set-up orientation figure:	#3	10/05 30	
5. Record drop height.	4.8 FEET (57 INCHES	
6. Photograph set-up in at least two perpendicular planes.	V		
7. Begin video recording of the test so that impact is recorded.			
8. Release the test specimen.	/		
9. Stop the video recorder. Ensure the point of impact and orientation specified in the plan has been achieved.			
10. Record the damage to the test specimen. Use a separate sheet and attach, if needed.			
 Engineering, Regulatory Affairs and Quality Assurance make a preliminary assessment relative to 10 CFR 71. Record the assessment on a separate sheet and attach. 			
Test witnessed by (Signature)	Print Name	Date	
Engineering: S. Gunu	S. GRENIER	130072009	
Regulatory Affairs:	c. P.dr	130am 10	
Quality Assurance: C. Rowner	c Roughen	13 pen 10	
	7		

Test Unit Model/Serial No.:	Test: 4-FOOT DROP TEST		
Test Date: \(\(\sum \) \(\infty \) \(\tag{7} \)	Test Time: 3:26 Ptx		
Describe drop orientation and drop height:			
DROP ORIENTATION #3 PER PLAN AT 57 INCHES.			
Describe impact (location, rotation, etc.):			
IMPACT LOCATION ON BODY WELD SEAM (LONGITUDINAL).			
SPECIMEN POTATED 900 ONTO	ITS TUP APTER IMPACT.		
Describe on-site inspection (damage, broken parts, etc.):			
MINOR DENT OF BODY AT THE	WELD SEAM LOCATION.		
On-site test assessment:			
Was the test performed in accordance with 10 CFR 71, IA	NEA TS-R-1 1996, and this test plan? Wes or No.		
Does the test specimen meet the requirements of 10 CFR	71 and IAEA TS-R-1 1996 for this test? Yes or No.		
 Any changes to subsequent drop orientations needed to a Standard, SENTRY 330 Special, and SENTRY Source C justify. 	chieve maximum damage? Especially for the SENTRY 330 Changer configurations. Yes or (10) If yes, then identify and		
 Did sufficient damage occur at or on the rear-plate attachment area to warrant further drop testing the SENTRY 110 Projector – Basic configuration because of its thinner rear-plate? Yes or No. 			
• Should testing continue with this test specimen? Ves or No. If yes, next test: 30-Foot DeoP			
■ Will the test specimen pass the thermal test based on the accumulated damage assessment? Yes or No レ△ ■ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □			
Engineering: SGZ (3000 Regulatory: SGZ Describe any post-test disassembly and inspection:	De 134 m/v C. Laylan 14 Jendole		
NO DISASSEMBLY PERSTERNED.			
Describe any change in source position (if possible):			
NO CHANGE IN SOURCE Posit			
Describe results of radiography (if performed):	· ~ .		
NOT PERFORMED.			
Completed by: S. Grani Date: 13 067 2009			

Test Specimen Serial No.:	Last Test Performed: 4 - FOUT PROP TEST
Describe and measure (if appropriate) any damage or broke	en parts, etc.:
	TUBE WELD SGAM NEAM
END PLATE, DENT IS ,	About 21mas bog.
Describe and measure (if appropriate) any signs of permane	ent strain or deformation:
SEE ASOUE,	
Describe the condition of the simulated source wire assemb	ly.
	Source Assembly Gow, Lime or
LOCATION.	
Reassemble the package using a representative active source configuration is the same as they were immediately after the	e, making sure that the source position and the package last test.
Measure and record a radiation profile of each test specimes 1806.	n in accordance with QSA Global Work Instruction WI-Q-
Compare the pre-test dose levels with post-test dose levels a of the package.	at the surface of the package and at 1 meter from the surface
This will BE DONE AT A	LATER DATE OF AFTER THE
RNOWRE TEST.	
Is a radiograph required to inspect for hidden component da damage or failures found.	mage or failure? If radiography is performed, describe any
NOT REALIZOD	
Completed by:	Date:
S. Genni	13 017 2009

Test: 4 - FOUT DROP		
Test Location: QSA - GLOBAL,	BURLINGTO	n, ms
Step	D	ata
1. Record test specimen serial number:	TPISO D	>
2. Record the test specimen weight:	657 LBS	
Record the ambient temperature (°C):	51°F	Instrument S/N:
4. Identify set-up orientation figure:	#4	1 0,000
5. Record drop height.	4.7 FEET ((57 INCHES
6. Photograph set-up in at least two perpendicular planes.	/	
7. Begin video recording of the test so that impact is recorded.	V	3.0
8. Release the test specimen.	V	
9. Stop the video recorder. Ensure the point of impact and orients	ation specified in the plan ha	s been achieved.
10. Record the damage to the test specimen. Use a separate sheet a	and attach, if needed.	
Engineering, Regulatory Affairs and Quality Assurance make a Record the assessment on a separate sheet and attach.	preliminary assessment rel	ative to 10 CFR 71.
Test witnessed by (Signature)	Print Name	Date
Engineering: S. Granci	S. GEGNIGE	130cT 2009
Regulatory Affairs:	L. Prolex	13 am 10
Quality Assurance: C. Raunun	C. Roughen	13 pm (0

Test Unit Model/Serial No.: TP 180 D	Test: 4- FOOT DRUP TEST
Test Date: 13 007 2009	Test Time: 3:36 Ptm
Describe drop orientation and drop height:	
DROP ORIENTIATION #4 PER	PLAN AT ST INCHES.
Describe impact (location, rotation, etc.):	
IMPACT LOCATION ON CYLINDS	
SPECIMEN ROTATED ONTO ITS	SIDE (WELD SEAM) AFTEN IMPACT.
Describe on-site inspection (damage, broken parts, etc.):	77.100.104701.
MINOR DENT AT IMPACT LOC	CATION.
On-site test assessment:	
Was the test performed in accordance with 10 CFR 71, IA	EA TS-R-1 1996, and this test plan? Yes or No.
Does the test specimen meet the requirements of 10 CFR	71 and IAEA TS-R-1 1996 for this test? Yes or No.
 Any changes to subsequent drop orientations needed to a Standard, SENTRY 330 Special, and SENTRY Source C justify. 	chieve maximum damage? Especially for the SENTRY 330 Changer configurations. Yes or (a) If yes, then identify and
 Did sufficient damage occur at or on the rear-plate attach Projector – Basic configuration because of its thinner rea 	ment area to warrant further drop testing the SENTRY 110 r-plate? Yes or (10)
Should testing continue with this test specimen? Yesor N	No. If yes, next test: 30-5007 DROP
 Will the test specimen pass the thermal test based on the 	
Engineering: S. Gran. 130209 Regulatory: 1, J	Peck 139 moa: Chayren 19 pan 2010
NO DISASSEMBLY PERFORM	50.
Describe any change in source position (if possible):	
NO CHANGE IN SOURCE LO	CATION.
Describe results of radiography (if performed):	
NUT PERFORMED.	
Completed by: S. Comi	Date: 13 017 2009

Test Specimen Serial No.: TP180 D	Last Test Performed: 4 - FOOT DEOP TEST
Describe and measure (if appropriate) any damage or brok	ten parts, etc.:
WEUDESD EDGE OF CYLINDS	
About 1/4 Inch in AND Ab	out sinches long.
Describe and measure (if appropriate) any signs of perman	ent strain or deformation:
SEE ALOUE.	
Describe the condition of the simulated source wire assem	bly.
NO AFFECT ON SIMULATED SOU	RIE ASSEMBLY COUDITION.
NO CHANGE IN SOURCE POSIT	
Reassemble the package using a representative active source configuration is the same as they were immediately after the	
Measure and record a radiation profile of each test specime 1806.	en in accordance with QSA Global Work Instruction WI-Q-
Compare the pre-test dose levels with post-test dose levels of the package.	at the surface of the package and at 1 meter from the surface
THIS WILL BE DONE AT A LAT	G DATE OF AFTER THE
RNCTURE TOST.	
Is a radiograph required to inspect for hidden component ded damage or failures found.	amage or failure? If radiography is performed, describe any
NOT RELIERCS.	
Completed by:	Date:
S. Granin	13 OCT 2009

Test: 4-FOOT DROP TES	T	
Test Location: QSA - GLOBAL BU	RLINGTON	TRA
Step	D	ota
Record test specimen serial number:	TP180E	
2. Record the test specimen weight:	659 LBS.	
3. Record the ambient temperature (°C):	51°F	Instrument S/N:
4. Identify set-up orientation figure:	#5	
5. Record drop height.	4.7 FEET (57 INCHES
6. Photograph set-up in at least two perpendicular planes.	V	
7. Begin video recording of the test so that impact is recorded.	/	
8. Release the test specimen.	V	
9. Stop the video recorder. Ensure the point of impact and orienta	tion specified in the plan ha	s been achieved.
10. Record the damage to the test specimen. Use a separate sheet a	nd attach, if needed.	
 Engineering, Regulatory Affairs and Quality Assurance make a Record the assessment on a separate sheet and attach. 	preliminary assessment rela	ative to 10 CFR 71.
Test witnessed by (Signature)	Print Name	Date
Engineering: 5. Goni	S. GRENIER	13007 2009
Regulatory Affairs:	c. P. d.K	130m10
Quality Assurance: C - Kmg My	c. Roughan	13 pm 10

Test Unit Model/Serial No.: TP180 モ	Test: 4-FOUT DRUP TEST
Test Date: 13 OCT ZOV9	Test Time: 3:46 Pm
Describe drop orientation and drop height:	
ORIENTATION #5 PER PLAN	AT 57 INCHES.
Describe impact (location, rotation, etc.):	
IMPACT LUCATION ON TUP SURFA	CE. SPECIMEN BOUNCED ABOUT
2 INCHES VERTICALLY AND LANDER	BACK ON TOP SURFACE,
Describe on-site inspection (damage, broken parts, etc.):	
_ TWO BROKEN PILS ON WORK GO	USE (DUST GOVER).
- DIFFICULTY ACTUATION POSIL	-oik
On-site test assessment:	
Was the test performed in accordance with 10 CFR 71, I.	AEA TS-R-1 1996, and this test plan Yes or No.
Does the test specimen meet the requirements of 10 CFR.	71 and IAEA TS-R-1 1996 for this test Ves or No.
	achieve maximum damage? Especially for the SENTRY 330 Changer configurations. Yes or No If yes, then identify and
Did sufficient damage occur at or on the rear-plate attac Projector – Basic configuration because of its thinner re	hment area to warrant further drop testing the SENTRY 110 ar-plate? Yes or No.
Should testing continue with this test specimen? Yes or	No If yes, next test:
Will the test specimen pass the thermal test based on the	
Engineering: 5.6 \(\sigma\) 1300107 Regulatory: \(\sigma\)	P. LI39 W. C. Ren Dan 14 Janvold
Describe any post tost disassemery and inspection.	
REAR PLATE AND DUST GUER REMOU	50 AND TAKEN APART. THE FEUR
SCREWS HULDING THE SELECTUR PA	ng retained appear twisted
SLIHTLY CAUSING THE ANTI-	- POTATION LUCS TO BIND.
Describe any change in source position (if possible):	
SLIGHT CHANGE IN SOURCE LOCAT	ION -AGOUT YE INCH TOWARDS FRONT.
Describe results of radiography (if performed):	
NOT PERFORMED.	
Completed by: 5- Grani	Date: 13 OCT ZVO9

Test Specimen Serial No.:	Last Test Performed:
TPIECE	4-FOUT PROP TOST
Describe and measure (if appropriate) any damage or broke	en parts, etc.:
TWO BROKEN PINS ON LOCK	
PINS ALLOW THE DUST COLER	(with lock Gover) TO TALL AWAY
FRUM REENE PLATE.	
Describe and measure (if appropriate) any signs of perman	ent strain or deformation:
SEE ABOUE	
D. T. d	11.
Describe the condition of the simulated source wire assemb	
NO DAMAGE TO SIMULATED !	Source winds.
POST TEST MEASUREMENT INDICATE TOWNOOS FRONT END.	TES SLIZAT MONEMENT (YE INCh)
Reassemble the package using a representative active sour	
configuration is the same as they were immediately after the	ne last test.
Measure and record a radiation profile of each test specime 1806.	en in accordance with QSA Global Work Instruction WI-Q-
Compare the pre-test dose levels with post-test dose levels of the package.	at the surface of the package and at 1 meter from the surface
T47. 11 0- 2 - 2	
THIS WILL BE DOLE AT ALAR	GI DATE.
	damage or failure? If radiography is performed, describe any
Is a radiograph required to inspect for hidden component of damage or failures found.	damage or failure? If radiography is performed, describe any
damage or failures found.	damage or failure? If radiography is performed, describe any
	damage or failure? If radiography is performed, describe any
damage or failures found.	damage or failure? If radiography is performed, describe any
damage or failures found.	damage or failure? If radiography is performed, describe any
damage or failures found.	damage or failure? If radiography is performed, describe any
damage or failures found.	
damage or failures found.	Date:

Test Specimen & Equipment List

	ASSANT MOTO	Test Specimen			
Configuration	Drawing Number	A B B B Common	Attach IIR	Attach NCR	Attach Route Cards
Basic	TP86015-330	TP180A	See TMI 189	NA	Yes
Basie	TP86015-330	TP180B	See TMI 189	NA	Yes
Basic	TP86015-330	TP180C	See TMI 189	NA	Yes
Besic	TP86015-330	TP180D	See TMI 189	NA	Yes
Basic	TP86015-330	TP180E	See TMI 189	NA	Yes
		Tools & Equipment			
Fig.		Enter the Model and Se Mark NA when no		Attach Insp or Calibrati	on Certifica
Tool Desi Drop Surface, Drawi Penetration Bar, Dra	ng No. T10740	Enter the Model and Se		Attach Insp or Calibrati	ection Report on Certificate
Drop Surface, Drawing Penetration Bar, Drawing Record any additional perfificates.	ng No. T10740 wing No. T10129 al tooks used to facilita	Enter the Model and Se Mark NA when an S/N 001 S/N 01 te the test and attach the a	ot used. Poropriate insp	Attach Insp or Calibrati	on Certifica Yes
Orop Surface, Drawi Penetration Bar, Dra Record any additions	ng No. T10740 wing No. T10129 al tools used to facilita	Enter the Model and Se Mark NA when no S/N 001 S/N 01 te the test and attach the a	porepriate insp	Attach Insp or Calibrati	on Certifical
Penetration Bar, Drawing Record any additional carfificates. TEMPSICTURE WEIGHT Signature	ng No. T10740 wing No. T10129 Il tools used to facilita GAGE CALE	Enter the Model and Se Mark NA when an S/N 001 S/N 01 te the test and attach the a	porepriate insp	Attach Insport of Calibrati	on Certifical
Penetration Bar, Drawing Record any additions erfificates. TEMPSICIALE WEIGHT Signature Engineering: S. G.	ng No. T10740 wing No. T10129 al tools used to facilita GAGE CALE	Enter the Model and Se Mark NA when no S/N 001 S/N 01 te the test and attach the a	porepriate insp	Attach Inspor Calibrati	on Certifical
Penetration Bar, Drawing Record any additions erfificates. TEMPSICTURE USIGHT Signature	ng No. T10740 wing No. T10129 al tools used to facilita GAGE CALE	Enter the Model and Se Mark NA when an S/N 001 S/N 01 te the test and attach the a ENG-20 F16383 Print Name	porepriate insp	Attach Insport of Calibration report rep	on Certifical

Penetration Test Checklist

Test: PENETRATION TEST		
Test Location: GSA ENGINEERING TEST A	eca-Buellingto	m tal
Step	D	ata
Record test specimen serial number:	TPIBOA	
2. Record the test specimen weight:	655 USS.	
3. Record the ambient temperature (°C): i さっって	66.1°F	Instrument S/N:
Identify target location on test specimen.	PLUNGGE LOCK	c on dust Guere
5. Photograph set-up with penetration bar touching target locat		»E
6. Lift penetration bar 40 inches from target location on test sp	ecimen to lowest point on pen	
7. Release the penetration bar.	Pos	ga.
8. Photograph target location after impact.	Dak	xe .
9. Record the damage to the test specimen. Use a separate shee Small DENT ON Plash's DUST LOUE		SGR bik
 Engineering, Regulatory Affairs and Quality Assurance make Record the assessment on a separate sheet and attach. 		
Test witnessed by (Signature)	Print Name	Date
Engineering: S Com	S. GREWIER	9 067 2009
Regulatory Affairs:	L. P. Aild	
Quality Assurance: C lunion	c hashan	13 Mandall

Penetration Test Data Sheet

Test Unit Model/Serial No.: TPI 80 A	Test: PEN	ETRATION TEST
Test Date: 9 OCT 2009	Test Time:	3:15 PM
PROJECTUR / PACKAGE ON SI	D€ WITH	REARPLATE FACILE UP.
Describe on-site inspection (damage, broken parts, etc.):		
* IMPACT DENT ON PLUNGE	se Lock	Face and on Black
TREFOIL PLASTIC DUST O	augr,	
& COULD NOT INSERT KEY	INTO L	ock after test.
* NO LOSS OF CONTENTS		
WITHESED BY MIKE FULLEE	(2550	LATORY
On-site test assessment:	Springer and the	
 Was the test performed in accordance with 10 CFR 71, 1 	IAEA TS-R-1 19	96, and this test plan Yesor No.
Does the test specimen meet the requirements of 10 CFR	R 71 and IAEA 7	S-R-1 1996 for this test Ye or No.
Should testing continue with this test specimen Years		
Engineering: 5,6-400107 Regulatory:	DU-39	miles. C.haften 13/an
Completed by: STEUG GREWIEM	Date: 9	OCT 2009

Test Specimen Serial No.: TPISOA	Last Test Performed: PENETRATION TEST
Describe and measure (if appropriate) any damage or b	roken parts, etc.:
Plunger Lock FACE AND	plastic TREFOIL DUST GUER
SHOWS DENT AT POINT	t of impact.
Describe and measure (if appropriate) any signs of per	manent strain or deformation:
DENT ON DUST GUER	And Lock
Describe the condition of the simulated source wire ass	embly.
COULD NOT UNLOCK PLLA	450 lock to Examine
SOURCE WIRE BUT ASSUM	HE NO AFFECT ON SOMEWIRE.
1806. Compare the pre-test dose levels with post-test dose lev of the package.	rels at the surface of the package and at 1 meter from the surface
OR 40-INCH PUNCTURE	TEST.
Is a radio graph required to inspect for hidden componer damage or failures found.	nt damage or failure? If radiography is performed, describe any
NB RADICAPH IS NO	ECESSARY
Completed by:	Date:

Test: 4-FOOT DEC	OP TEST	
Test Location: QSA GLOBAL	BURLINGTON 1	~A
Step		Data
Record test specimen serial number:	TPISO	A
2. Record the test specimen weight:	655 1	THE RESERVE OF THE PERSON OF T
Record the ambient temperature ("C):	51°F	Instrument S/N: ENG-20
4. Identify set-up orientation figure:	#1	CNB-20
5. Record drop height.	4.8 FEE	T (57 Inche
6. Photograph set-up in at least two perpendicular pla	The second secon	
7. Begin video recording of the test so that impact is	recorded.	
8. Release the test specimen.	7	
9. Stop the video recorder. Ensure the point of impact	t and orientation specified in the plan	has been achieved.
10. Record the damage to the test specimen. Use a sepa	arate sheet and attach, if needed.	
 Engineering, Regulatory Affairs and Quality Assur- Record the assessment on a separate sheet and attach 	ance make a preliminary assessment ch.	relative to 10 CFR 71.
Test witzessed by (Signature)	Print Name	Date
Singineering: 5 Granum	S.GEENIGE	150072009
Regulatory Affairs:	C.P.1.11	139m/
Quality Assurance: C. Manden	C. Rayhon	

7.

TPISOA	Test: 4-FOOT DROP TEST
Test Date: 13 027 2009	Test Time: 3:00 PM
Describe drop orientation and drop height:	
ORIENTATION # (PER P	PLAN AT 57 INCHES
Describe impact (location, rotation, etc.):	
IMPACT LOCATION ON REA	e port tube face,
SPECIMEN ROTATED 1800	AFTER IMPACT,
Describe on-site inspection (damage, broken parts, etc.):	
BOTTOM PORTION OF TUSE RE	
	ssed into pashic dust guse.
ONE BROKEN PIN ON DUST	COUSE - NEEDED TO KEEP GUER ON.
Al-Spic less assessment.	
Was the test performed in accordance with 10 CFR 7	I, IAEA TS-R-1 1996, and this test plan ver or No.
Does the test specimen meet the requirements of 10 C	CFR 71 and IAEA TS-R-1 1996 for this test? (Tes)or No.
Any changes to subsequent drop orientations needed Standard, SENTRY 330 Special, and SENTRY Sour justify.	to achieve maximum damage? Especially for the SENTRY 330 aree Changer configurations. Yes or 10 lf yes, then identify and
Did sufficient damage occur at or on the rear-plate at Projector – Basic configuration because of its thinne	stachment area to warrant further drop testing the SENTRY 110
Should testing continue with this test specimen? Yes	on No If yes, next test:
	the accumulated damage assessment? Yes or No No A.
Will the test specimen pass the thermal test based on agine ring (2) (3000) Regulatory:	the accumulated damage assessment? Yes or No MA.
Will the test specimen pass the thermal test based on agine ring (3000) Regulatory: Regulatory: Rescribe any post-test disassembly and inspection:	the accumulated damage assessment? Yes or No NA.
Will the test specimen pass the thermal test based on agineering (2) 130CC 69 Regulatory: Regulatory: Rescribe any post-test disassembly and inspection:	The accumulated damage assessment? Yes or No NA. [] 130pm 0A: C. Whigh (1) fand 10 RE ASSEMBLICS REMOVED AND
Will the test specimen pass the thermal test based on agineering (2) (3007 of Regulatory: Assertible any post-test disassembly and inspection: **REAR PLATE AND DUST GOUST TAKEN APART. REAR PLATE	The accumulated damage assessment? Yes or No NA. (DAISOMOA: C. LONGA (M PONDAL) RE ASSEMBLIES REMOVED AND RACTS INTACT AND FUNCTIONAL.
Will the test specimen pass the thermal test based on agineering (2) [30CL of Regulatory: 2] escribe any post-test disassembly and inspection: **REAR PLATE AND DUST COUGHTAILEN APART, REAR PLATE DUST COUGH PIN BROKEN IN	The accumulated damage assessment? Yes or No NA. [] 130pm 0A: C. Whigh (1) fand 10 RE ASSEMBLICS REMOVED AND
Will the test specimen pass the thermal test based on agineering (2) [30CL of Regulatory: 2] escribe any post-test disassembly and inspection: **REAR PLATE AND DUST COUGHTAILEN APART, REAR PLATE DUST COUGH PIN BROKEN IN	The accumulated damage assessment? Yes or No NA. (DAISOMOA: C. LONGA (M PONDAL) RE ASSEMBLIES REMOVED AND RACTS INTACT AND FUNCTIONAL.
Will the test specimen pass the thermal test based on agineering (2) 130CT of Regulatory: A secribe any post-test disassembly and inspection: **REAR PLATE AND DUST COURT TAKEN APART. REAR PLATE DUST COURT PIN BROKEN IN escribe any change in source position (if possible):	The accumulated damage assessment? Yes or No NA. (DAM) OA: C. LONGIA (M. BONDAL) RE ASSEMBLIES REMOVED AND PARTS INTACT AND FUNCTIONAL, DOICATES POSSIBLE FAILURE FOR 30-FOUT DO
Will the test specimen pass the thermal test based on agineering (2) (30CT of Regulatory: 2) escribe any post-test disassembly and inspection: **REAR PLATE AND DUST COUGE TAKEN APART, REAR PLATE DUST COUGE PIN BROKEN IN escribe any change in source position (if possible): NO CHANGE IN SOURCE POS	The accumulated damage assessment? Yes or No NA. (DAM) OA: C. LONGIA (M. BONDAL) RE ASSEMBLIES REMOVED AND PARTS INTACT AND FUNCTIONAL, DOICATES POSSIBLE FAILURE FOR 30-FOUT DO
Will the test specimen pass the thermal test based on agineering (2) 130CT (2) Regulatory: A secribe any post-test disassembly and inspection: ***ECAR PLATE AND DUST COURT TAKEN APART. REAR PLATE DUST COURT PIN BROKEN IN escribe any change in source position (if possible):	The accumulated damage assessment? Yes or No NA. (D.L.130pm OA.C. LONGOM (M GONDAL) RE ASSEMBLIES REMOVED AND PARTS INTACT AND FUNCTIONAL, DOICATES POSSIBLE FAILURE FOR 30-FOOT DO

Test Plan 180 February 2009 Page 41 of 41

TPISOA	Last Test Performed: 4-Foot DROP
Describe and measure (if appropriate) any damage of	r broken parts, etc.:
ONE BROKEN PIN ON D	UST GUER ASSEMBLY.
* FOHOM GUD OF REAR PL	ATE PORTTUBE BENT IN About to in.
Describe and measure (if appropriate) any signs of particles of particles and measure (if appropriate) any signs of particles and measure (if appropriate) and measure (ermanent strain or deformation:
Describe the condition of the simulated source wire a	ssembly.
NO AFFECT ON SIMULATED LOCATION.	Source assembly couplified or
configuration is the same as they were immediately af	source, making sure that the source position and the package fer the last test: comen in accordance with QSA Global Work instruction WI-Q-
of the package.	evels at the surface of the package and at 1 meter from the surface
ls a radiograph required to inspect for hidden compone	ent damage or failure? If radiography is performed, describe any
damage or failures found. いって にそないならり、	
NOT (ZEQUISED.	
daniage of failures found.	Date: 1'S OCT 2009

Test: 4-FOOT DR	WP TEST	
Test Location: QSA - GLOBAL	BURLINGTON	ANI
Step		Data
Record test specimen serial number:	TPIBO	3
2. Record the test specimen weight:	656 4	
3. Record the ambient temperature (°C):	51°F	Instrument S/N:
4. Identify set-up orientation figure:	#2	1 0-0-20
5. Record drop height.		STINUES
5. Photograph set-up in at least two perpendicular pl	lanes.	- / 11-0865
7. Begin video recording of the test so that impact is	recorded.	710-7-110-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-
Release the test specimen.	V	
). Stop the video recorder. Ensure the point of impa	ct and orientation specified in the plan i	has been achieved.
0. Record the damage to the test specimen. Use a sep	parate sheet and attach, if needed.	
Engineering, Regulatory Affairs and Quality Assurance Record the assessment on a separate sheet and attractions.	arance make a preliminary assessment reach.	elative to 10 CFR 71.
Fest witnessed by (Signature)	Print Name	Date
Engineering: S. Granci	S. GRENIGE	13001 2009
Regulatory Affairs:	4. Pidra	130m10
Quality Assurance: C - LAWAM	c. Karhan	13/10/10

etad by: 5. GeEL, EA Date: 13 OCT 2005	duc
NOT PERFORMED.	
be results of radiography (if performed):	inosa
be any change in source position (if possible): Tr CLARNGE IN SOURCE POSITION. AGOUT NO INCH TOWNED TRENT	
his ois posemby Recommen.	
ibe any post-test disassembly and inspection:	CZCL
recring: 5- Grand Regulatory (30 No. C. AMAIN 14/100 I	nişa
AUC -off-ro-ex-Circamenage assess against descriminated on the accumulated damage assessment-free or 160 - 000 - 0	Δ
Should testing continue with this test speciment (Sort No. 11 yes, next test: 30 - 500 7 000	S
Did sufficient damage occur at or on the rear-plate attachment area to warrant further drop testing the SENT F Projector – Basic configuration because of its thinner rear-plate? Yes or ©	ď
- Appen	ſ
Standard, SEWTRY 330 Special, and SEWTRY Source Changer configurations. Yes or (10) 1 yes, them ident	8
SENTEN 330 Comments of Contract of Contrac	
Any charges to subsequent drop orientations needed to sohieve maximum damage? Especially for the SENTI	,
oes the test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test? Especially for the SENTI	,
oes the test specimen mest the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test? Me. Any charges to subsequent drop ortentations decided to solvieve maximum damage? Especially for the SENT.	o :
TIVES or the sequent drop ortentations deeded to sohieve maximum damages? Resectably for the STATE	o :
its feet assessment: Vas the test performed in accordance with 10 CFR 71, IAEA TS-R-1 1996, and this test plan? Caror No. Oes the test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test? Caror No. Any charges to subsequent drop orientations needed to sohieve maximum damage? Especially for the SENT.	2-00 M
Vas the test performed in accordance with 10 CFR 71, IAEA TS-R-1 1996, and this test plan? Leader No.	2-00 M
CAR NATE FORT TUSE CRUSHED IN TOUARD DUST COURSE. THE feet assessment: Vas the test performed in accordance with 10 CFR 71, IAEA TS-R-1 1996, and this test plan? Caror No. Oes the test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test [Carol No. Any charges to subsequent drop orientations needed to sohleve maximum damage? Especially for the SENT.	S) 2-00 8 0
SAR NATE PORT TURE CRUSHED IN TOUARD DUST COUGE. its test performed in accordance with 10 CFR 71, IAEA TS-R-1 1996, and this test plan? Carde No. Oes the test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test plan? Carde No. Oes the test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test plan? Carde No.	2' 8-00 2'
wibe on-site inspection (damage, broken parts, etc.): SAR NATE PORT TUSE CRUSHED IN TOUNDS DUST COUCE. Jist test assessment: As the test performed in accordance with 10 CFR 71, IAEA TS-R-1 1996, and this test pian? Carbor No. Jose the test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test pian? Carbor No. Jose the test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test pian? Carbor No.	2) S-00
TOCIMEN ROTATED 90° ARTES IMPACT. The on-site inspection (damage, broken parts, etc.): SO OSVIDUS GRALEN PARTS. THE EAST RATE PORT THEE CRUSHED IN TOUNDS DUST COUCE. Its test sersesament: As the test performed in accordance with 10 CFR 71, IAEA TS-R-1 1996, and this test plan? (Lever No. oes the test specimen meet the requirements of 10 CFR 71, IAEA TS-R-1 1996, and this test plan? (Lever No. oes the test specimen meet the requirements of 10 CFR 71, IAEA TS-R-1 1996 for this test plan? (Lever No. oes the test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test? Especially for the SENT.	0 · · · · · · · · · · · · · · · · · · ·
wibe on-site inspection (damage, broken parts, etc.): SAR NATE PORT TUSE CRUSHED IN TOUNDS DUST COUCE. Jist test assessment: As the test performed in accordance with 10 CFR 71, IAEA TS-R-1 1996, and this test pian? Carbor No. Jose the test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test pian? Carbor No. Jose the test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test pian? Carbor No.	0 · · · · · · · · · · · · · · · · · · ·
TOCIMEN ROTATED 90° ARTES IMPACT. The on-site inspection (damage, broken parts, etc.): SO OSVIDUS GRALEN PARTS. THE EAST RATE PORT THEE CRUSHED IN TOUNDS DUST COUCE. Its test sersesament: As the test performed in accordance with 10 CFR 71, IAEA TS-R-1 1996, and this test plan? (Lever No. oes the test specimen meet the requirements of 10 CFR 71, IAEA TS-R-1 1996, and this test plan? (Lever No. oes the test specimen meet the requirements of 10 CFR 71, IAEA TS-R-1 1996 for this test plan? (Lever No. oes the test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test? Especially for the SENT.	N
Afact Location, rotation, etc.): Recince Location, rotation, etc.): Recince Location, rotation, etc.): Recince Location (damage, broken parts, etc.): Secure Rote Rote Rote Colorate In Touris Dust Colored its test sessesment: As the test performed in accordance with 10 CFR 71, IAEA TS-R-1 1996, and this test plan? Colored . As the test specimen meet the requirements of 10 CFR 71, IAEA TS-R-1 1996, and this test plan? Color No. Oes the test specimen meet the requirements of 10 CFR 71, IAEA TS-R-1 1996 for this test plan? Color No. The test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test plan? Color No. The test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test plan? Color No. The test specimen meet the requirements of 10 CFR 71 and IAEA TS-R-1 1996 for this test? Color No.	NA COSSO
APACT LOCATION ON PROTRUDING PEACE PLATE PLATE PLATE COET TO BE EST PROTECT. SAR PLATE PARENCE PLATE CRUSHED IN TOUARD DUST COUCE. Jet lest performed in accordance with 10 CFR 71, IAEA TS-R-1 1996, and this test plan? Leader No. As the test specimen meet the requirements of 10 CFR 71, IAEA TS-R-1 1996, and this test plan? Leader No. Oes the test specimen meet the requirements of 10 CFR 71, IAEA TS-R-1 1996, and this test plan? Leader No.	NA COSSO
TOOP OR SENTATION # 2 PER PLAN AT ST INCISES. The impact (location, rotation, etc.): Recinally Consider Tooles parts, etc.): The on-site inspection (damage, broken parts, etc.): The on-site inspection (damage, etc.): The on-site inspection (damage	0
The drop orientation and drop height: The orientation and drop height: The orientation and drop height: The orientation, rotation, etc.): The orientation of damage, broken parts, de.): The orientation (damage, broken parts, de.): The orientation orientations needed to sobleve maximum damager? Especially for the SPUTT. The orientation orientations needed to sobleve maximum damager? Especially for the SPUTT.	0
Test Time: 5:15 PTA Test Time	Desco
SOUR STREET PORT SOUR SOUR SOUR STREET STREE	Test Description of the Descript

	Last Test Performed:
TPISUS Describe and measure (if appropriate) any damage or b	4-FOOT DROP TEST
LIP OF THE WELDED POR-	TTUBE BENT IN TOWARDS THE I INCH. CAN NOT REMOVE DUST
	DENT OR CUTTING GUER.
Describe and measure (if appropriate) any signs of pers	
sec abus.	
Describe the condition of the simulated source wire ass	
	GOUSE TO ACCESS SOURCE WIRE,
EXPECT NO DAMAGE TO S	souther wire. Slight change in houting.
configuration is the same as they were immediately after	
1806.	cimen in accordance with QSA Global Work Instruction WI-Q-
1806.	wels at the surface of the package and at 1 meter from the surface
1806. Compare the pre-test dose levels with post-test dose level of the package.	wels at the surface of the package and at 1 meter from the surface
1806. Compare the pre-test dose levels with post-test dose levels of the package. THIS WILL BE DONE AT A PUNCTURE TEST.	wels at the surface of the package and at 1 meter from the surface
1806. Compare the pre-test dose levels with post-test dose level of the package. This will BE Done AT A PUNCTURE TEST. Is a radiograph required to inspect for hidden component.	wels at the surface of the package and at 1 meter from the surface
1806. Compare the pre-test dose levels with post-test dose levels of the package. This will BE Dowe AT A PUNCTURE TEST. Is a radiograph required to inspect for hidden componed damage or failures found.	wels at the surface of the package and at 1 meter from the surface

Test Location: QSA - GLOB	op test ial Burlings	AN MG
Step		Data
Record test specimen serial number:	TPIBO	c
2. Record the test specimen weight:	652 4	35.
3. Record the ambient temperature (°C):	52°F	Instrument S/N:
4. Identify set-up orientation figure:	#3	1000-00
5. Record drop height.	The second secon	(57 INCHE
5. Photograph set-up in at least two perpendicular		
7. Begin video recording of the test so that impact	t is recorded.	
Release the test specimen.	/	× × ×
Stop the video recorder. Ensure the point of im	pact and orientation specified in the plan	has been achieved.
0. Record the damage to the test specimen. Use a	separate sheet and attach, if needed.	
Engineering, Regulatory Affairs and Quality A Record the assessment on a separate sheet and	asurance make a preliminary assessment attach.	relative to 10 CFR 71.
'est witnessed by (Signature)	Print Name	Date
	- 	
ngineering: S. Garner	S. GEENIGR	1'S OCT ZOUS
legulatory Affairs:	C. P. dr	130ct 2009

Test Unit Model/Serial	INO .: TPISOC	Test:
Test Date:	SERVICE OF THE PARTY OF THE PAR	A-FOOT DROP TEST
	3 OCT 2009	3:26 PM
Describe drop orientati		
DROP ORIGI	STATION #3 PER	plan at 57 inches.
Describe impact (locati	ion, rotation, etc.):	
IMPACT LOC	ATION ON BODY	WELD SEAM (LONSITUDINAL).
SPECIMEN	ROTATED 900 ONTO	O ITS TOP APTER IMPACT.
Describe on-site inspec	tion (damage, broken parts, etc.):	
MINOR OF	ST OF BODY AT TH	le weld seam location.
On-site test assessment:		
Was the test perform	ned in accordance with 10 CFR 71,	IAEA TS-R-1 1996, and this test plan? Yes or No.
 Does the test specim 	en meet the requirements of 10 CF	R 71 and IAEA TS-R-I 1996 for this test? (Sor No.
 Any changes to sub Standard, SENTRY justify. 	sequent drop orientations needed to 7 330 Special, and SENTRY Source	o achieve maximum damage? Especially for the SENTRY 330 a Changer configurations. Yes or (1) If yes, then identify and
Did sufficient dama Projector – Basic co	age occur at or on the rear-plate attr configuration because of its thinner o	schiment area to warrant further drop testing the SENTRY 110 rear-plate? Yes or 160
 Should testing conti 	inue with this test specimen? (Fee o	r No. If yes, next test: 30-Foot DeoP
 Will the test specim 	en pass the thermal test based on the	ne accumulated damage assessment? Yes or No NA
Engineering: S	Sassembly and inspection:	Book sympo. C. Laylan 14 Pendole
	SENBLY PERSORNE	
Describe any change in s	ource position (if possible):	
	FE IN SOURCE Posi	haw.
Describe results of radio	eraphy (if performed):	
	Gerni	Date: 13 667 2009
The second secon	The same property of the same	1 2 20 1 20 1

Test Specimen Serial No.:	Last Test Performed:
Describe and measure (if appropriate) an	
DENT AT ONE	END OF TUBE WELD SEAM NEAD FORT IS About 2 IMAGS Gog.
Describe and measure (if appropriate) an	y signs of permanent strain or deformation:
SEE ASOUG,	
Describe the condition of the simulated s	ource wire assembly.
NO AFFECT ON S LOCATION.	included Source Assembly Gallin or
	tative active source, making sure that the source position and the package
configuration is the same as they were im	mediately after the last test
Measure and record a radiation profile of 1806.	each test specimen in accordance with QSA Global Work Instruction WI-Q-
Compare the pre-lest dose levels with pos of the package.	st-test dose levels at the surface of the package and at 1 meter from the surface
This will BE So	WE AT A LATEN DATE OR AFTEN THE
RUCURE TEST.	
Is a radiograph required to inspect for hid damage or failures found.	den component damage or failure? If radiography is performed, describe any
NOT REEN	was
Completed by:	Date:
1. Ocenn	13 017 2009

Test: 4 - FOOT DROP	>	
Test Location: QSA - G-Loss	aL, Burling	on, ms
Step		Data
Record test specimen serial number:	TPISO	D
2. Record the test specimen weight:	657 LB	
3. Record the ambient temperature (°C):	51°F	Instrument S/N: 5NG-20
f. Identify set-up orientation figure:	#4	
5. Record drop height.	4.7 FEET	(57 Inches
i. Photograph set-up in at least two perpendicular p	lanes.	
7. Begin video recording of the test so that impact is	s recorded.	
Release the test specimen.	V	
. Stop the video recorder. Ensure the point of impa	act and orientation specified in the plan	has been achieved.
0. Record the damage to the test specimen, Use a se	parate sheet and attach, if needed.	
Engineering, Regulatory Affairs and Quality Assu Record the assessment on a separate sheet and an	urance make a preliminary assessment ach.	relative to 10 CFR 71.
est witnessed by (Signature)	Print Name	Date
ngineering: S. Gunui	S. GEGNIGE	130CT 2009
egulatory Affairs:	4. Posters	13 am 10
nuality Assurance:	C. Royshen	13 pm (0

Test Unit Model/Serial No.: TP 180	D Test: 4-FOOT DROP TEST
Test Date: 13 00T 2009	Too Time
Describe drop orientation and drop height:	
DROP OR IENTATION HE	4 PER PLAN AT 57 INCHES.
	sylloge eight of body.
SPECIMEN ROTATED ON	ITO ITS SIDE (WELD SEAM) AFTEN IMPACT
Describe on-site inspection (damage, broken pa	rts, etc.):
MINIR DENT AT IMPI	ACT LOCATION.
On-site test assessment:	
Was the test performed in accordance with I	0 CFR 71, IAEA TS-R-1 1996, and this test plan? Yes or No.
Does the test specimen meet the requirement	s of 10 CFR 71 and IAEA TS-R-1 1996 for this test? We re.
 Any changes to subsequent drop orientation Standard, SENTRY 330 Special, and SENT justify. 	is needed to achieve maximum damage? Especially for the SENTRY 330 RY Source Changer configurations. Yes or 100 f yes, then identify and
 Did sufficient damage occur at or on the rea Projector — Basic configuration because of i 	r-plate attachment area to warrant further drop testing the SENTRY 110 ts thinner rear-plate? Yes or No.
 Should testing continue with this test specin 	nen Weber No. If yes, next test: 30-5007 DROP
Will the test specimen pass the thermal test	based on the accumulated damage assessment? Yes or 146 MA
Engineering: S-Graning ISOLICA Regulation Describe any post-test disassembly and inspection	13 amoa: C. Kapan 19 Man 2016
NO DISASSEMBLY PE	ADENCO.
Describe any change in source position (if possib	le):
NO CHANGE IN SOU	
Describe results of radiography (if performed):	
NUT PERFORMED	
Completed by: S. Com	Date: 13 017 2009

Test Inspection Data Sheet

Test Specimen Serial No.: TP180 D	Last Test Performed: 4-FOUT DEAP TEST
Describe and measure (if appropriate) any damage of	
	LOCA GODY DELECT SIX47LY
About 1/4 Inch in AND	about 3 inches long.
Describe and measure (if appropriate) any signs of p	ermanent strain or deformation:
SEE Abuse.	
Describe the condition of the simulated source wire a	assem bly.
NO ACFECT ON SIMULATED NO CHANGE IN SOURCE P	Source Assembly Govoition.
configuration is the same as they were immediately a	e source, making sure that the source position and the package ufter the last test: pecimen in accordance with QSA Global Work Instruction WI-Q-
of the package.	levels at the surface of the package and at 1 meter from the surface LATER DATE OF AFTER THE
Ructure 10st.	
Is a radiograph required to inspect for hidden compor damage or failures found.	nent damage or failure? If radiography is performed, describe any
NOT REDIRED.	
Completed by:	Date:

Free Drop & Puncture Test Checklist

QSA-GLOBAL	BURLINGTON	TRA			
Step		Data			
Record test specimen serial number:	TPIBOE				
2. Record the test specimen weight:	659 LBS				
 Record the ambient temperature (°C): 	51°F	Instrument S/N:			
4. Identify set-up orientation figure:	#5				
5. Record drop height.	4.78007 (57 INCHE				
 Photograph set-up in at least two perpendicular planes. 					
7. Begin video recording of the test so that impact is reco	rded.				
8. Release the test specimen.	V				
P. Stop the video recorder. Ensure the point of impact and	d orientation specified in the plan h	as been achieved.			
10. Record the damage to the test specimen. Use a separate	sheet and attach, if needed.				
 Engineering, Regulatory Affairs and Quality Assurance Record the assessment on a separate sheet and attach. 	make a preliminary assessment re	elative to 10 CFR 71.			
Fest witnessed by (Signature)	Print Name	Date			
ingineering: 5. Grani	S. GRENIER	13 OCT 2009			
Regulatory Affairs:	c. P. d. K	1300 m 1			
Quality Assurance: C - Knight	c Rayshan	13/18-11)			

Free Drop & Puncture Test Data Sheet

TPL80 €	Test: 4-FOUT DROP TEST
Test Date: 13 OCT 2009	Test Time: 3:46 Ptm
Describe drop orientation and drop height: ORIENTATION #5 PER PLAN	AT 57 INCHES.
Describe impact (location, rotation, etc.): IMPACT LUCATION ON TUP SUPPL 2 INCHES UBITICALLY AND LANDER	WE. SPECIMEN BOUNED ABOUT O BACK ON TOP SURFACE,
Describe on-site inspection (damage, broken parts, etc.):	
_ TWO BROKEN PILS ON LOCK CO	
- DIFFICULTY ACTUATION POSI	Lock
Standard, SENTRY 330 Special, and SENTRY Source justify.	And IAEA TS-R-1 1996 for this test Yes or No. achieve maximum damage? Especially for the SENTRY 330 Changer configurations. Yes or No. If yes, then identify and thment area to warrant further drop testing the SENTRY 110 ar-plate? Yes or No. accumulated damage assessment? Yes-or-No.
Describe any post-test disassembly and inspection:	
REAR PLATE AND DUST GUER REMUL	and the second s
sceems itscoins the selectie by	
SLIHTLY CAUSING THE MUTI-	POTATION LUGS TO BIND.
Describe any change in source position (if possible): SLIGHT CHANDGE IN SOURCE LOCAT	ION -About YE INCH TOWARDS FRONT.
Describe results of radiography (if performed): NOT PEEFERMED.	
Completed by: 5. Grami	Date: 13 OCT ZVO9

Test Inspection Data Sheet

Test Specimen Serial No.:	Last Test Performed: 4 - Foot DROP TEST
Describe and measure (if appropriate) any damage	or broken parts, etc.:
TWO BROKEN PINS ON L	ock GUSE ASSEMBLY, BRUKEN
PINS ALLOW THE DUST COU	ER (with book Gover) to Trall Away
Freum 1250R PLATE,	
Describe and measure (if appropriate) any signs of	permanent strain or deformation:
SEE AGNE	
Describe the condition of the simulated source wire	assembly.
NO DAMAGE TO SIMULATE	D Source wires.
towards from the.	picates slight movement (Ye Inch)
Reassemble the package using a representative active configuration is the same as they were immediately	ve source, making sure that the source position and the package after the last test.
Measure and record a radiation profile of each test	specimen in accordance with QSA Global Work Instruction WI-Q-
Compare the pre-test dose levels with post-test dose of the package.	e levels at the surface of the package and at 1 meter from the surface
T47. # 85 3 5 4 4	
THIS WILL BE DOLE AT A	CATCH DATE.
	onent damage or failure? If radiography is performed, describe any
damage or failures found.	
not required.	
Completed by:	Date:

Test Specimen	Initial (Pre-Test) Dimension (inch)	Post 4-foot Drop Test Dimension (inch)	Post 30-foot Drop Test Dimension (Inch)	Post Puncture Drop Test
TP180A	65/8"	6 5/8"		
TP180B	65/8"	6 1/2"		
TP180C	65/8"	6 5/8"		
TP180D	6518"	6 5/8"		
TP180E	65/8"	6 1/2"		
TP180F				
TP180G				
TP180H	6578"			
TP180J				

JU 130cT2009 JU 140009

SOUSTICE LOCATION MEXSUREMENT



			Shiel	d Data	and the second second	DOMEST - A SERVICES	
Model: 86	010-330	Serial # TP	IBOA	Rudiouudide			
Shield P/N:	86001-3	30 Shield He	me# C5	86-A06	Lot	0914	100302
191	74-1-1		Profile Pr	ocess Data			
Source Mode	H: 424-13	Source Ser. #2	351278	Radionnelid	e: Co-60	Activity:	124-1 CI
Survey last.	E600	Serial# /1	863	Date Cal.	2/24/08	Date Due:	2/24/10
Inst. Probe:	SHPATO	Serial # 60	54 a	Capacity Co	rrection Fact	or: /.0	a
	Measo	red Dose Rate m	R/hr		Adit	sted Dose Rat	e mik/hr
Location	At Surface	Surface Corr. Factor	At 30 Cm [Note 2]	At one Moter	A1 Surface	At 30 Cm [Note 2]	Af one Meter [Note 1]
Тор	15	1.09	NA	.5	17	NA	.5
Right	55	1.06		1.1	60		1.1
Front	35	1.06		1.0	38	S. Carrier S. P. Carrier S. Carri	1.0
Left	45	1.01		1.2	49		1.2
Rear	30	1.06		4.3	32		1.3
Bottom	25	1.09	-	40	28	1	1.0
			Acceptance	e Criteria:	≤200	NA.	€ 5.0
		Result: (C	heck one)	Accept	1	Reject	
luspector:	a gr	4	Date:_	5/24/07	_ NC	R#	•
Notes: 1. Refer to F- F-Q-1806- 2. The 30cm r 3. Additional	3, Shield Profit endings are on sheets may be	eld Efficiency Tos e Worksheet for (ly required when re used to describe re of sheets. Make st	One meter acc specifically re esults or indic	ceptance limit, equested, rate reading loc	ations using s)	setches, Numb	



			Shiek	d Data			
Model: S	mhan 330	Serial # TP	1808	Radionucide:	C0-60	Max. Canaci	17 GE 7. W
Shield PAN:	86001-3	30 Shell H	ent# C G	13 - A0	Loc#	09205	01008
(4)				ocess Data			
Source Mod	lel: 424-13	Source Ser. #	277478	Radionuciid	e: Co-60	Activity:	3/2. / Ci
Survey Inst	E600	Serial # / 8		Contraction Contraction	2/24/09		The second second
Inst. Probe:	HP.270	Serial # 00	542	S. Continues and State of Stat	rrection Fact		THE RESERVE AND ADDRESS OF THE PERSON NAMED IN
	Messu	red Dose Rate n			All and the second participation	sted Dose Rat	e mR/hr
Location	At Surface	Surface Corr. Factor	At 30 Cm [Note 2]	At one Meter	At Surface	At 30 Cm [Note 2]	At one Meter [Note 11
Тор	19	1.09	MA	.4	22	NA	.4
Right	50	1.06		.9	56	The same of	1.0
Front	25	1.06		. 8	28		.9
left	40	1.06		. 9	45		1.0
Rear	50	1-26		1.2	56		1.3
Bottom	25	1.09	4	.4	29	1	.4
			Acceptance	e Criteria:	< 200	NA	
		Result: (C		Accept	1/	Reject	£ 40
nspector:_	<u> </u>	4	Date:	8/8/03	NCI		\$ 427/
The 30cm r. Additional	Q-1806-1, Shire 3, Shield Profile madings are only shrets may be u	de Efficiency Tes Worksheet for O y required when a seed to describe re of sheets. Make sa	ting Surface (the meter acc pecifically re- mults or indic	Correction Pec eptance Hurit equated, rate reading to ntification is in	tors for an exis	ketchoe Numb	



Survey Inst. I E600 Serial Survey Inst. 2 N.4 Serial Inst. Probe: 1 86 270 Serial Capacity Correction Factor: Measured Dog	nl # T 180 B Shield Hent # Profil s Ser. # 27796 6 /263 6 N4 # 00542 / 65	Radionuciide C 615 - A06 e Process Data B Radionuciid Date Cal. Bete Cal. Inst. Probe:	Lat#	Activity:	175.6 CI
Source Model: 424-13 Source Source Model: 424-13 Source Sourcey Inst. I E600 Serial Inst. Probe: 1 H6 270 Serial Capacity Correction Factor: Measured Dec	Shield Hent # Profil 8 Ser. # 37746 8 /363 8 N4 4 00542 /.69	e Process Data B Radionactic Date Cal. Bete Cal.	Let#	Activity:	175.6 CI
Source Model: 424-13 Source Survey Inst. I E600 Serial Survey Inst. 2 N/4 Serial Inst. Probe: 1 86 270 Serial Capacity Correction Factor: Measured Do	Profile Ser. # 27746 # /263 # /263 # N4 # 00542 /.65	Bete Cal.	Lot#	Activity:	195.6 CI
Survey Inst. I E600 Serial Survey Inst. 2 N/4 Serial Inst. Probe: 1 86 270 Serial Capacity Correction Factor: Measured Dog	8 Ser. # 27746 # 1863 # N4 # 00542 /.69	Bate Cal.	10; Co 60 2/24/10	Activity: Date Duc:	195.6 CI
Survey Inst. I E600 Serial Survey Inst. 2 N/4 Serial Inst. Probe: 1 86 270 Serial Capacity Correction Factor: Measured Dog	8 1863 8 N4 8 00542 1.69	Date Cal.	2/24/10	Date Duc:	THE RESIDENCE AND PROPERTY AND PARTY.
Survey Inst. 2 N/4 Serial Inst. Probe: 1 H6 270 Serial Capacity Correction Factor: Measured Do	8 N4 * 00542 1.69	Date Cal.		The second second	2/29/11
Capacity Correction Factor: Measured Do	1.69		MA	Para Varia	
Capacity Correction Factor: Measured Do	1.69	Inst. Probe:		Date Due: N4	
Measured Dor	The second secon		2 NA	Sertal #	M
Location At Surfac					
Loseffiam	S KNG MKUL		Adju	sted Dose Ra	SCHOOL SECURITY OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF T
	ctor Note	Market Committee	At Surface	At 30 Cm [Note 2]	At One Meter [Note 1]
Top 14 1.	09 NA	. 32	26	NA	.54
Right 18 J.	a6	.50	32		, 85
Front 34 /.	06	.62	61		1.1
Left 33 /.	36	.63	59	-Kski	10 M
Rear /3 /	06	.51	23		.90
Bottom 19 1.	09 1	.20	35	b	.34
	Accep	tance Criteria:	< 200	NA	\$ 5.0
R	sult: (Check on	e) Accept	V	Reject	
Comments: All but be them !		te: 3/29/10	NCI		

F-Q-1806-2, rav. 4



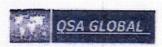
Martin A			Shiel	d Data			
	1	0.000			c		82
	CONTRACTOR AND AND ADDRESS OF THE PROPERTY OF THE PARTY O	Serial # Tf	AND A STREET WAS ASSESSED.	A STATE OF THE STA		CONTRACTOR OF STREET	
Smean Part	56001.	330 Shield He		PARTIES OF THE PARTIE	Lot?	09/63	01210
1			The state of the base of the state of the st	pcess Data		T. 450	100 100 100 100 100 100 100 100 100 100
		Source Ser. #					Contract to the second
Survey Inst.	PERSONAL PROPERTY OF THE PERSON NAMED IN COLUMN 2 IN C	Serial# /2			,	Date Due:	Colorado Colorado
Inst. Probe: /		Serial # 00		Capacity Cu		or: 1.0	
STATE OF THE PARTY OF	200	red Dose Rate n	2010/00/2017	Atone	Adju	sted Dase Rat	At one
Location	At Surface	Surface Corr. Factor	At 30 Cm [Note 2]	Meter	At Surface	At 30 Cm [Note 2]	Meter [Note 1]
Тор	17	1.09	NA	.56	20		.59
Right	55	1.06		.96	62		1.62
Front	27	1.06		1.30	30		1.38
Left	55	1.06		1.43	62		1.52
Rear	30	1.06		1.45	34		1.54
Bottom	32	1.08	+	.74	37	1	.78
			Acceptance	e Criteria:	≤ 200	NA	= 405
		Result: (C	heek one)	Accept	V	Reject	F 9/29
lnspector:	OV.	Result: (C	peck oue)	Accept 8/5/09		Reject	37/2



			Shiel	d Data	Q- 1		100
Model: 8	6010-33	O Serial # TP	180D	Radionuclide	: Co -60	Max. Capaci	ity 330 Ci
Shield P/N:	86001-3.	30 Shield H	eat# C6	08-A06			100408
19			Profile Pr	ocess Data			
Source Mod	lel: 60011	Source Ser. #	277478	Radionuclio	ie: Co-60	Activity: 3	11.0 Ci
Survey Inst. E600			6.3		2/24/08	The second secon	THE RESERVE AND ADDRESS OF THE PERSON NAMED IN COLUMN 2 IS NOT THE OWNER.
Inst. Probe:	HP-270	Serial # 00	542		orrection Fact		
	Meas	ured Dose Rate m	R/hr		Adjus	ted Dose Ra	te mR/hr
Location	At Surface	Surface Corr. Factor	At 30 Cm [Note 2]	At one Meter	At Surface	At 30 Cm [Note 2]	At one Meter [Note 1]
Top _	20	1.09	NA	. 35	23	ALL	.37
Right	50	1.06	1	.95	56	1	1.00
Front	35	1.06		. 85	- 39		.90
Left	40	1.06		1.35	\$ 844		1.43
Rear	36	1.06		1.35	40		1.43
Bottom	27	1.09	4	.4	31	+	.42
			Acceptance	e Criteria:	< 200	NA	€ 105.0
		Result: (C	heck one)	Accept	·V	Reject	3827
Inspector:_	W.	4	_ Date:_	8/20/08	NCE	R#	

Notes:

- Refer to F-Q-1806-1, Shield Efficiency Testing Surface Correction Factors for an existing device model, or F-Q-1806-3, Shield Profile Worksheet for One meter acceptance limit
- 2. The 30cm readings are only required when specifically requeted.
- Additional sheets may be used to describe results or indicate reading locations using sketches. Number all sheets
 and indicate total number of sheets. Make sure shield Identification is included on each sheet.
- 4. Consult instrument calibration records for instrument uncertainty.



Sheet
Model: 98010 - 330 Serial # 77180 E Radionaclitie: Co 60 Max. Capacity 330 Shield P/N: 86001 - 330 Shield Heat # C 611 - 406 Lot # 0 9197 00 9 Profile Process Data
Shield P/N:
Shield P/N:
Profile Process Data
Survey Inst. E 600 Serial # 7843 Date Cal. 2/24/65 Bate Due: 2/24/65 Inst. Probe: H 9270 Serial # 006 42 Capacity Correction Factor: -06
Inst. Probe:
Inst. Probe:
Location At Surface Surface Core. Factor At 30 Cm Meter Surface Meter Surface Meter Surface NA .40 2.3 rNA .40 Right 45 1.96 .81 51 .86 .86 Front 31 1.96 .36 35 .33 Left 35 1.96 .88 39 .93 Rear 34 1.06 1.65 38 1.2
Location Al Surface Factor At 30 Cm Meter Meter Indicated Meter Meter At 30 Cm Meter Meter Indicated Meter Indicated Meter Indicated Meter Indicated Meter Indicated Meter Meter Meter Meter Indicated Meter Meter
Right 45 1.96 .81 51 .86 Front 31 1.96 .36 35 .38 Left 35 1.96 .88 39 .93 Rear 34 1.96 1.65 38 1.2
Front 31 1-06 .36 35 .38 Left 35 1.96 .88 39 .93 Rear 34 1.06 1.65 38 1.2
Left 35 1.96 .88 39 .93 Rear 34 1.06 1.65 38 1.7
Left 35 1.96 .88 39 .93 Rear 34 1.06 1.65 38 1.2
Rear 34 1.06 1.65 38 1.7
Bottom 25 1.09 + .50 29 + .53
Aecoptance Criteria: ≤200 NA € -
Result: (Check one) Accept & Reject
Acceptance Criteria: ≤200 NA ≤ +3 Result: (Check one) Accept Reject Inspector: 2/28/69 NCR#



			Shield	Data		1	
Madela D	2010-220	Serial # 77		The second little and the second little and the second	C- 60	•	900 -
	26001-3	Market Street, Market Street,		15 - A 06	THE RESERVE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TW	STOREST CONTRACTOR OF THE STORES	# <u>330 CI</u> 2008/
CHARGE E 724:	20001-3	30 Anteia Fr			Lot	UTAA	40081
D	2/9/1 12			ocess Data	4 40	1 m 12 SI C 10 S	
	let: 4/24-L3	Source Ser. #		TARREST MANAGEMENT	STORY AND DESIGNATION OF THE PARTY OF THE PA		109.9 CI
Survey Inst	HP270	Serial # / 8		Date Cal. 3		100000000000000000000000000000000000000	2/24/10
Inst. Prope		Serial # 00		Capacity Co	rrection Fact		
		red Dose Rate u		Atone		sted Dose Rat	At one
Location	At Surface	Surface Corr. Factor	At 30 Cm [Note 2]	Meter	At Surface	At 30 Cm [Note 2]	Meter [Note 1]
Тор	20	1-09	NA.	.4	23	NA	.4
Right	45	1.06		.9	51		1.0
Front	41	1.06	89/3	19,020	47		1.0
Left	42	1.06		1.0	48		1.1
Rear	47	1.06		1.6	53	1	1.7
Bottom	25	1.09		. 3	29	-	-3
			Acceptance	Criteria:	< 200	NA	₫ 5.0
		Result: (C		Accept	/	Reject	
	de bedy	is on less i		9/5/09 I D 0.1	_ NG	X#	
F-Q-1806. The 30cm of Additional and Indicate	3, Shield Profit readings are on sheets may be to a total number	old Efficiency Tests of Worksheet for City required when used to describe a of sheets. Make stionsecords for in	The meter accomposition of the meter and the second	eptance limit equeted. ate reading loo atification is in	cations using s	ketches, Num	
F-O-180	6-2. rev. 3		Page 1 of 1			9 March 200	•

Safety Analysis Report for the Models Sentry 110, Sentry 330 and 867 Transport Packages

QSA Global, Inc. Burlington, Massachusetts June 2015 - Revision 3

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2.12.4 Test Plan 180 Report #2 dated 7 April 2010