

**From:** [Hemann, Joseph](#)  
**To:** [Rodriguez-Luccioni, Hector](#)  
**Cc:** [Struckmeyer, Richard](#); [Herrera, Tomas](#); [Gonzalez, Hipolito](#)  
**Subject:** RE: DRS Sustainment 4th Request for Additional Information  
**Date:** Thursday, April 16, 2015 8:46:20 AM  
**Attachments:** [ES6510\\_F.pdf](#)

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Dr. Rodriguez-Luccioni,

Application reference the control number 585018.

Per your request, dated 17 March 2015, attached you will find the updated drawing for your review and approval.

Should you have any questions, please let me know.

Thanks,

Joe Hemann  
Contracts Administrator  
314-553-4315

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**From:** Rodriguez-Luccioni, Hector [mailto:Hector.Rodriguez-Luccioni@nrc.gov]  
**Sent:** Wednesday, April 08, 2015 9:11 AM  
**To:** Hemann, Joseph  
**Cc:** Struckmeyer, Richard; Herrera, Tomas; Gonzalez, Hipolito  
**Subject:** RE: DRS Sustainment 4th Request for Additional Information

Mr. Hemann,

As part of the review process it is required that the NRC approves the label DRS will use on the device. Please submit a drawing of how this label will look like and the information that will be on the label by COB Wednesday, April 15, 2015. In addition include the new label in your amendment request regarding the Sealed Source and Device Registration certificate.

If you have any questions please let me know.

Thank you

-Hector

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**From:** Hemann, Joseph [mailto:JHemann@drs.com]  
**Sent:** Wednesday, April 01, 2015 10:39 AM  
**To:** Rodriguez-Luccioni, Hector  
**Subject:** RE: DRS Sustainment 4th Request for Additional Information

Dr. Rodriguez-Luccioni,

Application reference the control number 585018.

Thank you for your time on the phone earlier this week. I have a question with regards to the label change on new production units. At this time DRS does not have units in production nor do we have pending orders in the near future.

As discussed DRS agrees to creating a new label per your instructions provided on 17 March 2015. To create a new label DRS would need to spend labor and funding.

DRS is requesting that the new label be only created when/if future orders are received. Is this acceptable to the NRC?

Thanks,

Joe Hemann  
Contracts Administrator  
314-553-4315

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**From:** Hemann, Joseph  
**Sent:** Friday, March 20, 2015 2:09 PM  
**To:** 'Rodriguez-Luccioni, Hector'  
**Cc:** Struckmeyer, Richard; Gonzalez, Hipolito; Herrera, Tomas  
**Subject:** RE: DRS Sustainment 4th Request for Additional Information

Mr. Rodriguez-Luccioni,

Our team identified the below regulations regarding labeling. We are confused as we don't believe the intent of the regulations (see below) requires that the operator of the item is able to identify the byproduct material by its label. The QC procedure requested and provided clearly indicate that the people involved in the functions identified in the regulation (manufacturers) will by training know the byproduct material and how to handle it. As a point of clarification, please point us to the regulation where the equipment operator has to be able to identify the byproduct material?

**10 CFR 32.25 b:**

(b) Label or mark each unit so that the manufacturer, processor, producer, or initial transferor of the product and the byproduct material in the product can be identified; and

**32.22 (a)(2) (x)**

(x) The proposed method of labeling or marking each unit with identification of the manufacturer or initial transferor of the product and the byproduct material in the product.

Thanks,

Joe Hemann  
Contracts Administrator  
314-553-4315

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**From:** Rodriguez-Luccioni, Hector [<mailto:Hector.Rodriguez-Luccioni@nrc.gov>]  
**Sent:** Tuesday, March 17, 2015 11:38 AM  
**To:** Hemann, Joseph  
**Cc:** Struckmeyer, Richard; Gonzalez, Hipolito; Herrera, Tomas  
**Subject:** DRS Sustainment 4th Request for Additional Information

Mr. Hemann,

This email refers to your letter dated March 10, 2015, Agencywide Documents Access and Management System (ADAMS) Accession No. ML14280A262, which responds to our third request for additional information dated March 3, 2015 (ADAMS Accession No. ML15034A210). In reviewing your letter, we find additional information is required to complete our review.

In our letter dated March 3, 2015, we requested a label that identifies the byproduct material in the product (Tritium, H-3) as required by 10 CFR 32.22(a)(2)(x). In your letter dated May 10, 2015, you provided a drawing of the label and a picture of the device assembly with markings. In your letter you stated that the label and markings include the letters "T2GC," which identifies the byproduct material and radioactivity level per ANSI/HPS N43.4-2000. After reviewing your response we concluded that "T2GC" cannot be considered as an identification of the byproduct material on the device. People using this device will not know that the device contains tritium unless they read the ANSI standard. Please provide a label that identifies the byproduct material by using the wording "H-3" or "Tritium."

Any correspondence regarding your application should reference the control number 585018. We will continue our review upon receipt of this information. If we do not receive a reply from you within 15 calendar days from the date of this email, we will assume that you do not wish to pursue your application, and we will take regulatory action regarding your current NRC License, 24-23912-02E.

Please be aware that you may request that certain portions of your submittal to the NRC be withheld from public disclosure as proprietary information. To do this, you must execute an affidavit as specified in 10 CFR 2.390. You must list all portions that you wish to be held proprietary, along with your reasoning as to why that is appropriate. While it is allowable, please refrain from submitting proprietary information in support of a license unless necessary. Keep in mind that all NRC licenses are considered to be in the public domain, and therefore may be viewed by any member of the public who requests to see them.

In accordance with 10 CFR 2.390 of NRC's "Public inspections, exemptions, request for withholding," a copy of this letter will be available electronically for public inspection in NRC's Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

If you have any questions please let me know.

Sincerely,

*Hector Luis Rodríguez-Luccioni, Ph.D.*

*U.S. Nuclear Regulatory Commission*

*Office of Nuclear Material Safety and Safeguards*

*Division of Materials Safety, States, Tribal and Rulemaking Programs*

*Material Safety Licensing Branch*

*(301)415-6004*

*MS: T-8E18*

*[Hector.Rodriguez-Luccioni@nrc.gov](mailto:Hector.Rodriguez-Luccioni@nrc.gov)*

**DWG NO. ES6510**

**PARENTHETICAL IDENTITIES  
ARE FOR REFERENCE ONLY**

R	E	V	I	S	I	O	N
REV	DESCRIPTION				DATE	APPROVED	
-	INITIAL RELEASE				94-08-23	AI	
A	REVISED PER ECF CE4481				94-11-16	AI/PH	
B	REVISED PER ECF CE4506				95-01-23	AI/PH	
C	REVISED PER ECF CE4587				95-06-13	AI/PH	
D	REVISED PER CO 2003985				05-01-31	RNR/	
E	REVISED PER ECO 2037841 / ECR 3015990				15-04-08	JJA	
F	REVISED PER ECO 2038686 / ECR 3016762				15-04-13	JJA	

**METRIC**

**THIS IS A COMPUTER PREPARED MULTI-SHEET DRAWING.  
ALL SHEETS ARE IDENTIFIED WITH THE SAME REVISION LETTER.**

## SPECIFICATION CONTROL DRAWING

[illegible]

1. SCOPE. THIS DRAWING ESTABLISHES THE DETAIL REQUIREMENTS FOR A CIRCULAR, BUBBLE LEVEL. ES6510-01 IS ILLUMINATED BY A GASEOUS TRITIUM LIGHT SOURCE AND ES6510-02 OMTS THE LIGHT SOURCE.
2. CONFIGURATION AND DIMENSIONS. THE CONFIGURATION AND DIMENSIONS SHALL BE AS DETAILED IN FIGURE 1.
3. MATERIALS. THE MATERIALS USED IN THE CONSTRUCTION OF THE LEVEL SHALL BE OF SUFFICIENT QUALITY TO ASSURE THAT THE LEVEL CAN WITHSTAND THE OPERATING AND STORAGE ENVIRONMENTS DEFINED HEREIN.
4. ENVIRONMENTAL. THE OPERATING AND NON-OPERATING ENVIRONMENT SHALL BE AS SPECIFIED IN TABLE I.
5. LIGHT SOURCE. THE LIGHT SOURCE USED TO ILLUMINATE THE LEVEL SHALL BE A GASEOUS TRITIUM TYPE THAT COMPLIES WITH GREAT BRITAIN DEFENSE STANDARD 62-4 (CAGE CODE K0851) FOR ES6510-01 ONLY.
- 5.1 SAFETY CONSIDERATIONS. THE GASEOUS TRITIUM LIGHT SOURCE CONTAINS RADIOACTIVE MATERIALS. ALL SAFETY CONSIDERATIONS DEFINED IN DEFENSE STANDARD 62-4 SHALL BE FOLLOWED.
6. PERFORMANCE. THE LEVEL SHALL MEET THE PERFORMANCE REQUIREMENTS SPECIFIED IN TABLE II.
7. MARKING. THE GRADUATIONS ON THE VIAL OF THE LEVEL SHALL SHOW NO SIGN OF BEING WATER SOLUBLE. THE GRADUATIONS SHALL BE FREE FROM DISTORTION WITH CLEAR SHARP EDGES AND SHALL NOT RUB OFF. THE -01 PART SHALL BE IDENTIFIED ON BUBBLE SIDE OF PART BY CO2 LASER ENGRAVING AS SHOWN IN FIGURE 2, MINIMUM CHARACTER HEIGHT SHALL BE 1 MM. THE -02 UNIT SHIPPING CONTAINER SHALL BE MARKED WITH THE SYSTEMS & ELECTRONICS INC. (SEI) CONTROL NUMBER.

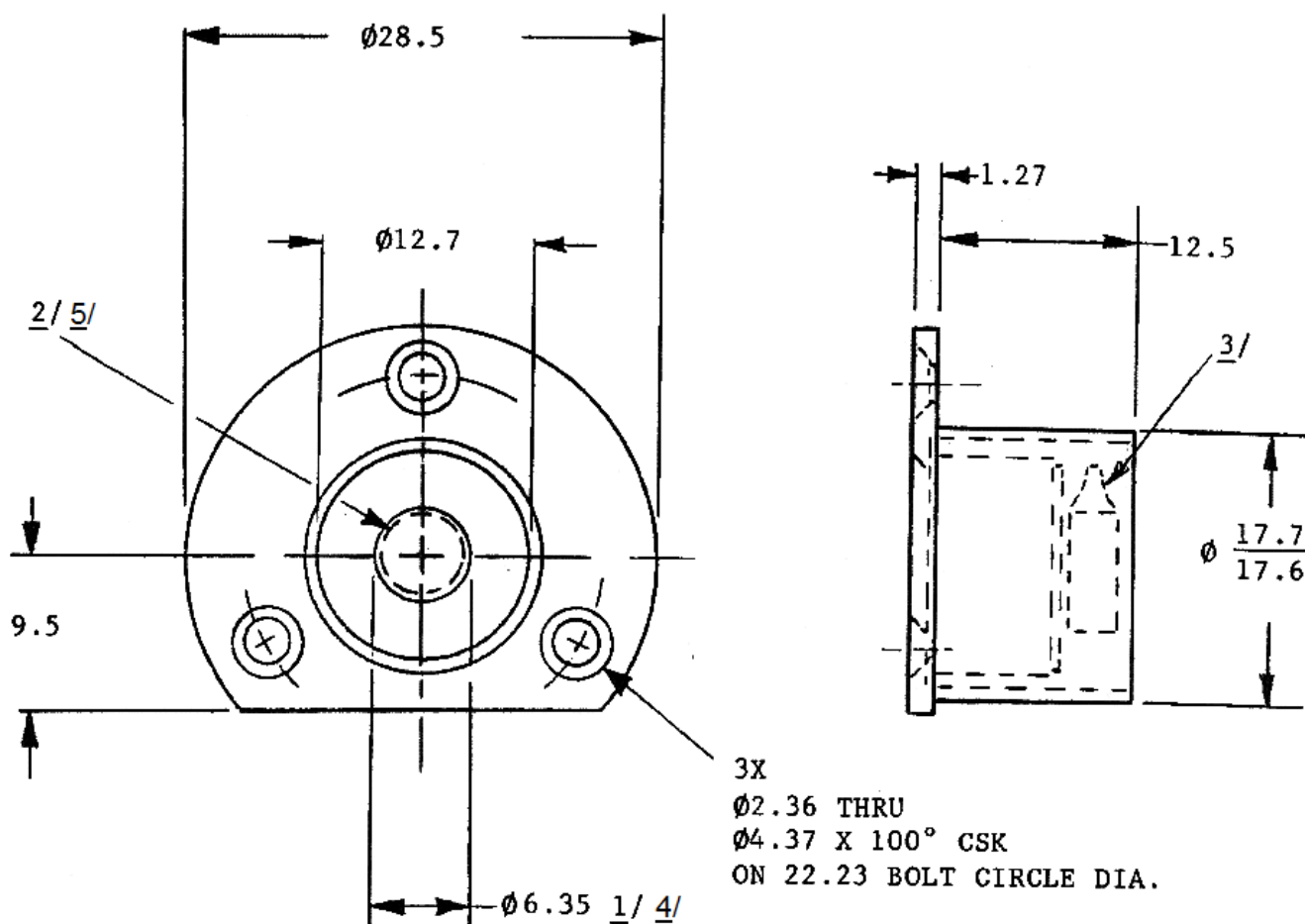
7.1 SEI CONTROL NUMBER.

ES6510-01

— DASH NUMBER DEFINING CONFIGURATION  
 -01 WITH LIGHT SOURCE  
 -02 NO LIGHT SOURCE

— DRAWING NUMBER

SIZE <b>A</b>	CAGE CODE <b>20418</b>	DWG NO. <b>ES6510</b>	REV <b>F</b>
SCALE NONE	UNIT WT -	<b>SHEET 2</b>	

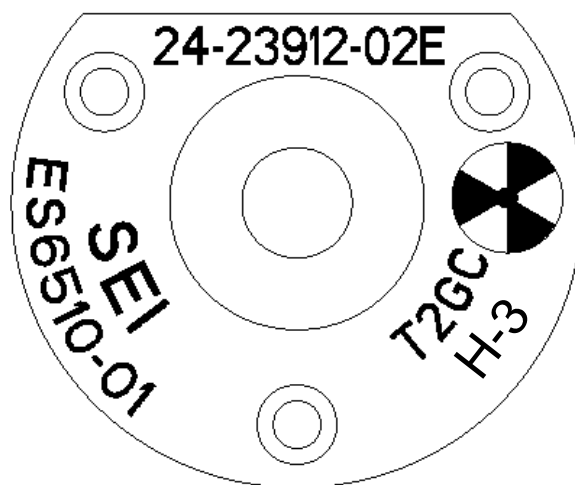


DIMENSIONS ARE IN  
 MILLIMETERS  
 TOLERANCE UNLESS  
 OTHERWISE SPECIFIED  
 $.X = \pm 0.3$   
 $.XX = \pm 0.1$

- 1/ ENGRAVED BLACK LINE 0.2 TO 0.3 WIDE ON INNER SURFACE OF GLASS COVER.
- 2/ BUBBLE DIAMETER 4.0 MIN TO 4.5 MAX.
- 3/ LIGHT SOURCE PER PARA. 5. ON ES6510-01 ONLY.
- 4/  $\phi 5.9 +0.55 / -0.00$  NOT FOR NEW PROCUREMENT AFTER DECEMBER 4, 2014
- 5/ BUBBLE DIAMETER 3.0 MIN TO 4.5 MAX. NOT FOR NEW PROCUREMENT AFTER DECEMBER 4, 2014

FIGURE 1. CONFIGURATION AND DIMENSIONS.

SIZE <b>A</b>	CAGE CODE <b>20418</b>	DWG NO. <b>ES6510</b>	REV <b>F</b>
SCALE NONE	UNIT WT -	<b>SHEET 3</b>	



-01 MARKING 1/  
FIGURE 2

TABLE I. ENVIRONMENTAL.

TEMPERATURE RANGE OPERATING NON-OPERATING	-40°C TO +55°C -62°C TO +71°C
HUMIDITY	MIL-STD-810E, METHOD 507.3, PROCEDURE I, 45 CYCLES
SHOCK NON-OPERATING	SHALL NOT BE DAMAGED BY HANDLING SHOCK DEFINED AS ½ SINE PULSE, ACCELERATION OF 30g FOR DURATION OF 11 ms USING MIL-STD- 810E, METHOD 516.2, PROCEDURE I
VIBRATION NON-OPERATING	SHALL NOT BE DAMAGED BY EXPOSURE TO MIL-STD-810E, METHOD 514.4, I-3.4.7, CATEGORY 8 – GROUND MOBILE, USING VIBRATION DATA OF TABLE 514.4-AII
FUNGUS	THE UNIT SHALL BE FUNGUS INERT

1/ -01 MARKING WITHOUT “H-3” IDENTIFIER IS NOT FOR NEW  
PROCUREMENT AFTER 23 APRIL, 2015.

-01 MARKING WITH “H-3” IDENTIFIER IS FOR NEW  
PROCUREMENT AFTER 23 APRIL, 2015.

SIZE <b>A</b>	CAGE CODE <b>20418</b>	DWG NO. <b>ES6510</b>	REV <b>F</b>
SCALE NONE	UNIT WT -	<b>SHEET 4</b>	



TABLE II. PERFORMANCE.

COALESCENCE	WHEN THE LEVEL IS SHAKEN VIGOROUSLY, THE BUBBLES SHALL COALESE INTO ONE LARE BUBBLE WITHIN ONE SECOND AT 15°C TO 32°C
PRECIPITATE OR SOLID	NO PRECIPITATE OR SOLID SHALL FORM AT -62°C
BUBBLE MOVEMENT AND SIZE	THE BUBBLE SHALL HAVE A UNIFORM MOVEMENT OVER THE GRADUATED PORTION OF THE LEVEL AND SHALL BE OF THE SIZE SPECIFIED IN FIGURE 1
SENSITIVITY	10 TO 12 ANGULAR MINUTES PER MILLIMETER OF RUNOUT

8. QUALITY CONFORMANCE INSPECTION.

8.1 VISUAL AND MECHANICAL. THE PARTS SUPPLIED TO THIS DRAWING SHALL BE SUBJECTED TO A VISUAL AND MECHANICAL INSPECTION TO ASSURE COMPLIANCE WITH FIGURE 1 AND PARA. 7.

9. PACKING AND PACKAGING. THE PARTS SHALL BE PACKAGED IN A MANNER SUFFICIENT TO ASSURE ARRIVAL AT DESTINATION WITHOUT DAMAGE WHEN SHIPPED BY COMMON COMMERCIAL CARRIER.

10. VENDOR(S) SHALL MAKE NO CHANCE TO PRODUCT(S) SUPPLIED TO THIS DRAWING WHICH WOULD AFFECT INTERCHANGEABLITY OR DEGRADEEITHER PERFORMANCE OF RELIABILITY OF THE PRODUCT WITHOUT PRIOR NOTICE.

11. IDENTIFICATION OF THE "SUGGESTED SOURCE(S) OF SUPPLY" HEREON IS NOT TO BE CONSTRUED AS A GUARANTEE OF PRESENT OR CONTINUED AVAILABILITY AS A SOURCE OF SUPPLY FOR THE ITEM(S).

SIZE <b>A</b>	CAGE CODE <b>20418</b>	DWG NO. <b>ES6510</b>	REV <b>F</b>
SCALE NONE	UNIT WT -	<b>SHEET 5</b>	

SEI CONTROL NUMBER	SUGGESTED SOURCE(S) OF SUPPLY		
	SUPPLIER DATA		
	CAGE CODE	PART NUMBER	NAME AND ADDRESS
ES6510-01	K5628	1544003 <u>1/</u>	SAUNDERS-ROE DEVELOPMENTS LTD MILLINGTON RD. HAYES MIDDX UBS 4NB ENGLAND
	0TBT2		SRB TECHNOLOGIES, INC. 2580 LANDMARK DR. WINSTON SALEM, NC 27103
ES6510-02	K5628	1544003-1 1544001-1 <u>2/</u>	SAUNDERS-ROE DEVELOPMENTS LTD MILLINGTON RD. HAYES MIDDX UBS 4NB ENGLAND
	0TBT2		SRB TECHNOLOGIES, INC. 2580 LANDMARK DR. WINSTON SALEM, NC 27103

NOTES:

1/ UNITS DELIVERED PRIOR TO JUNE 05, 2003 MAY NOT BE MARKED IN ACCORDANCE WITH PARAGRAPH 7.

2/ NOT FOR NEW PROCUREMENT AFTER DECEMBER 04, 2014.

SIZE <b>A</b>	CAGE CODE <b>20418</b>	DWG NO. <b>ES6510</b>	REV <b>F</b>
SCALE NONE	UNIT WT -	<b>SHEET 6</b>	