

	<b>PROJECT REPORT COVER SHEET</b>	<b>NO. SNCH082-RPT-02</b>
		<b>VERSION 1.0</b>
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Edwin I. Hatch Unit 2 SEISMIC WALKDOWN REPORT, RER SNC425082

For

Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic

Prepared by:

David V. Kelly FOR WINSTON STEWART  
Winston Stewart PER TELECON

Date:

11-26-2012

Reviewed by:

Patrick Kelly FOR PATRICK KELLY  
Patrick Kelly PER TELECON

Date:

11-26-2012

Approved by: (ENERCON)

Bill Henne  
Bill Henne

Date:

11-26-2012

Project Manager or Designee

Approved by:

(SNC)

Technical Lead or Designee/  
Peer Review Team Leader

Melanie Brown  
Melanie Brown

Date:

11-26-2012

Approved by:

(SNC)

Project Manager or Designee

David Whitman  
David Whitman

Date:

11/26/2012

Status: Y  N  U **Seismic Walkdown Checklist (SWC)**Equipment ID No. 2R42-S001B Equip. Class<sup>1</sup> 15Equipment Description 125/250V Station Battery 2BLocation: Bldg. CONTROL Floor El. 112 Room, Area TD-T13

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A   
*There is one anchor missing from the support. Review of SEWS package 2R42-S001B shows that this anchor is noted to be missing and is not accounted for in the evaluation, so there is no potentially adverse seismic condition.*
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A   
*There is some acid residue on the bolts from the batteries, but the paint has prevented any significant corrosion of the bolts. Since the corrosion is only on the surface, there is no potentially adverse seismic condition.*
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
  
5. Is the anchorage configuration consistent with plant documentation? Y  N  U  N/A   
 (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)  
*SEWS Package 2R42-S001B (dated 2-14-94)*
  
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.



Status: Y N U

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S001B Equip. Class: 15

Equipment Description 125/250V Station Battery 2B

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y N U N/A

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y N U N/A

9. Do attached lines have adequate flexibility to avoid damage? Y N U N/A

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y N U

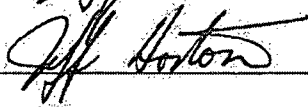
**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y N U

**Comments** (Additional pages may be added as necessary)

*None*

Evaluated by: John McFarland  Date: 09/18/2012

Jeff Horton  09/18/2012



**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S001B Equip. Class 15

Equipment Description 125/250V Station Battery 2B

Status:  Y  N  U

**Photographs**

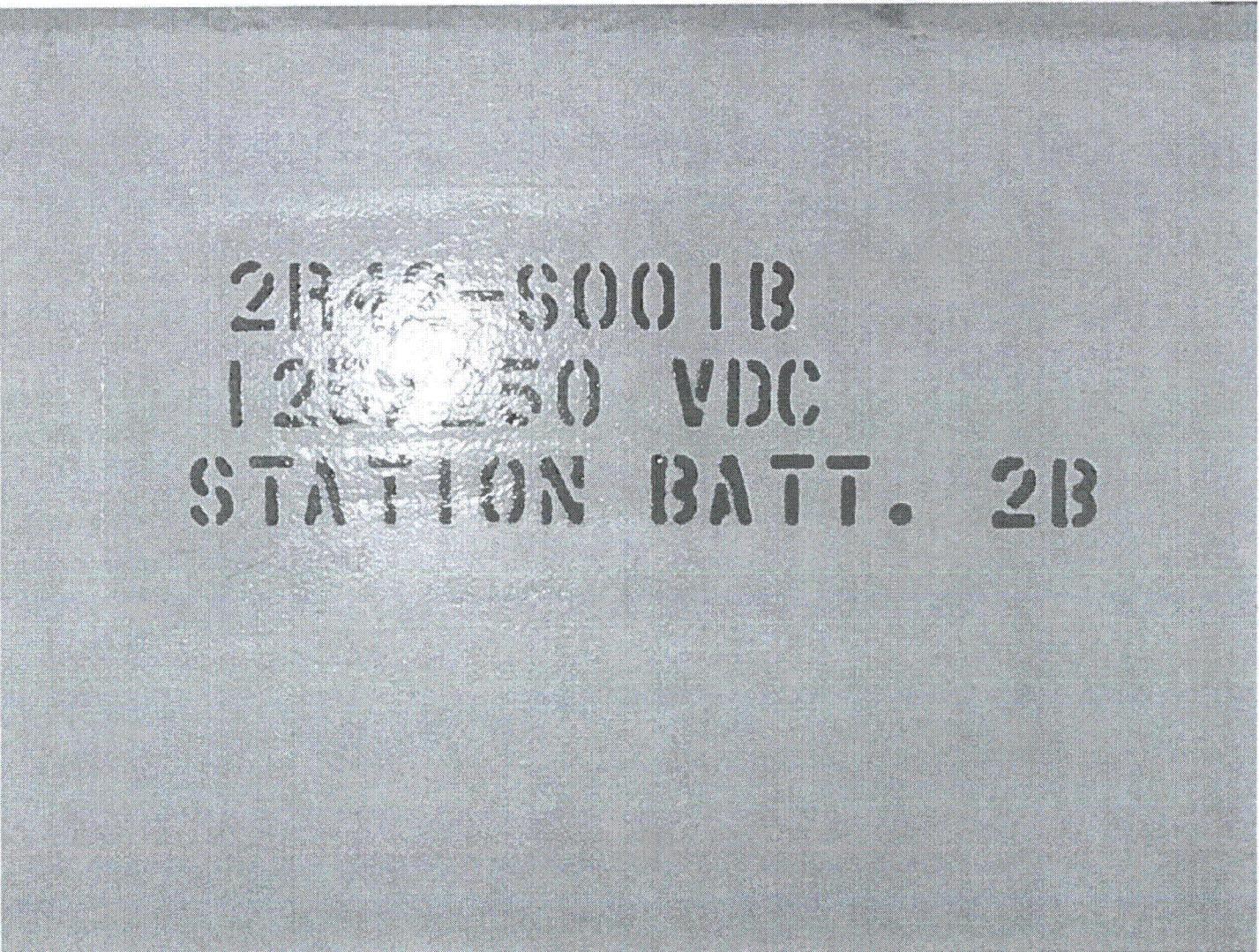


Figure 1 – Equipment ID No (2R42-S001B)



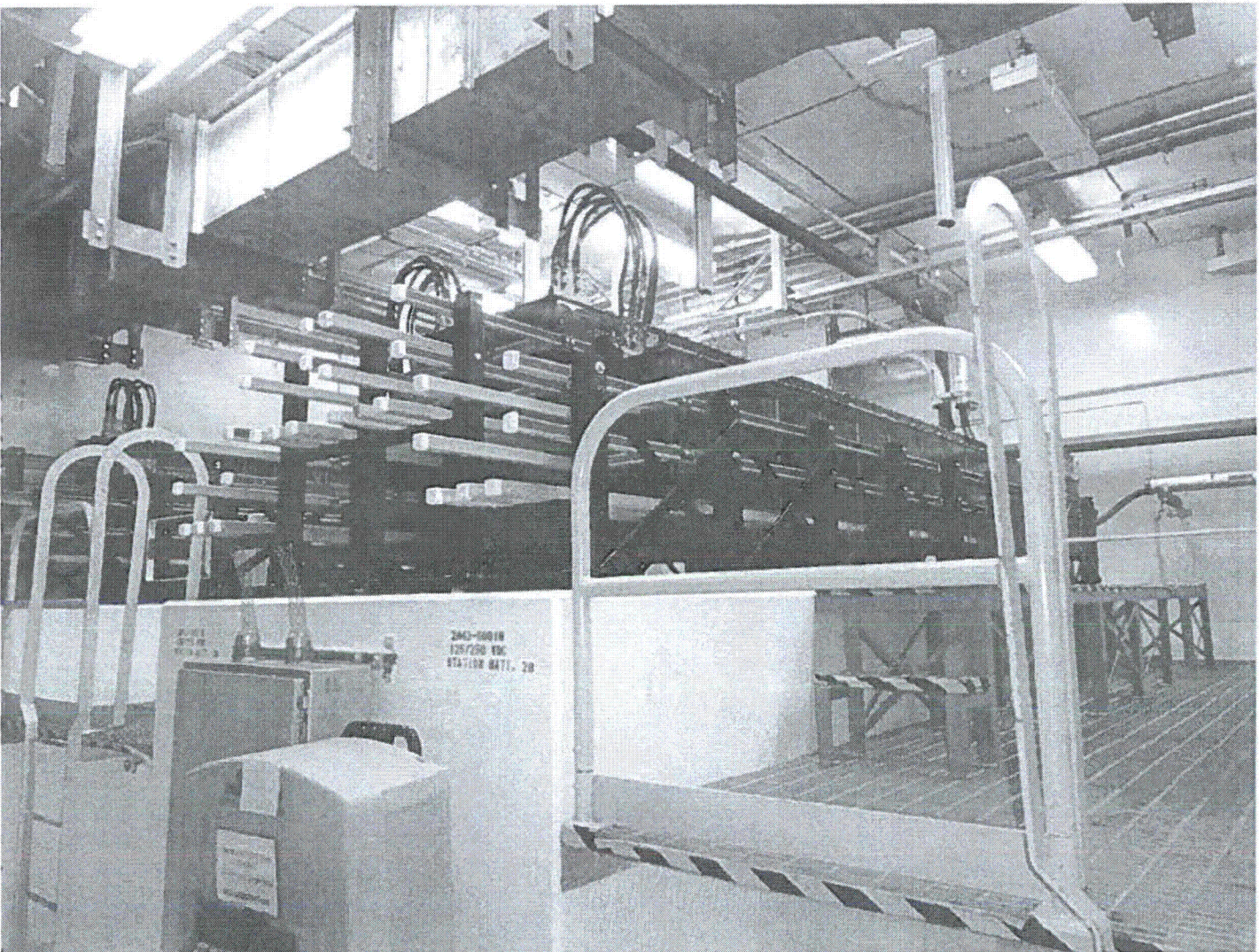


Figure 2 – Equipment Elevation (2R42-S001B)



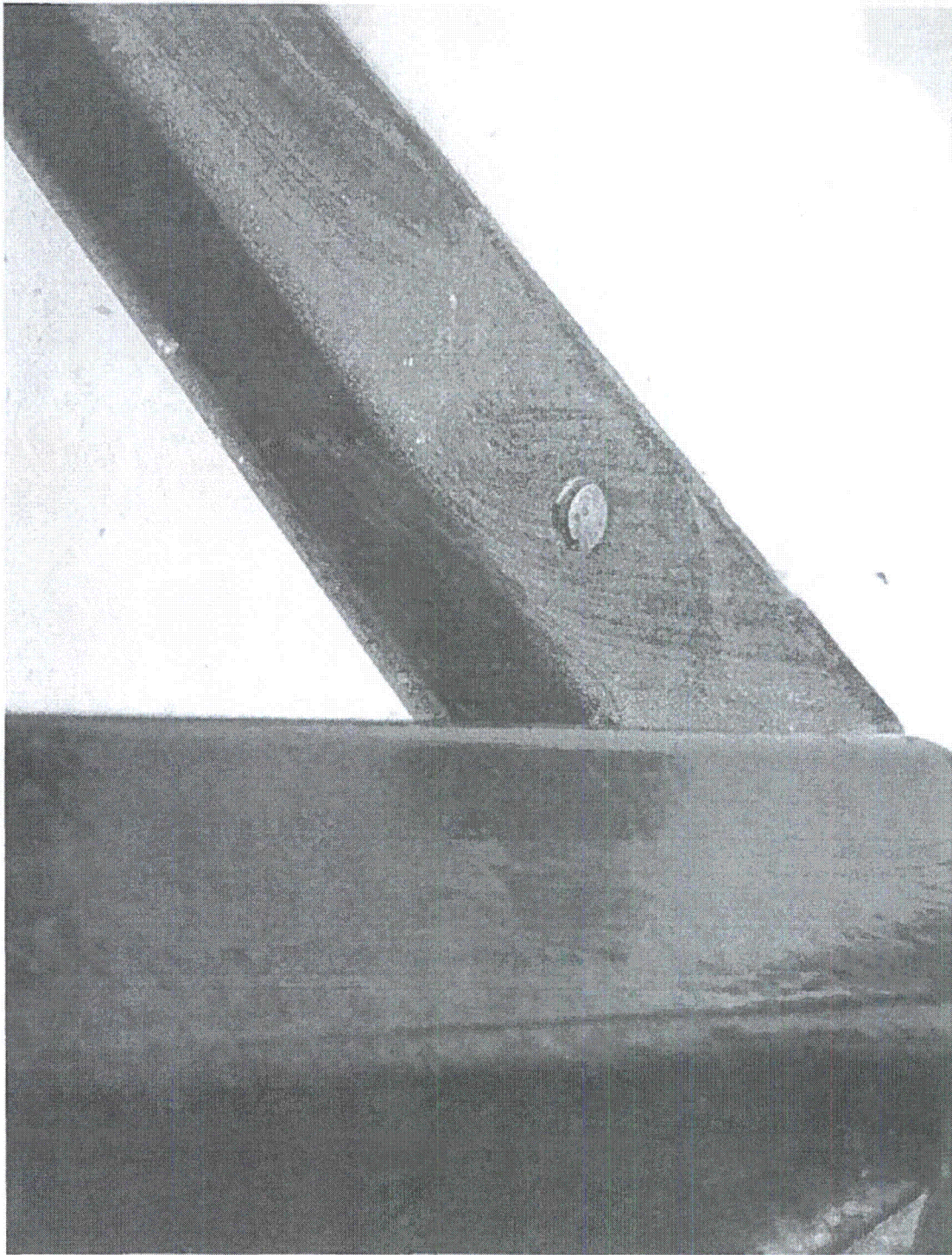


Figure 3 – Empty Anchor Hole (2R42-S001B)



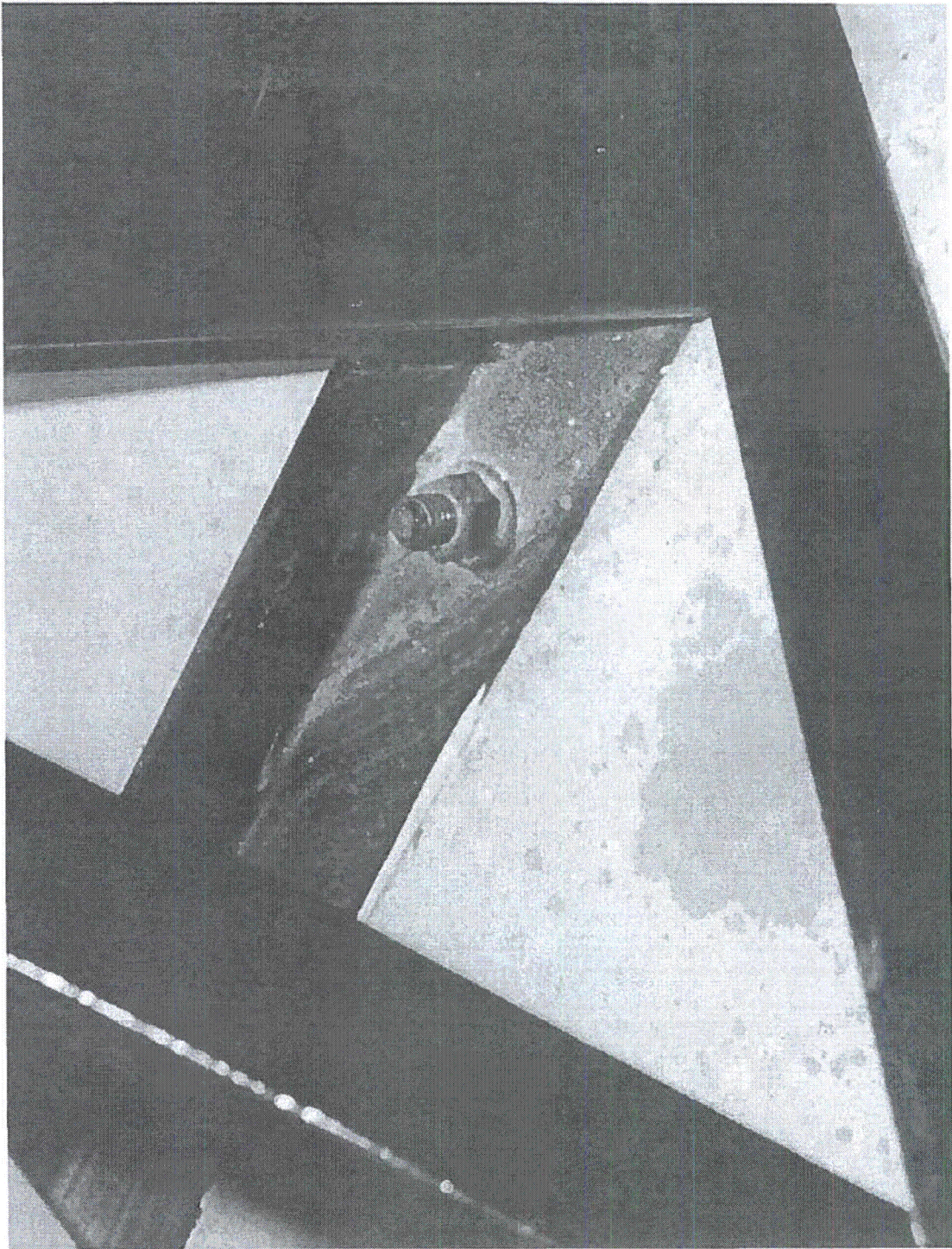


Figure 4 – Mild Acid Residue on Bolts (2R42-S001B)



**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2R42-S002A Equip. Class<sup>1</sup> 15Equipment Description 125V DIESEL SYSTEM BATTERY 2ALocation: Bldg. DIESEL Floor El. 130 Room, Area BATTERY ROOM 2A

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

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**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
5. Is the anchorage configuration consistent with plant documentation?  
(Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)  
*Anchorage is consistent with SEWS package dated 02/17/1994.* Y  N  U  N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y N U

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S002A Equip. Class<sup>1</sup> 15

Equipment Description 125V DIESEL SYSTEM BATTERY 2A

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y N U N/A

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y N U N/A  
*Lights are properly supported and tied.*

9. Do attached lines have adequate flexibility to avoid damage? Y N U N/A

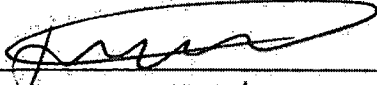
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y N U

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y N U

**Comments** (Additional pages may be added as necessary)

*None.*

Evaluated by: Juan Vizcaya  Date: 09/24/2012

Patrick Kelly  09/24/2012

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S002A Equip. Class<sup>1</sup> 15

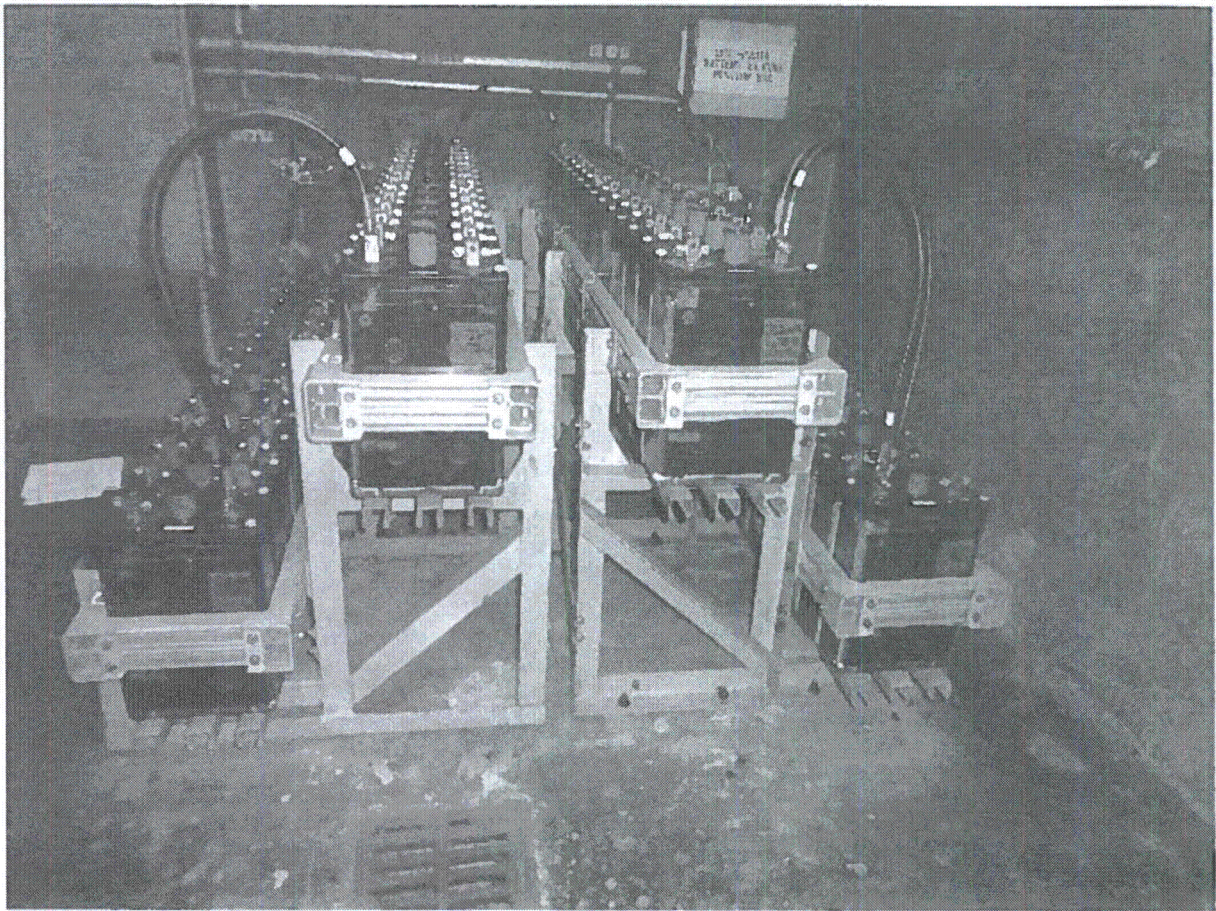
Equipment Description 125V DIESEL SYSTEM BATTERY 2A

**Photographs**



1: Equipment Room Location (2R42-S002A)





2: Equipment Elevation (2R42-S002A)

**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2R42-S002C Equip. Class<sup>1</sup> 15Equipment Description 125V DIESEL SYSTEM BATTERY 2CLocation: Bldg. DIESEL Floor El. 130 Room, Area BATTERY ROOM 2C

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
  
5. Is the anchorage configuration consistent with plant documentation?  
(Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)  
*Anchorage is consistent with SEWS package dated 02/17/1994.* Y  N  U  N/A
  
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S002C Equip. Class<sup>1</sup> 15

Equipment Description 125V DIESEL SYSTEM BATTERY 2C

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y N U N/A

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y N U N/A  
*Lights are properly supported and tied.*

9. Do attached lines have adequate flexibility to avoid damage? Y N U N/A

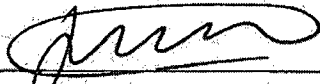

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y N U

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y N U  
*The concrete surface below the batteries exhibited stains from some substance leaking in the area (see photograph 3). This is not a seismic concern.*

**Comments** (Additional pages may be added as necessary)

*None.*

Evaluated by: Juan Vizcaya  Date: 09/24/2012  
Patrick Kelly  09/24/2012

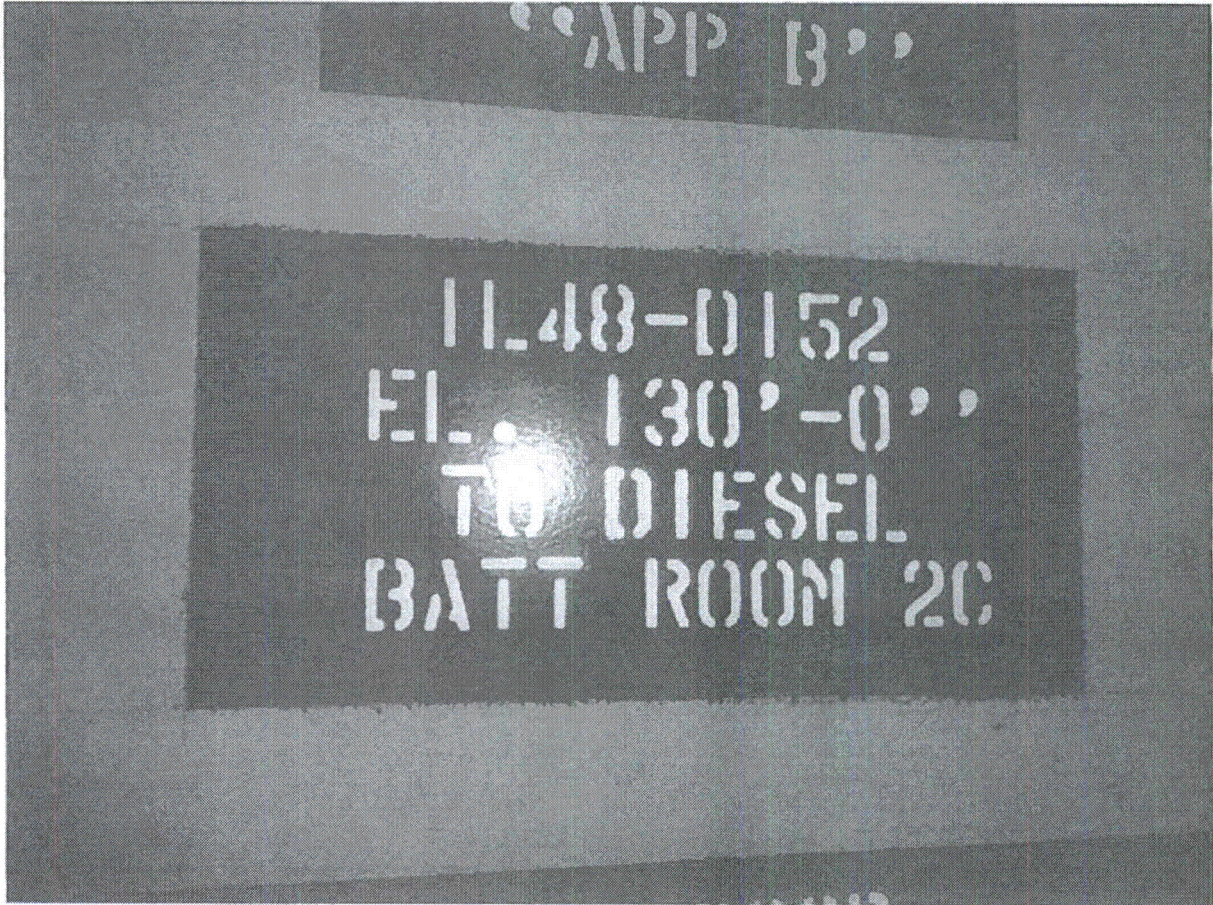


**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S002C Equip. Class<sup>1</sup> 15

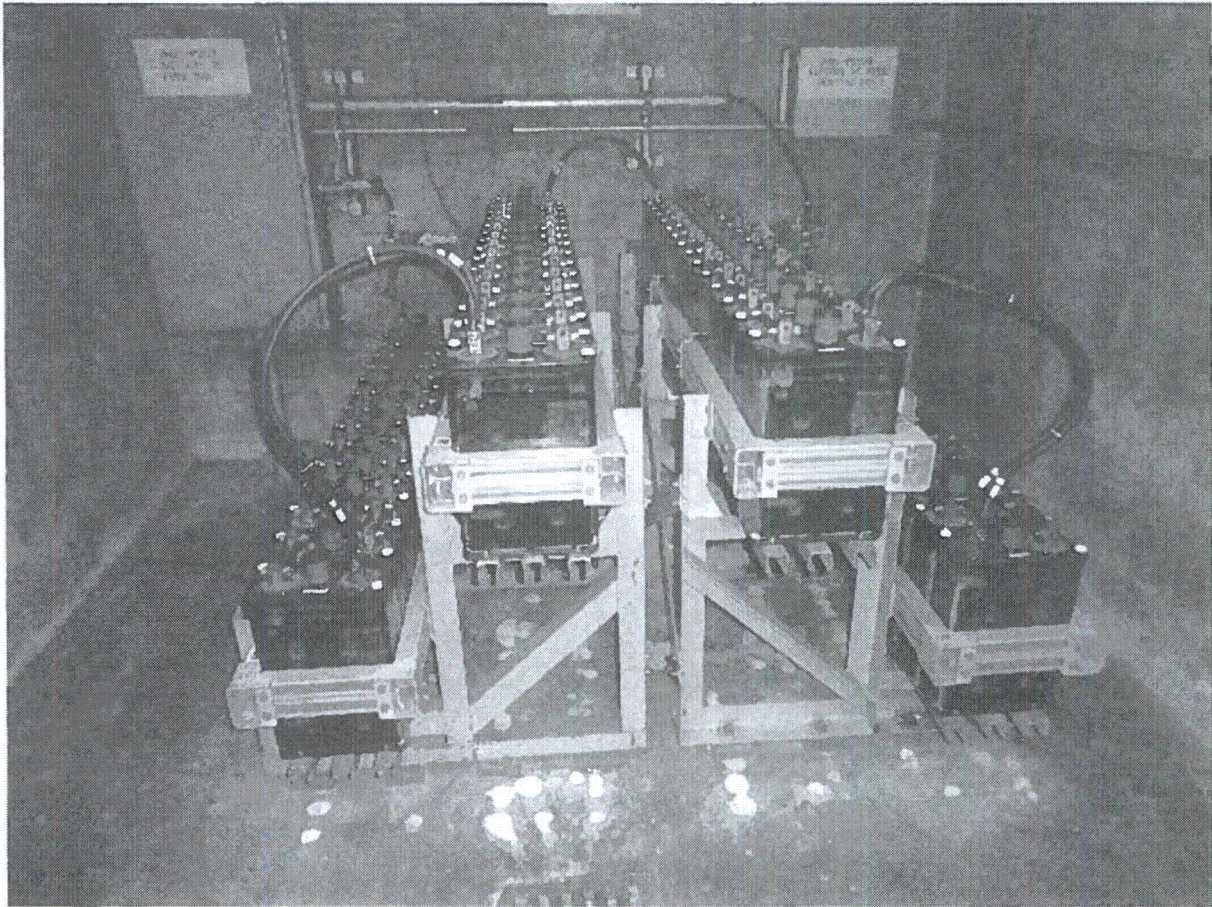
Equipment Description 125V DIESEL SYSTEM BATTERY 2C

**Photographs**



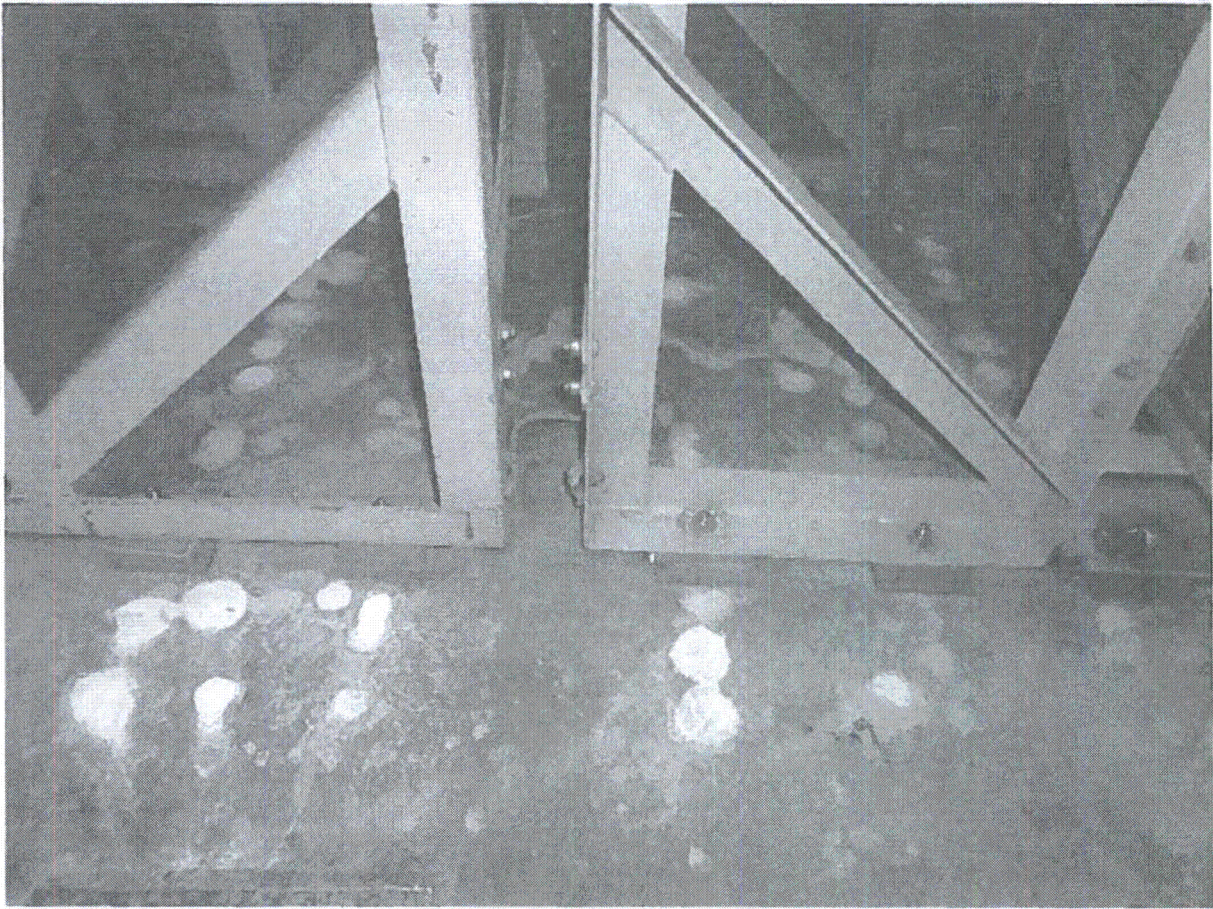
1: Equipment Room Location (2R42-S002C)





2: Equipment Elevation (2R42-S002C)





3: Stains on Concrete Below Batteries (2R42-S002C)

**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2R42-S017A Equip. Class<sup>1</sup> 15Equipment Description Battery 2A 24/48VLocation: Bldg. CONTROL Floor El. 112 Room, Area C-027

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A   
*There is mild surface oxidation on the middle anchor bolts. Since oxidation is only on the surface, the bolts are not degraded. Therefore, judged not to be a concern.*
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
  
5. Is the anchorage configuration consistent with plant documentation? Y  N  U  N/A   
 (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)
  
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2R42-S017A Equip. Class<sup>1</sup> 15Equipment Description Battery 2A 24/48V**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y  N  U  N/A
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y  N  U  N/A   
*The seismic capacity of the Concrete Block Walls C112-8C, C112-9A, C112-17B and C112-18A surrounding the Battery were verified using Drawing H-40384 Rev. 0 and Hatch Unit 2 UFSAR Table 3.8-20.*
9. Do attached lines have adequate flexibility to avoid damage? Y  N  U  N/A   
*The line between the battery rack and the adjacent junction box support has relatively little slack. The battery and box supports are fairly rigid and the seismic acceleration at that elevation will be relatively low, so the differential movement between the components will be small. The slack in the conduit is judged sufficient to prevent any damage to the cables, so there is no potentially adverse seismic condition.*
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y  N  U

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y  N  U

**Comments** (Additional pages may be added as necessary)*None*Evaluated by: John McFarlandDate: 09/25/2012Jeff Horton09/25/2012



Status:  Y  N  U

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S017A Equip. Class<sup>1</sup> 15

Equipment Description Battery 2A 24/48V

Photographs

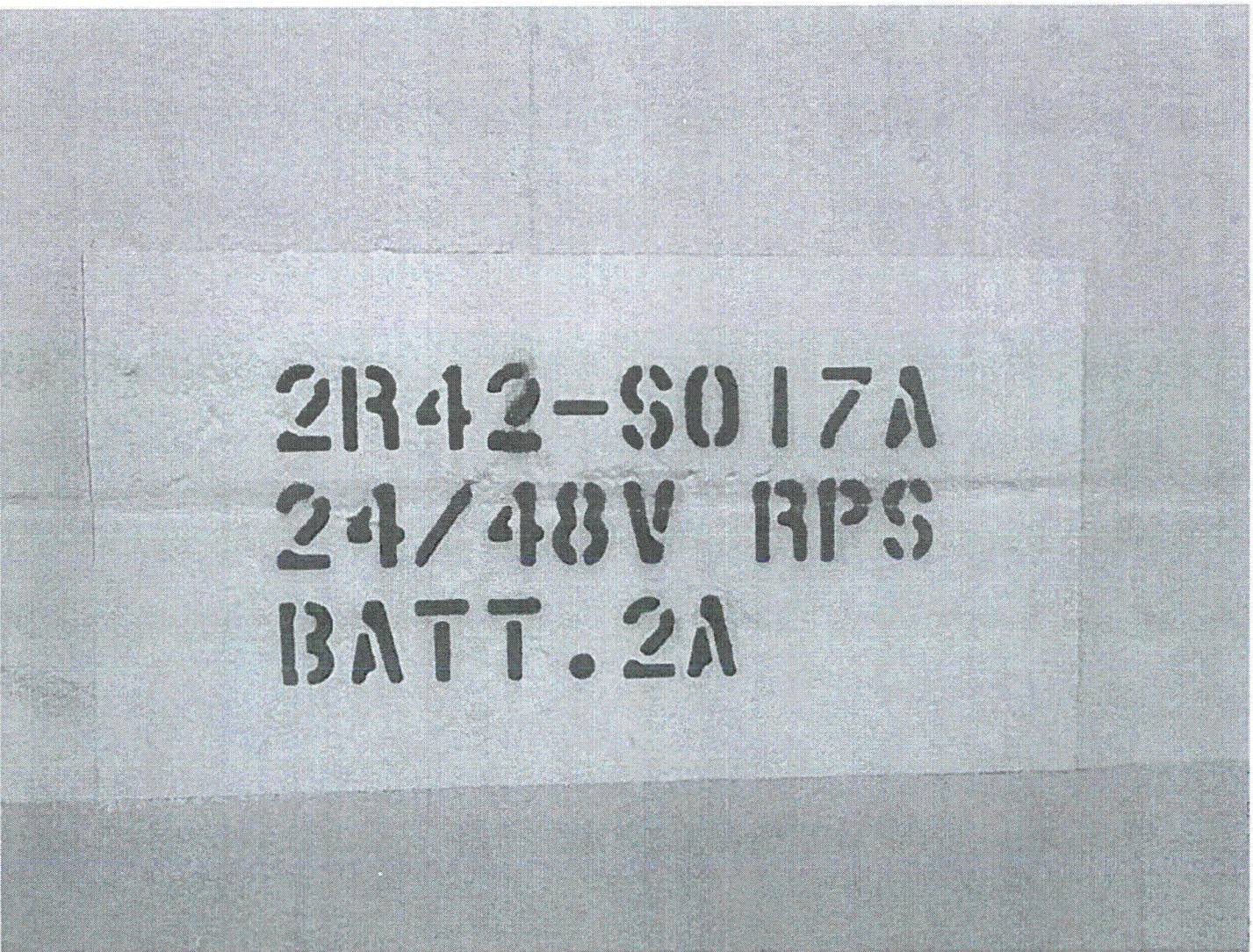


Figure 1 – Equipment ID No (2R42-S017A)



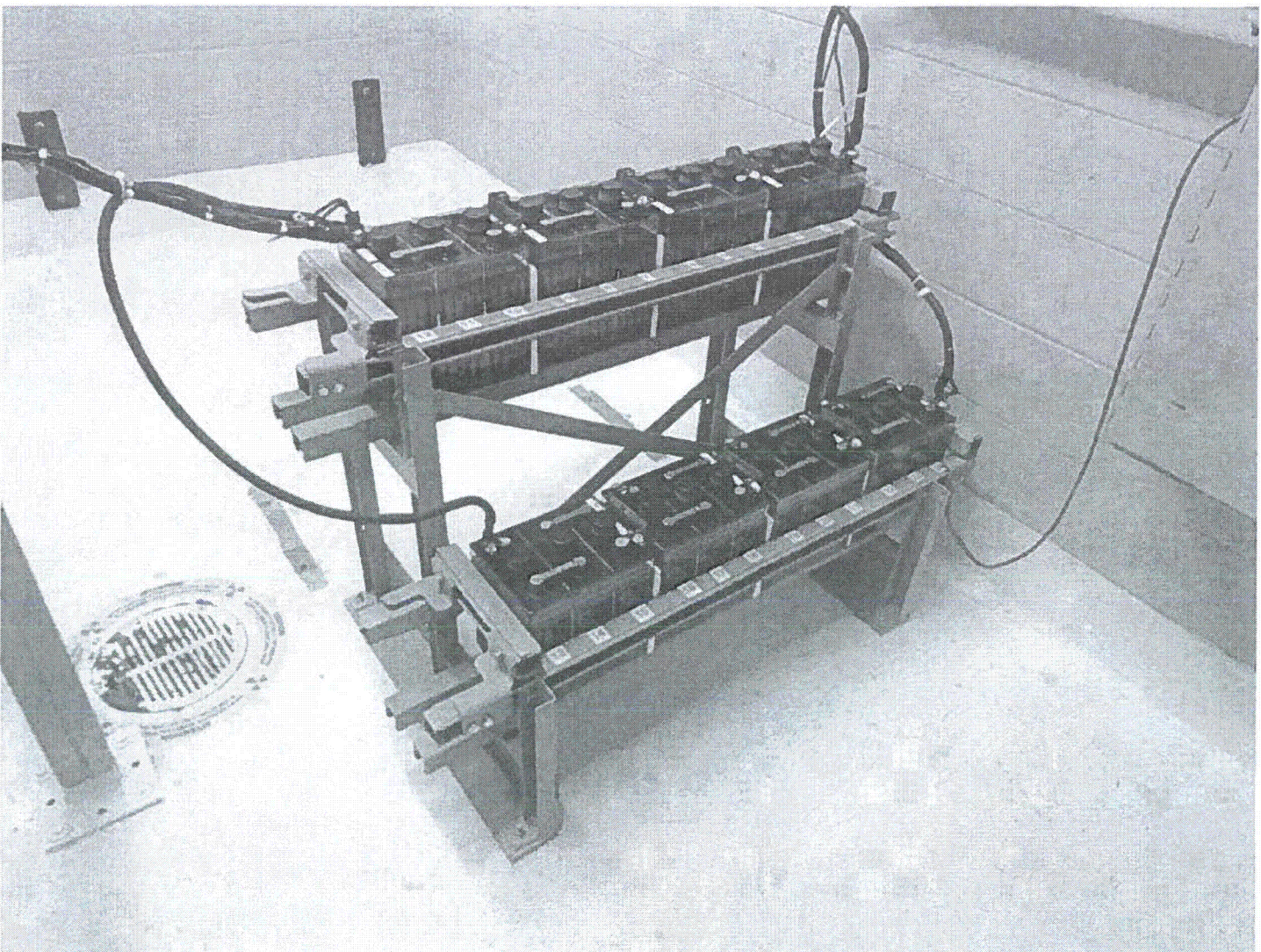


Figure 2 – Equipment Elevation (2R42-S017A)



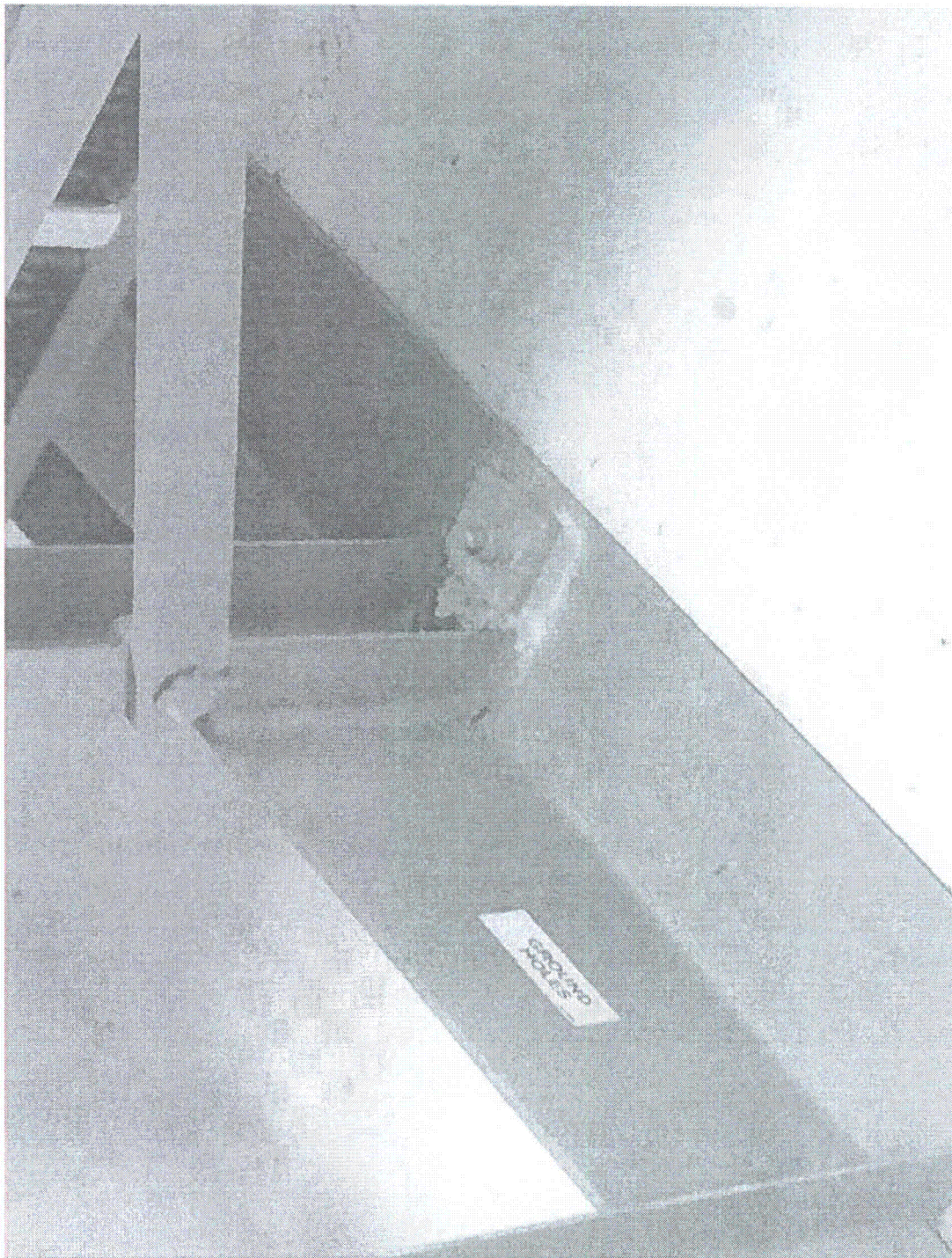


Figure 3 – Surface Oxidation on Middle Anchor (2R42-S017A)



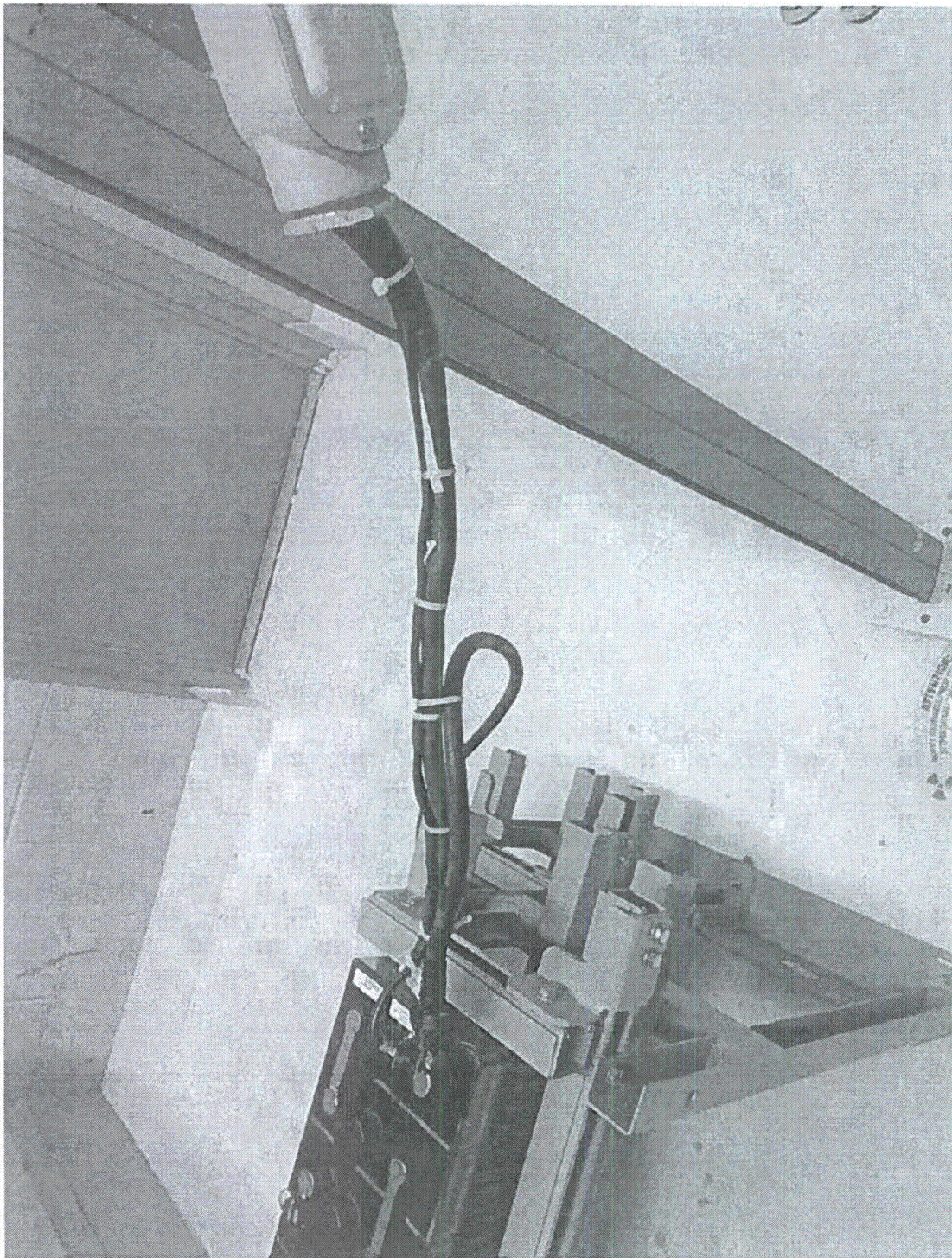


Figure 4 – Attached Battery Line (2R42-S017A)



**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S017B Equip. Class<sup>1</sup> 15

Equipment Description Battery 2B 24/48V

Location: Bldg. CONTROL Floor El. 112 Room, Area TC-T12

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A   
*There is mild surface oxidation on the component washer plates. Since oxidation is only on the surface, the bolts are not degraded. Therefore, judged not to be a concern.*
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
  
5. Is the anchorage configuration consistent with plant documentation? Y  N  U  N/A   
 (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)
  
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S017B Equip. Class<sup>1</sup> 15

Equipment Description Battery 2B 24/48V

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y  N  U  N/A

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y  N  U  N/A

*The seismic capacity of the Concrete Block Walls C112-8C, C112-9A, C112-19A and C112-18B surrounding the Battery Charger were verified using Drawing H-40384 Rev. 0 and Hatch Unit 2 UFSAR Table 3.8-20.*

9. Do attached lines have adequate flexibility to avoid damage? Y  N  U  N/A

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y  N  U

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y  N  U

**Comments** (Additional pages may be added as necessary)

*None*

Evaluated by: John McFarland  Date: 09/18/2012

Jeff Horton  09/18/2012



**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S017B Equip. Class<sup>1</sup> 15

Equipment Description Battery 2B 24/48V

Photographs

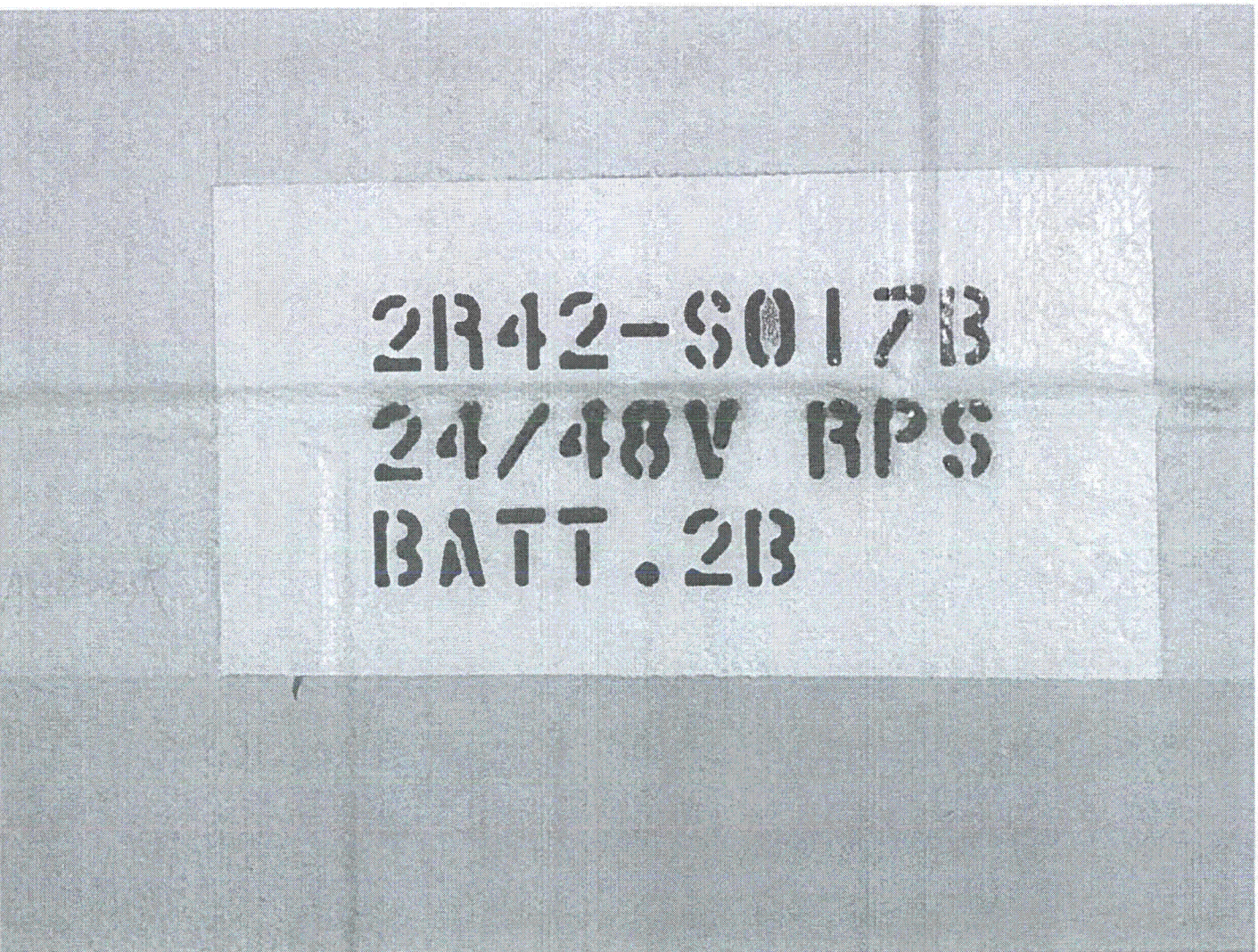


Figure 1 – Equipment ID No (2R42-S017B)



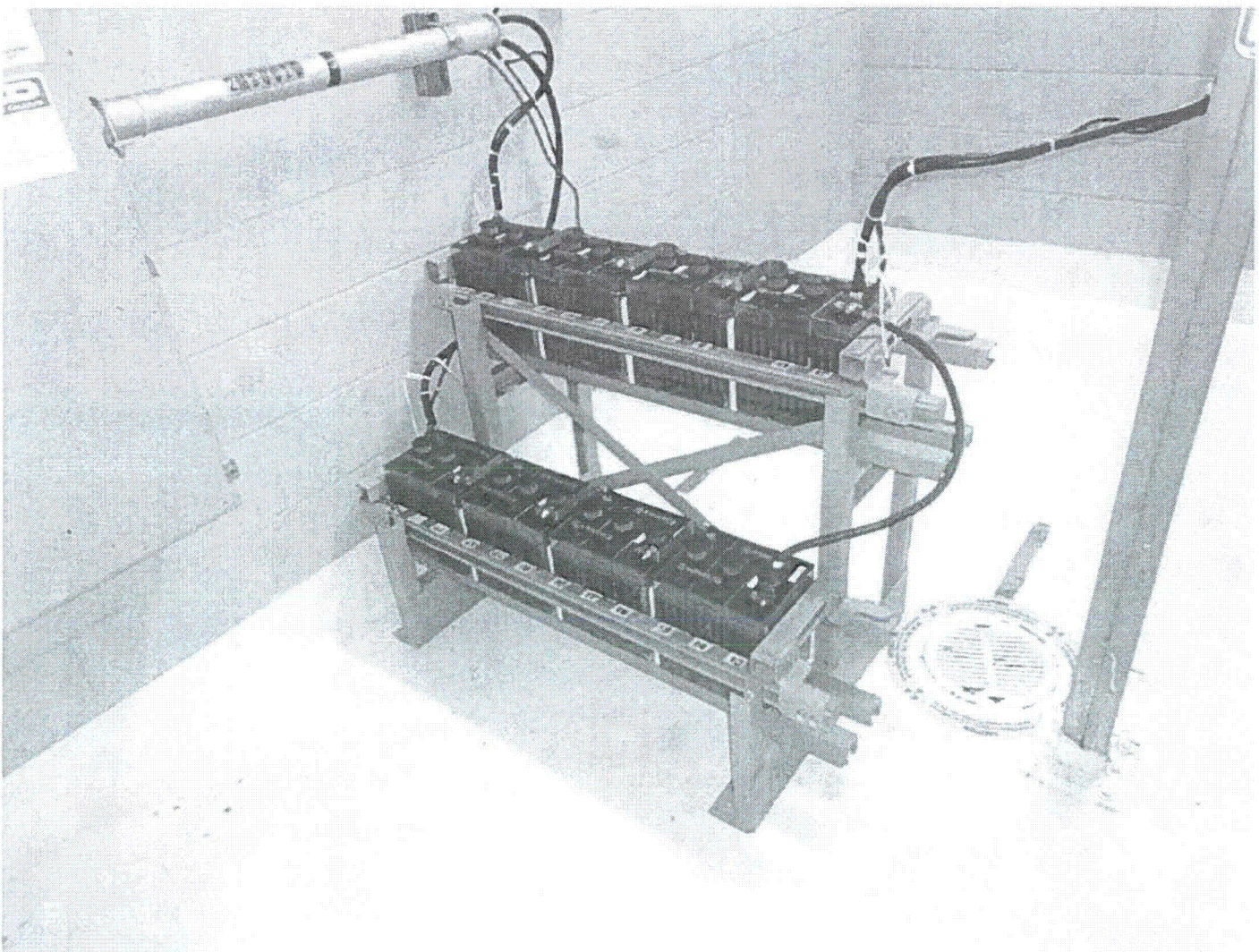


Figure 2 – Equipment Elevation (2R42-S017B)



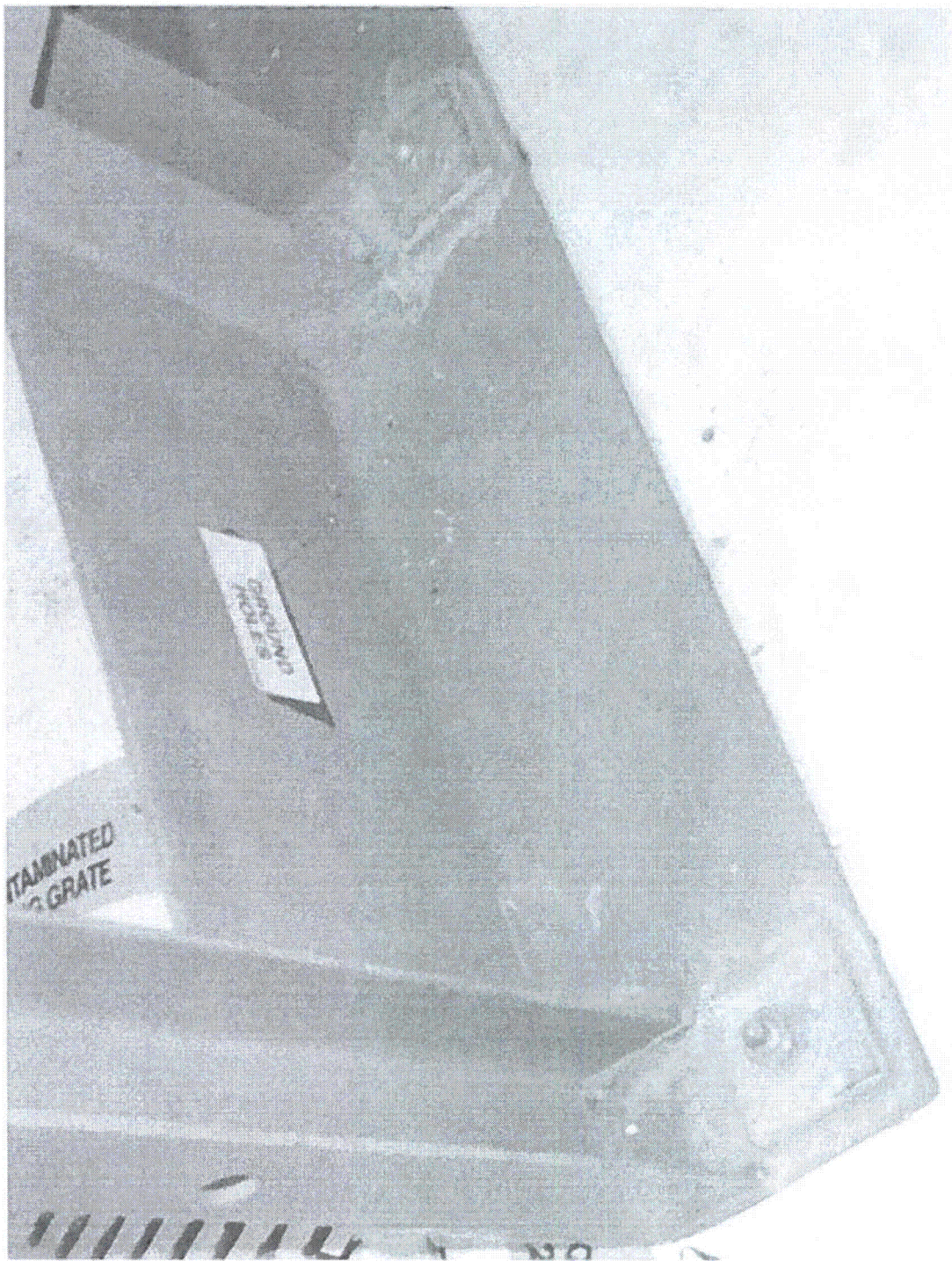


Figure 3 – Surface Oxidation on Washer Plates (2R42-S017B)

**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2R42-S026 Equip. Class<sup>1</sup> 16Equipment Description 125V Battery Charger 2ALocation: Bldg. CONTROL Floor El. 130 Room, Area C-010

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

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**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A   
*There are two anchor bolt holes without anchor bolts. However, review of SEWS packages 2R42-S026 and S029 show that the anchors were replaced with welds, so there are no missing anchors. The existing welds have been verified against the SEWS packages and found to be in compliance. Therefore, there is no potentially adverse seismic condition.*
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
  
5. Is the anchorage configuration consistent with plant documentation? Y  N  U  N/A   
 (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)  
*SEWS Package 2R42-S026 (dated 2-17-94)*
  
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.

Sheet 2 of 6

Status: Y  N  U

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S026 Equip. Class<sup>1</sup> 16

Equipment Description 125V Battery Charger 2A

**Interaction Effects**

- 7. Are soft targets free from impact by nearby equipment or structures? Y  N  U  N/A
  
- 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y  N  U  N/A   
*Seismic acceptability of block walls were validated using drawing H-40383 Rev. 2 and Hatch Unit 2 UFSAR Table 3.8-20, Walls C130-59A, 60B and 64A*
  
- 9. Do attached lines have adequate flexibility to avoid damage? Y  N  U  N/A
  
- 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y  N  U

**Other Adverse Conditions**

- 11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y  N  U

**Comments** (Additional pages may be added as necessary)

*There are four holes on the front of the battery charger without screws. The holes are for an internal attachment or grounding configuration that is not being utilized, so there are no screws missing. Therefore, there is no potentially adverse seismic condition.*

*Components inside the battery charger were inspected visually in accordance with the direction provided in the FAQ related to opening panels per Work Order SNC436314. No potentially adverse seismic conditions were identified.*

Internal Components Evaluated By:

Kursat Kinali *Kursat Kinali* Date: 09/26/2012  
 Wesley Williams *Wesley Williams* Date: 09/26/2012

Evaluated by: John McFarland *John McFarland* Date: 09/25/2012

Jeff Horton *Jeff Horton* 09/25/2012



**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S026 Equip. Class<sup>1</sup> 16

Equipment Description 125V Battery Charger 2A

**Photographs**

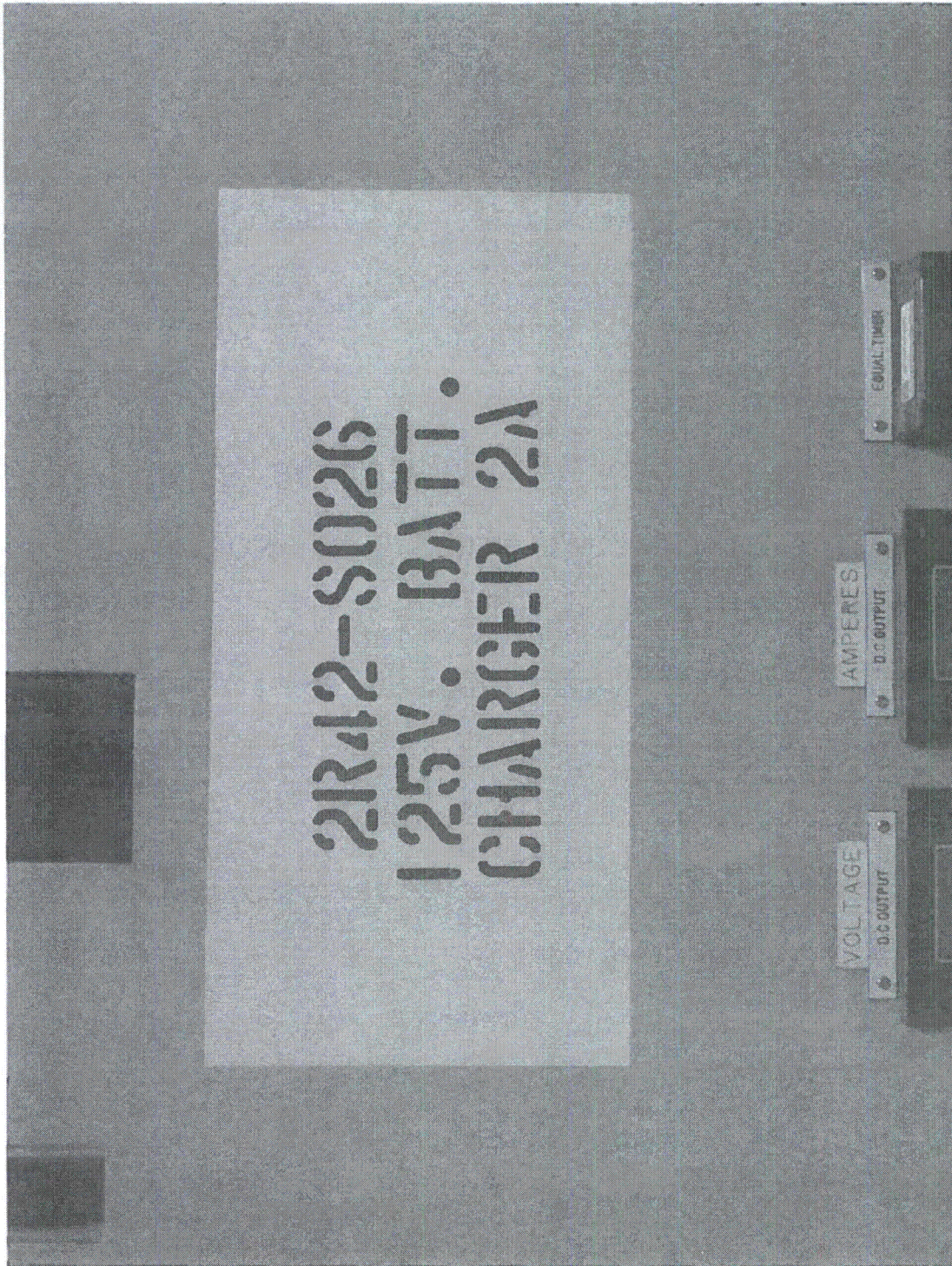


Figure 1 – Equipment ID No (2R42-S026)



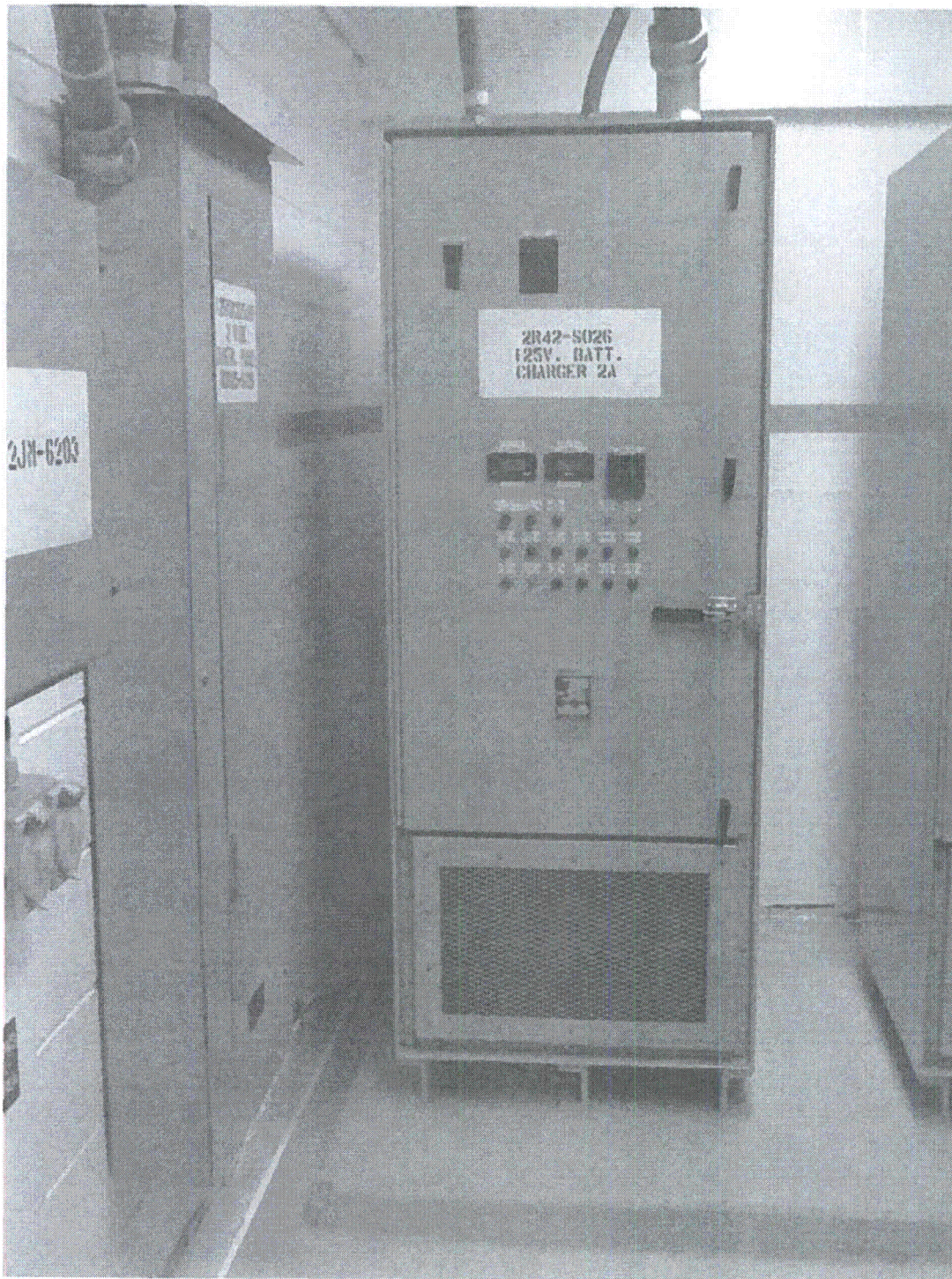


Figure 2 – Equipment Elevation (2R42-S026)



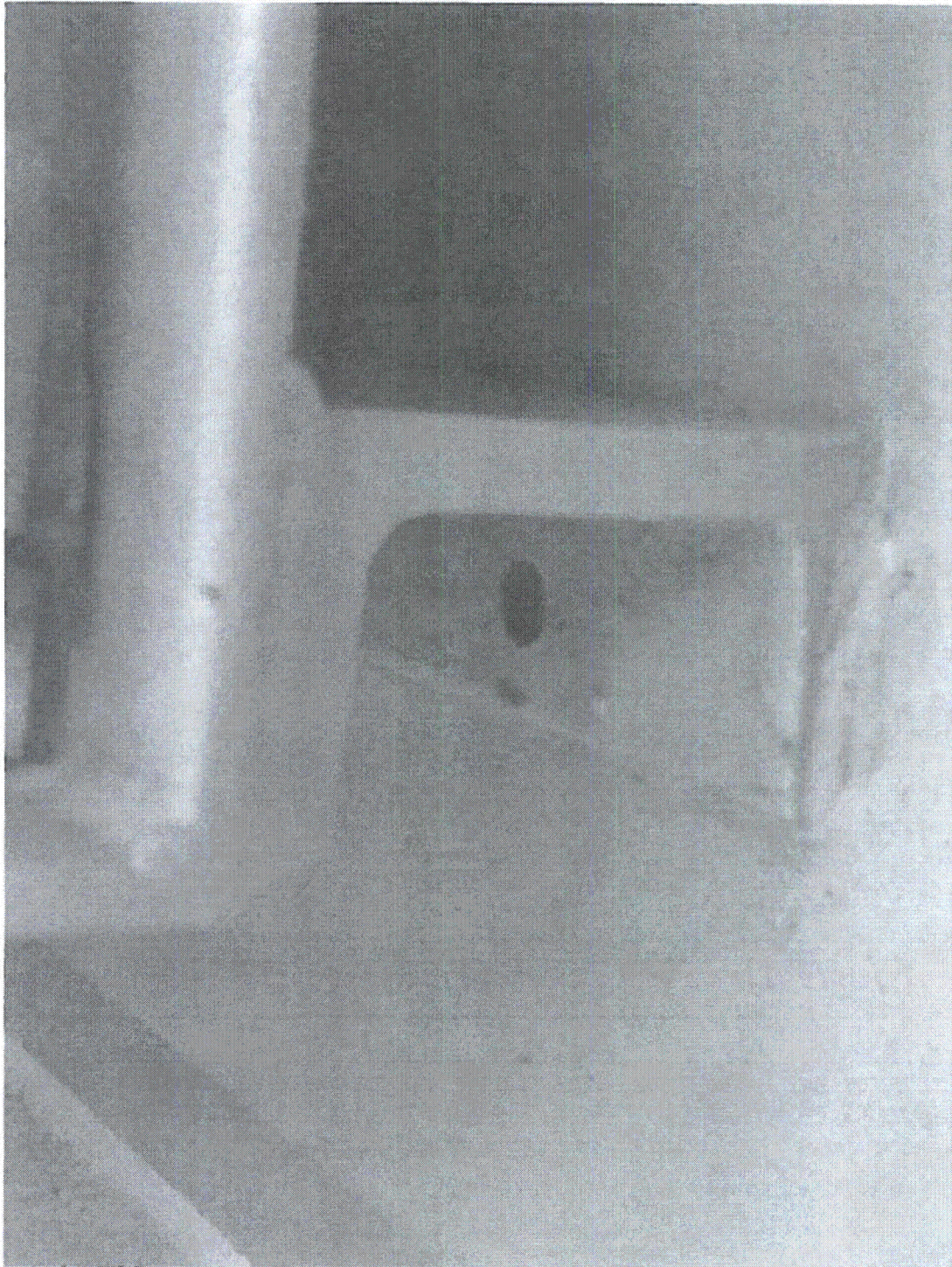


Figure 3 – Replaced Anchor Bolts (2R42-S026)



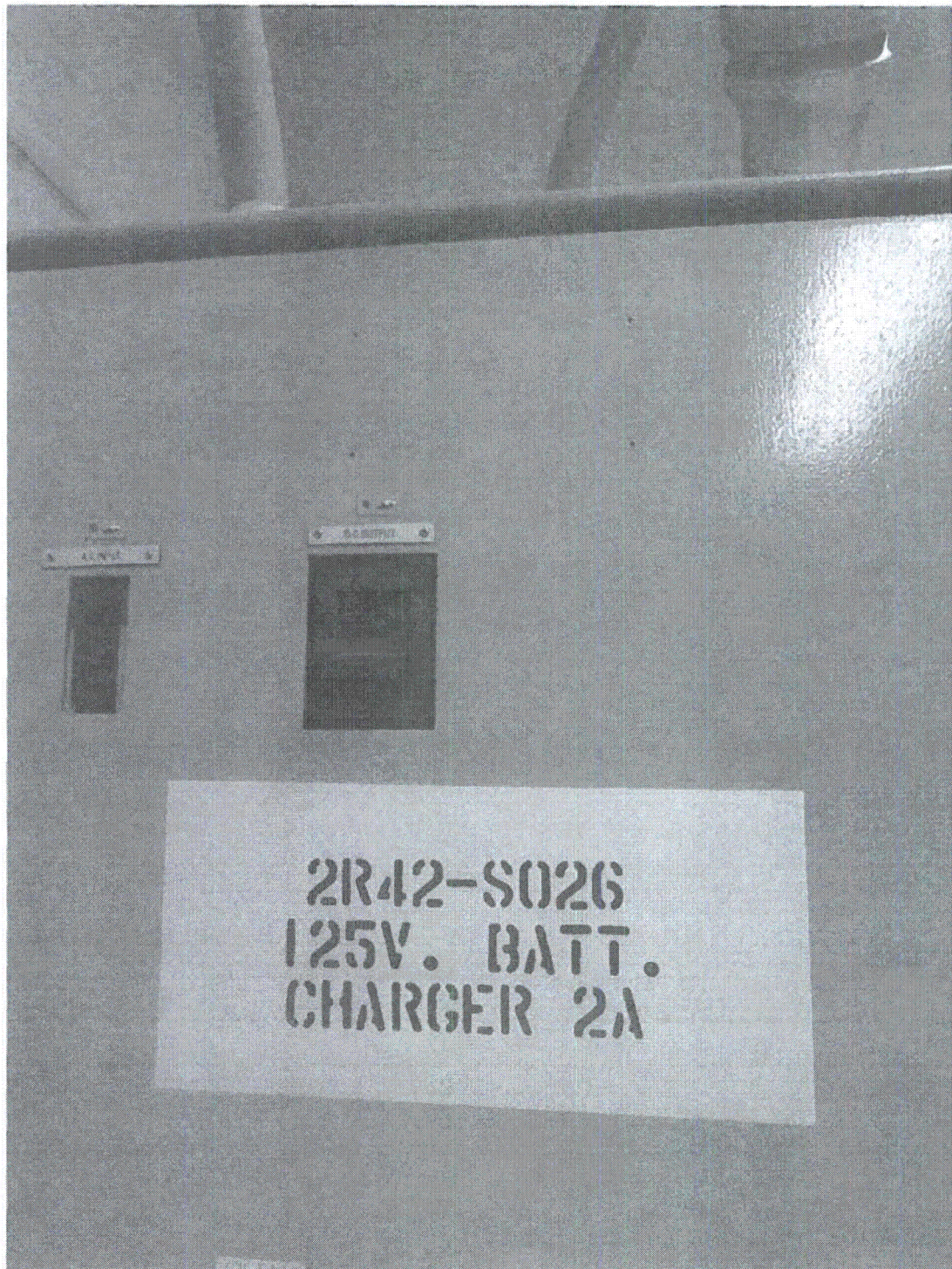


Figure 4 –Empty Holes on Panel Front (2R42-S026)



**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2R42-S052 Equip. Class<sup>1</sup> 16Equipment Description Battery Charger 2BLocation: Bldg. CONTROL Floor El. 130 Room, Area C140

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

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**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
  
5. Is the anchorage configuration consistent with plant documentation?  
(Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y  N  U  N/A

<sup>1</sup>Enter the equipment class name from Appendix B: Classes of Equipment.



**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S052 Equip. Class<sup>1</sup> 16

Equipment Description Battery Charger 2B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

*The Unistrut member supporting the battery charger is bent out from the wall at the far end of the member. The gap between the wall and the member is less than 1/4", so the gap is not significant. In addition, the bolt attaching the charger to the unistrut channel at that location appeared to be over tightened to the point that the unistrut is sprung and the lower edge of spring nut no longer makes proper contact with the inner edge of the unistrut channel (See Figure 3). This condition reduces the connection's strength compared to a properly installed spring nut connection. The current battery charger is supported by 3 additional unistrut bolts and a vertical conduit which also provides additional support to the battery charger in the vertical direction. However CR 520297 has been generated to correct this condition.*

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y  N  U  N/A

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y  N  U  N/A

*The seismic capacity of the Concrete Block Walls C130-47E, C130-51B, C130-52A and C130-54A surrounding the Battery Charger were verified using Drawing H-40383, Rev. 2 and Hatch Unit 2 UFSAR Table 3.8-20.*

9. Do attached lines have adequate flexibility to avoid damage? Y  N  U  N/A

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y  N  U

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y  N  U

*Components inside the panel were inspected visually in accordance with the direction provided in the FAQ related to opening panels. The panel was opened under WO# SNC436331. No potentially adverse seismic conditions were found.*

Kursat Kinali  
*Kursat Kinali*  
 9/27/12  
 Wesley Williams  
*Wesley Williams*  
 9/27/12



Status: Y  N  U

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S052 Equip. Class<sup>1</sup> 16

Equipment Description Battery Charger 2B

**Comments** (Additional pages may be added as necessary)

*None*

Evaluated by: John McFarland  Date: 09/06/2012

Jeff Horton  09/06/2012



**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R42-S052 Equip. Class<sup>1</sup> 16

Equipment Description Battery Charger 2B

**Photographs**

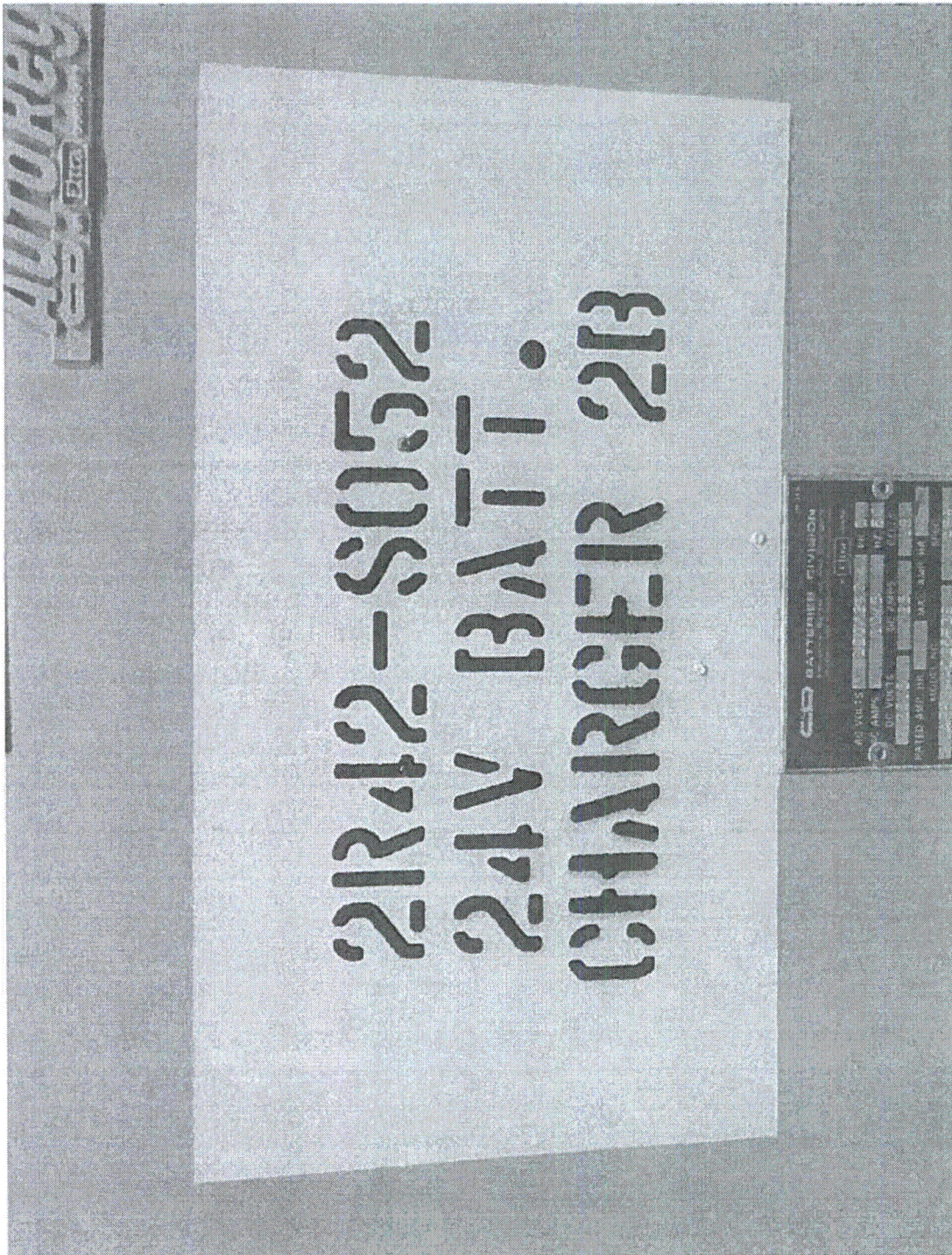


Figure 1 – Equipment ID No (2R42-S052)



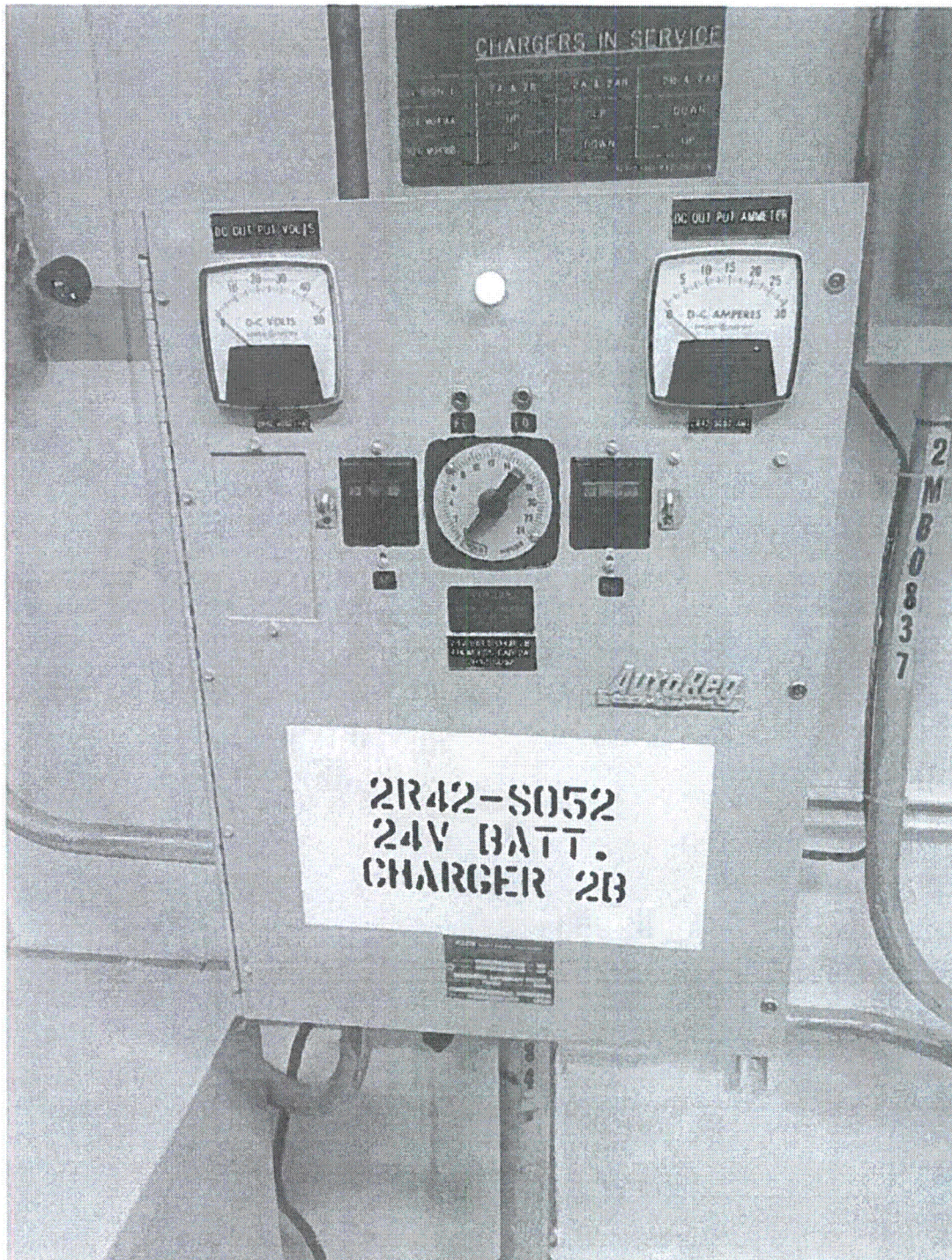


Figure 2 – Equipment Elevation (2R42-S052)



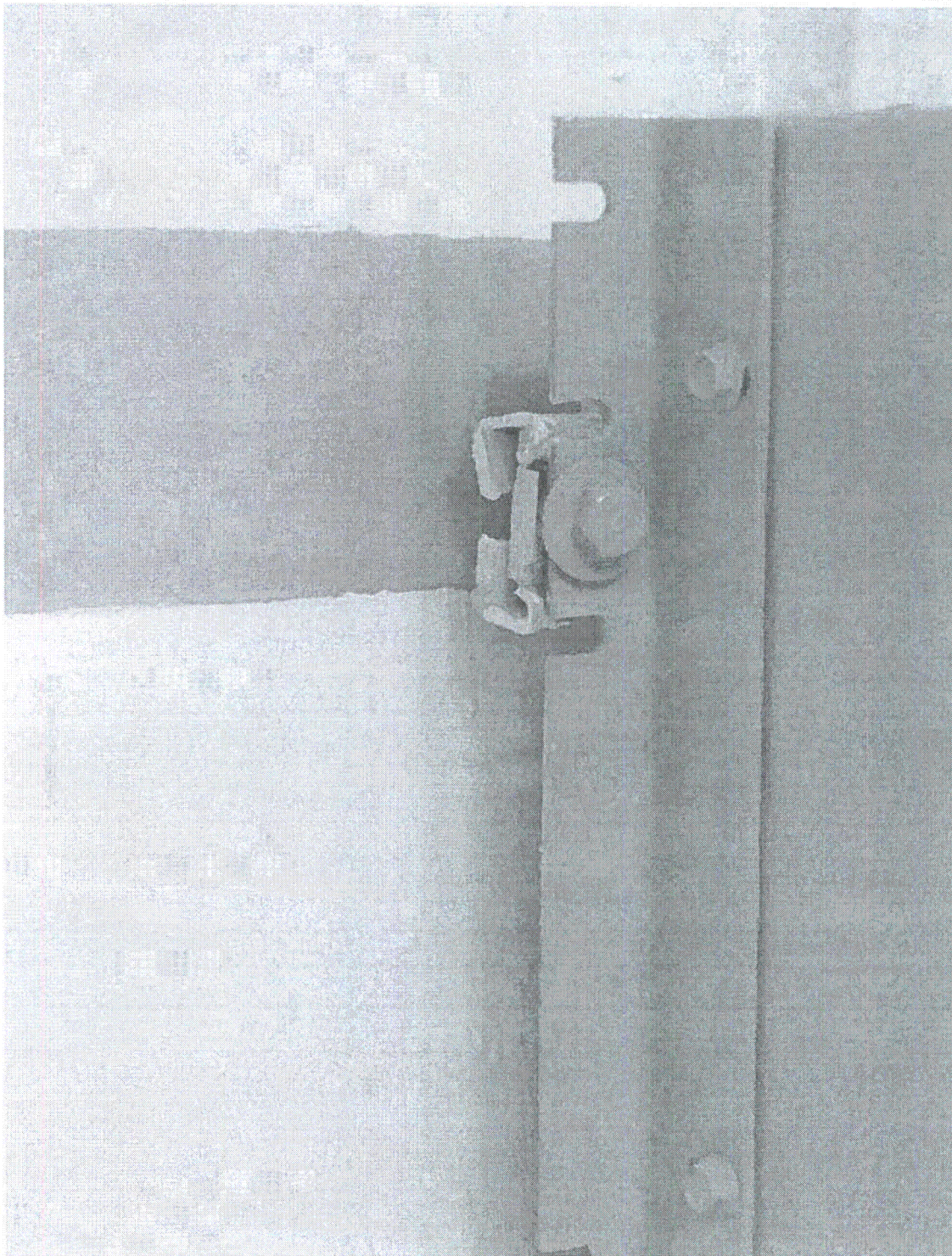


Figure 3 – Gap Between Unistrut and Wall (2R42-S052)



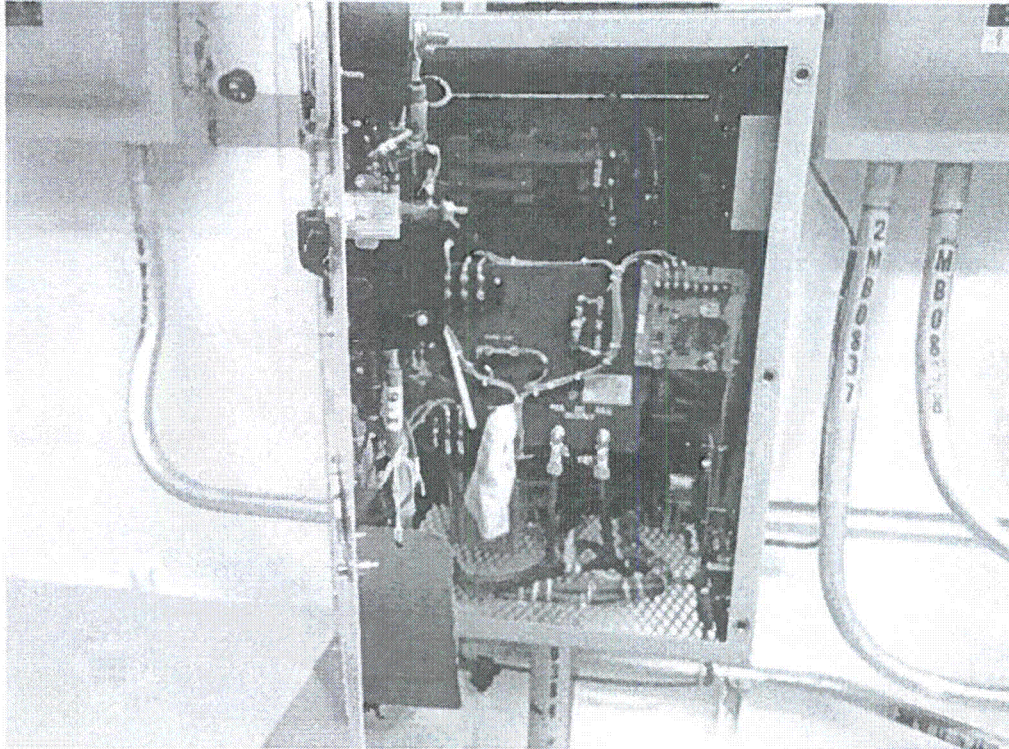


Figure 4 – Interior of the panel (2R42-S052)

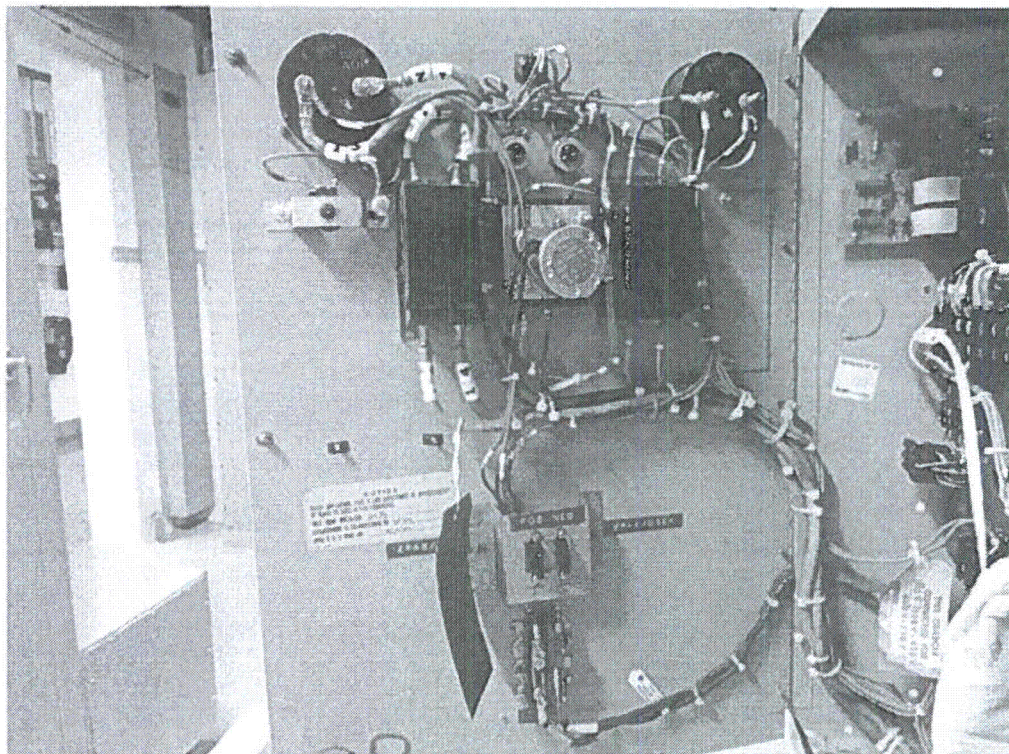


Figure 5 – Interior of the panel door (2R42-S052)



**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2R43-S001A Equip. Class<sup>1</sup> 17Equipment Description DIESEL GENERATOR 2ALocation: Bldg. DIESEL Floor El. 130 Room, Area 2A

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
  
5. Is the anchorage configuration consistent with plant documentation?  
(Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)  
*Compared against the SEWS package dated 2/17/94. Anchor bolts were confirmed (location, size and quantity).* Y  N  U  N/A
  
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.



**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R43-S001A Equip. Class<sup>1</sup> 17

Equipment Description DIESEL GENERATOR 2A

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y  N  U  N/A

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y  N  U  N/A

*Lighting fixtures might swing and hit the diesel generator but no credible damage is anticipated by SWEs since the light fixture is relatively light and the generator is rugged. Overhead fluorescent light bulbs above the control panel 2R43-P003A may potentially hit the panel if they detach from the fixture during a seismic event. However, the impact to the panel was judged not significant since the bulbs are lightweight and the panel is relatively rugged. See attached pictures. The light fixture itself was judged to be adequately restrained for seismic loads.*

9. Do attached lines have adequate flexibility to avoid damage? Y  N  U  N/A

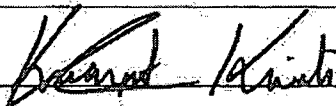
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y  N  U

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y  N  U

**Comments** (Additional pages may be added as necessary)

None.

Evaluated by: Kursat Kinali  Date: 9/7/2012

Wesley Williams  9/7/2012

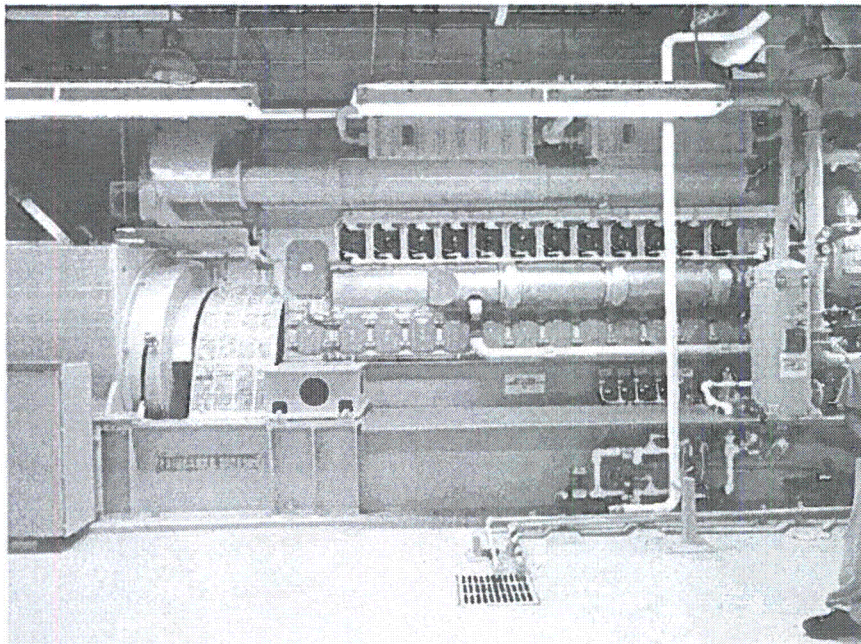
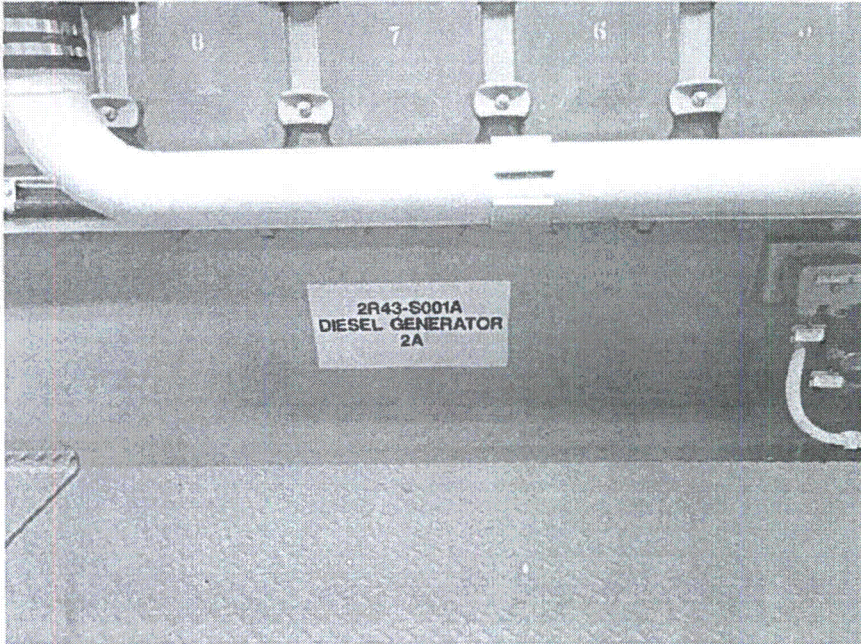


**Seismic Walkdown Checklist (SWC)**

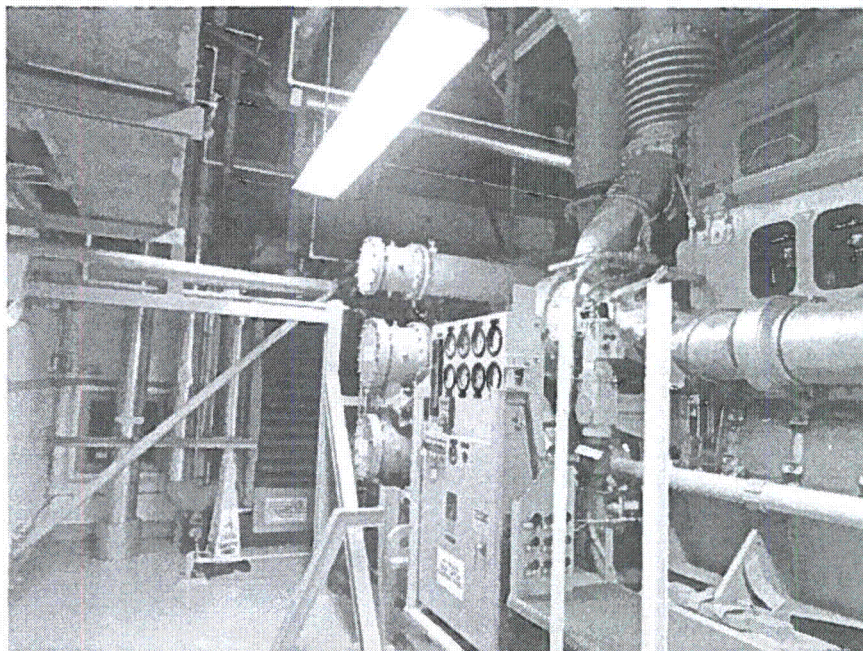
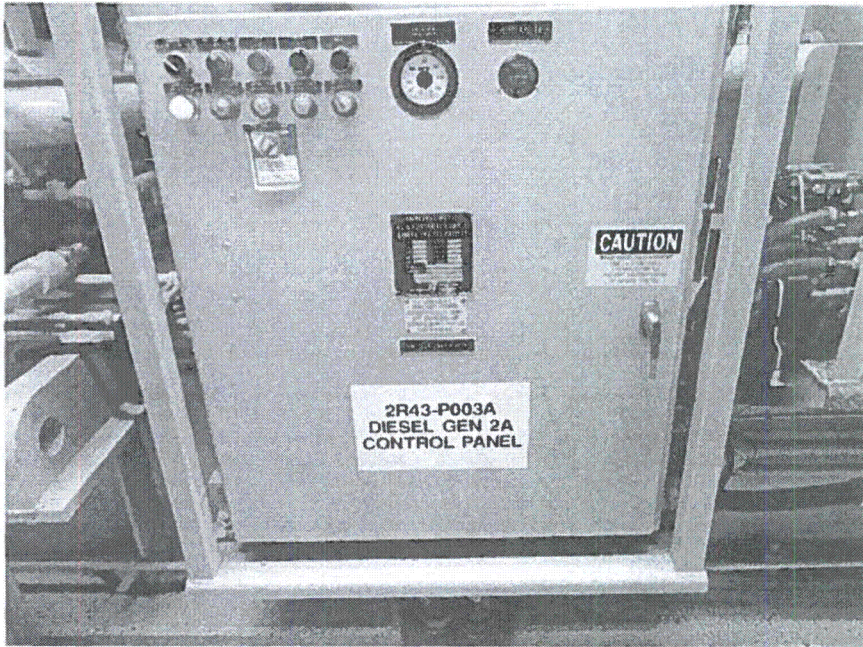
Equipment ID No. 2R43-S001A Equip. Class<sup>1</sup> 17

Equipment Description DIESEL GENERATOR 2A

**Photographs**









**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2R43-S001C Equip. Class<sup>1</sup> 17Equipment Description DIESEL GENERATOR 2CLocation: Bldg. DIESEL Floor El. 130 Room, Area DIESEL GENERATOR ROOM 2CManufacturer, Model, Etc. (optional but recommended) FAIRBANKS MORSE**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A   
*An anchor bolt on the northwest end of diesel generator had a single nut secured on bolt while others were observed to have two. The second nut is for vibration mitigation. The SEWS package for 2R43-S001A, dated 02/17/1994, evaluates the anchorage for an identical generator and the anchorage assessment does not take credit for the anchor in a similar location. Therefore, it is judged to be seismically adequate based on comparison.*
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
  
5. Is the anchorage configuration consistent with plant documentation? Y  N  U  N/A   
 (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)  
*Anchorage configuration is consistent with SEWS package for 2R43-S001A, dated 02/17/1994, which contains an attached calculation for 2R43-S001C.*
  
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U   
*See response to question 2.*

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.



Status: Y N U

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R43-S001C Equip. Class<sup>1</sup> 17

Equipment Description DIESEL GENERATOR 2C

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y N U N/A

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y N U N/A

9. Do attached lines have adequate flexibility to avoid damage? Y N U N/A

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y N U

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y N U

**Comments** (Additional pages may be added as necessary)

*None.*

Evaluated by: Juan Vizcaya  Date: 09/11/2012

Patrick Kelly  09/11/2012

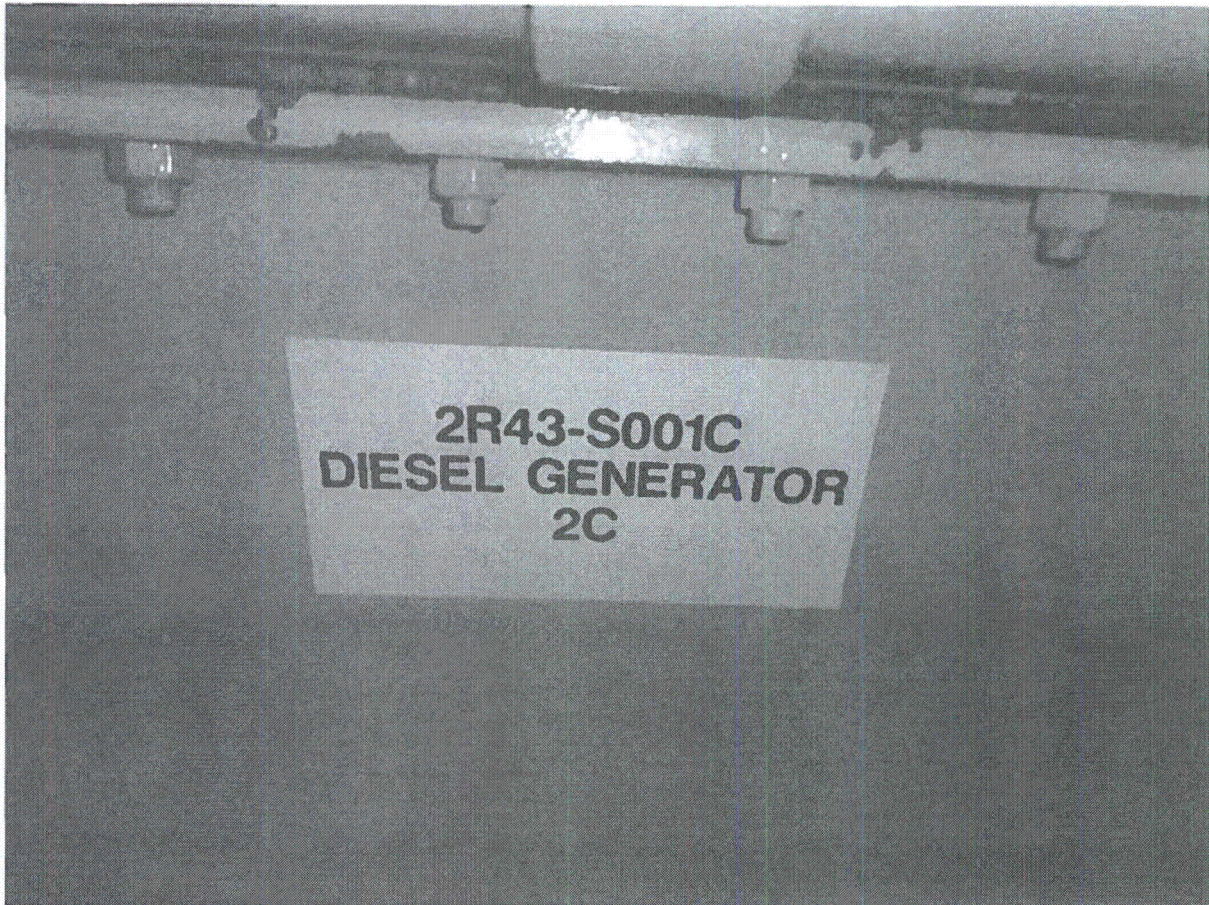


**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2R43-S001C Equip. Class<sup>1</sup> 17

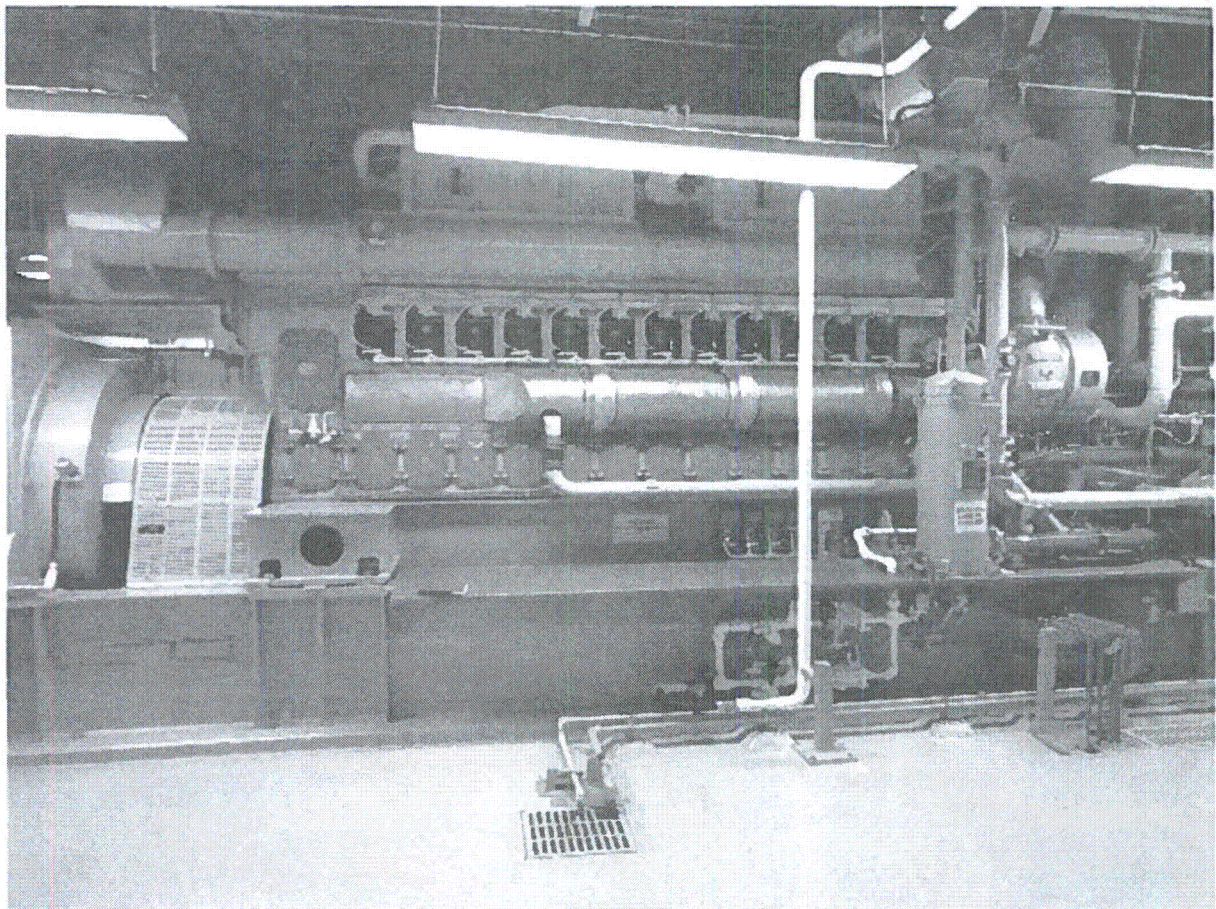
Equipment Description DIESEL GENERATOR 2C

**Photographs**



1: Equipment MPL# (2R43-S001C)





2: Equipment Elevation (2R43-S001C)



**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2H21-P414B Equip. Class<sup>1</sup> 18Equipment Description HPCI INSTR RACKLocation: Bldg. REACTOR Floor El. 87 Room, Area HPCI Room

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
  
5. Is the anchorage configuration consistent with plant documentation?  
(Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)  
*The anchorage was compared against the SQUG Package dated 2/14/94.* Y  N  U  N/A
  
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.



Status: Y N U

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2H21-P414B Equip. Class<sup>1</sup> 18

Equipment Description HPCI INSTR RACK

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y N U N/A  
*The overhead crane was evaluated during SQUG walkdowns for the item in this room (2E41-C002) and found to be seismically adequate.*

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y N U N/A

9. Do attached lines have adequate flexibility to avoid damage? Y N U N/A

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y N U

**Other Adverse Conditions**

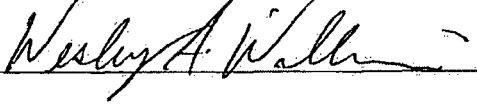
11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y N U

**Comments** (Additional pages may be added as necessary)

*Cable behind the rack was not clamped to the frame. See attached picture. SWEs judged this not to be a seismic concern as it has adequate restraints above and below. CR523140 was initiated for replacing the clamps.*

*Area walkby was performed within the package for 2E21-C001B.*

Evaluated by: KURSAT KINALI  Date: 9/24/2012

WESLEY WILLIAMS  9/24/2012

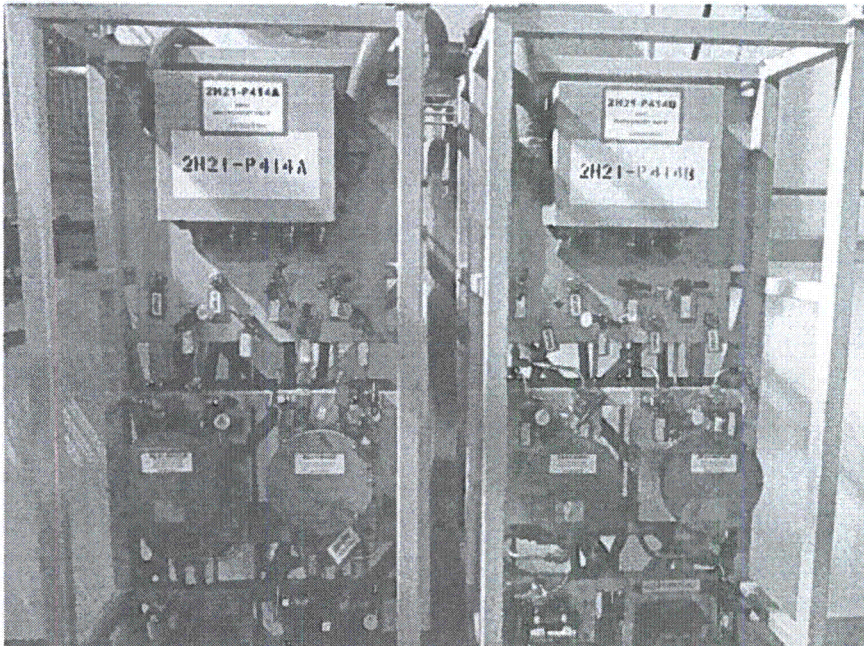
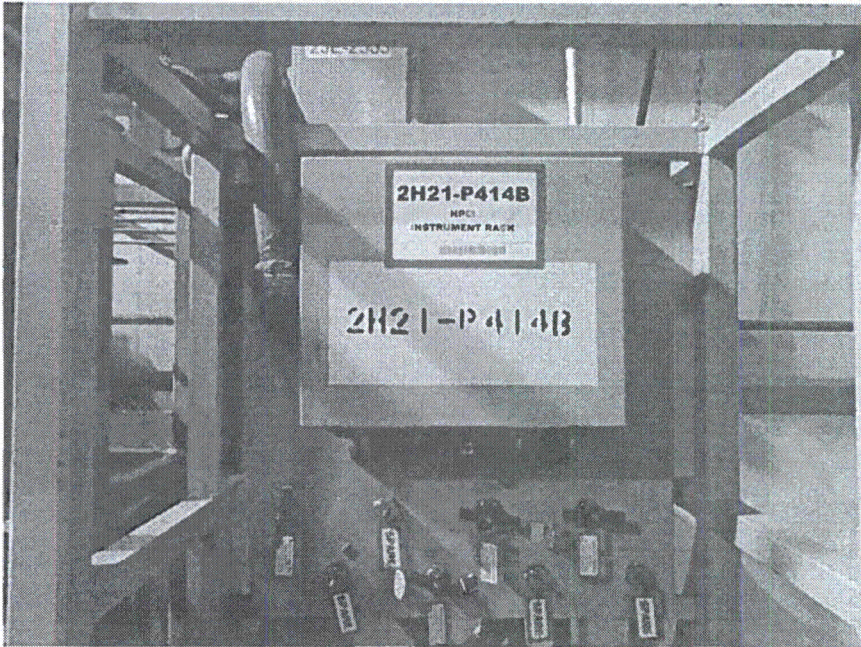


**Seismic Walkdown Checklist (SWC)**

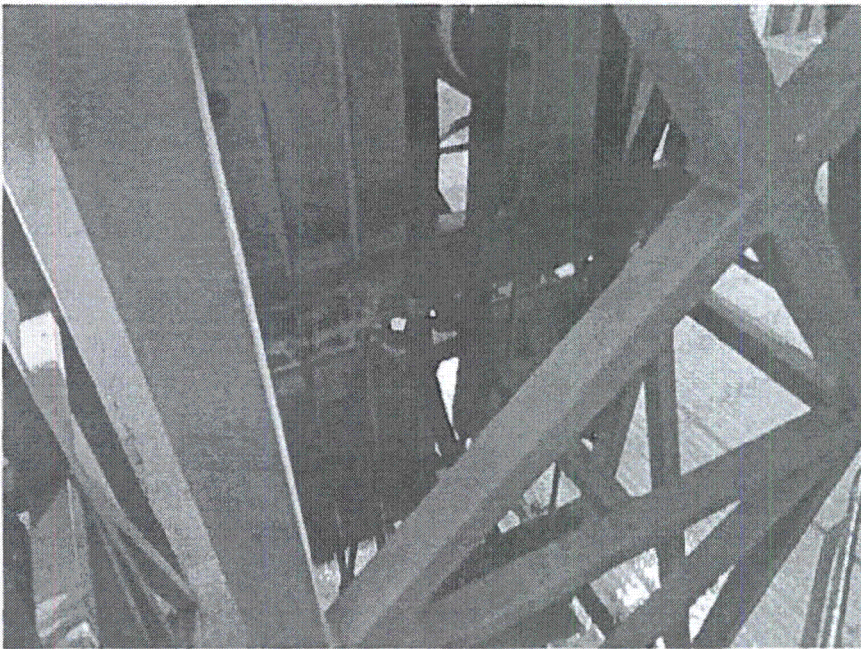
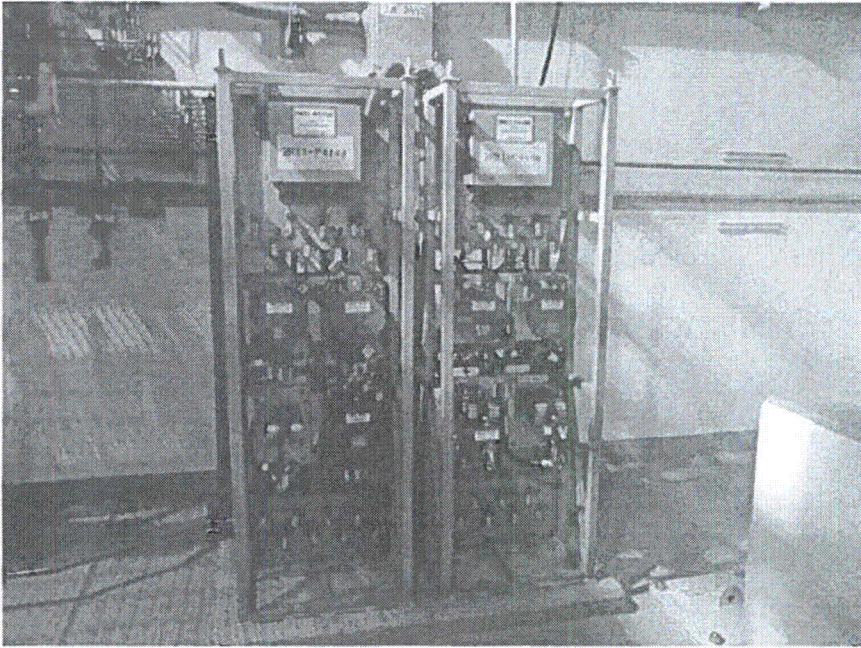
Equipment ID No. 2H21-P414B Equip. Class<sup>1</sup> 18

Equipment Description HPCI INSTR RACK

**Photographs**









**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2H21-P414A Equip. Class<sup>1</sup> 18Equipment Description HPCI INSTR RACKLocation: Bldg. REACTOR Floor El. 87 Room, Area HPCI Room

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
  
5. Is the anchorage configuration consistent with plant documentation?  
(Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)  
*The anchorage was checked against the SQUG package dated 2/14/94.* Y  N  U  N/A
  
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.



**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2H21-P414A Equip. Class<sup>1</sup> 18

Equipment Description HPCI INSTR RACK

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y N U N/A  
*The overhead crane was evaluated during SQUG walkdowns for the item in this room (2E41-C002) and found to be seismically adequate.*

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y N U N/A

9. Do attached lines have adequate flexibility to avoid damage? Y N U N/A

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y N U

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y N U

**Comments** (Additional pages may be added as necessary)

*Cable behind the rack was not clamped to the frame. See attached picture. SWEs judged this not to be a seismic concern as it has adequate restraints above and below. CR523140 was initiated for replacing the clamps.*

*Area walkby was performed within the package for 2E21-C001B.*

Evaluated by: KURSAT KINALI  Date: 9/24/2012

WESLEY WILLIAMS  9/24/2012

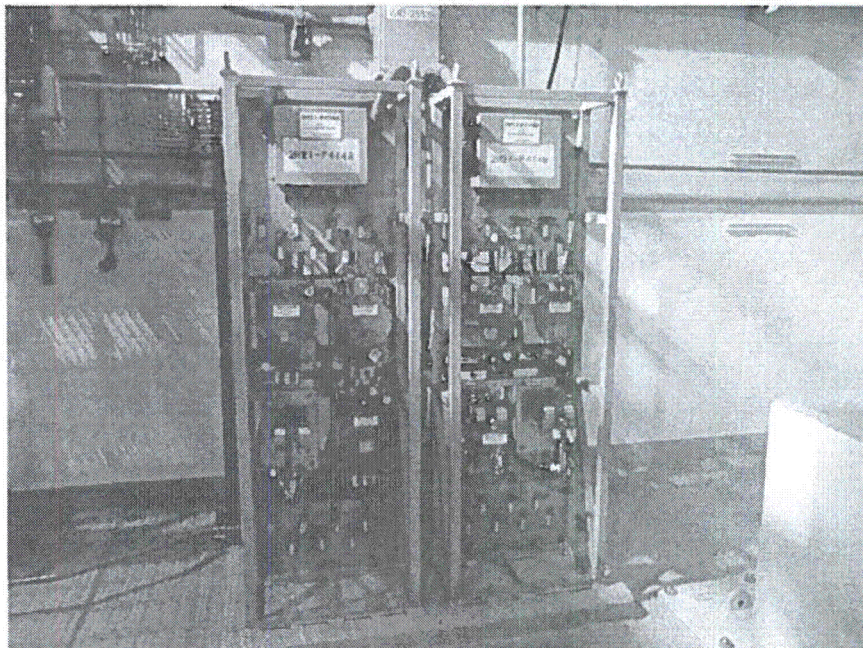
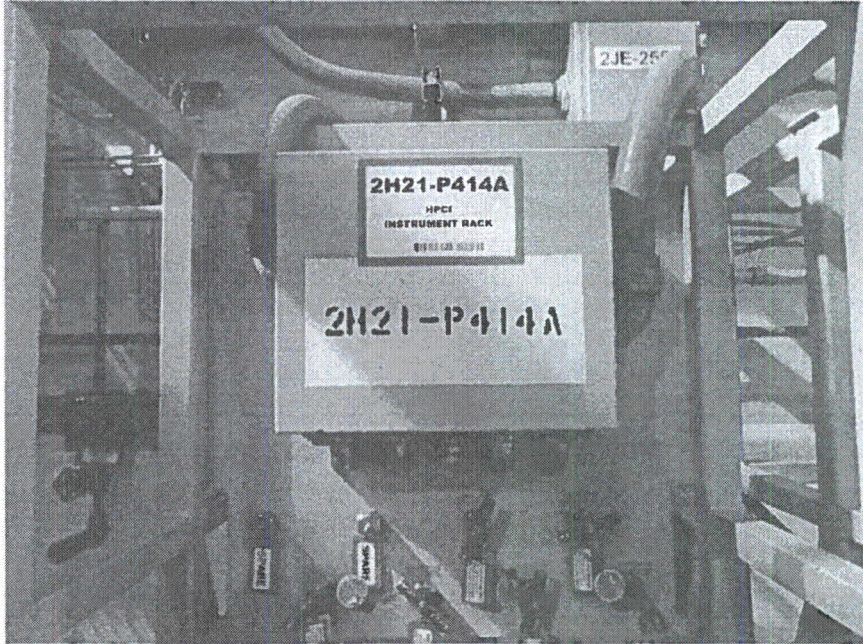


**Seismic Walkdown Checklist (SWC)**

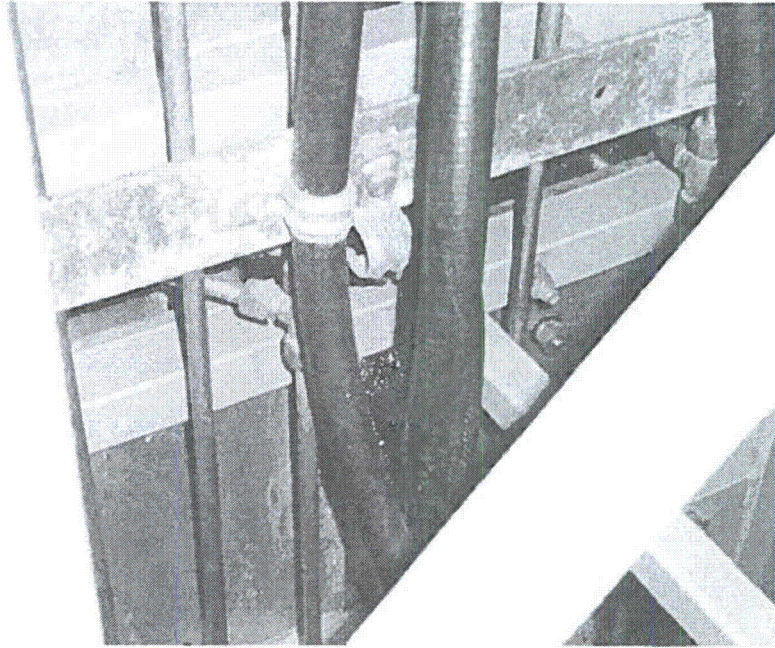
Equipment ID No. 2H21-P414A Equip. Class<sup>1</sup> 18

Equipment Description HPCI INSTR RACK

**Photographs**









**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2H21-P434 Equip. Class<sup>1</sup> 18Equipment Description HPCI INSTR RACKLocation: Bldg. REACTOR Floor El. 87 Room, Area HPCI Room

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
5. Is the anchorage configuration consistent with plant documentation?  
(Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)  
*Anchorage was compared against the SQUG package dated 2/15/94.* Y  N  U  N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.

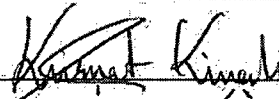
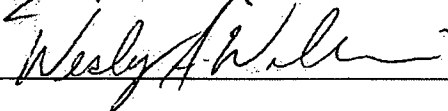


**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2H21-P434 Equip. Class<sup>1</sup> 18Equipment Description HPCI INSTR RACK**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y  N  U  N/A
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y  N  U  N/A
9. Do attached lines have adequate flexibility to avoid damage? Y  N  U  N/A
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y  N  U

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y  N  U

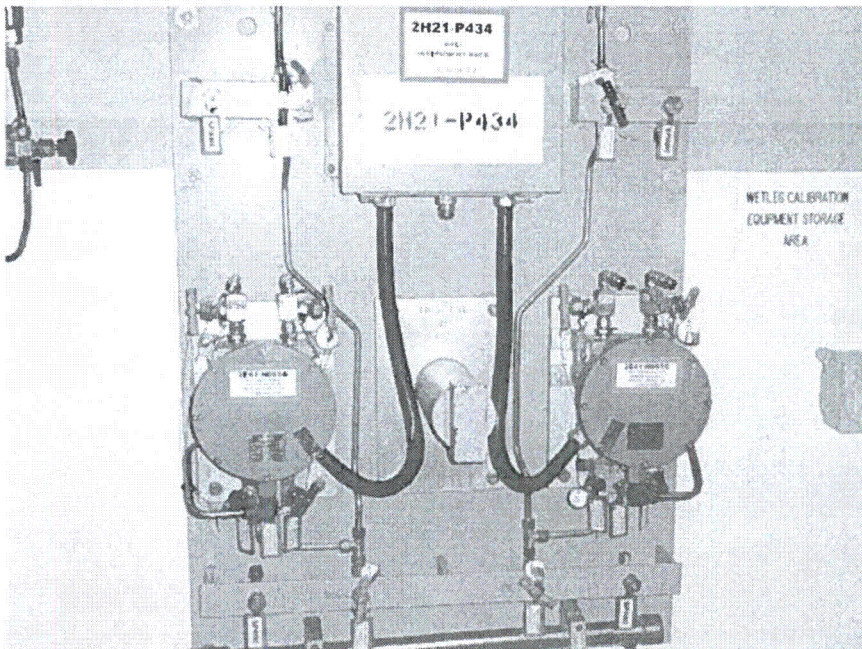
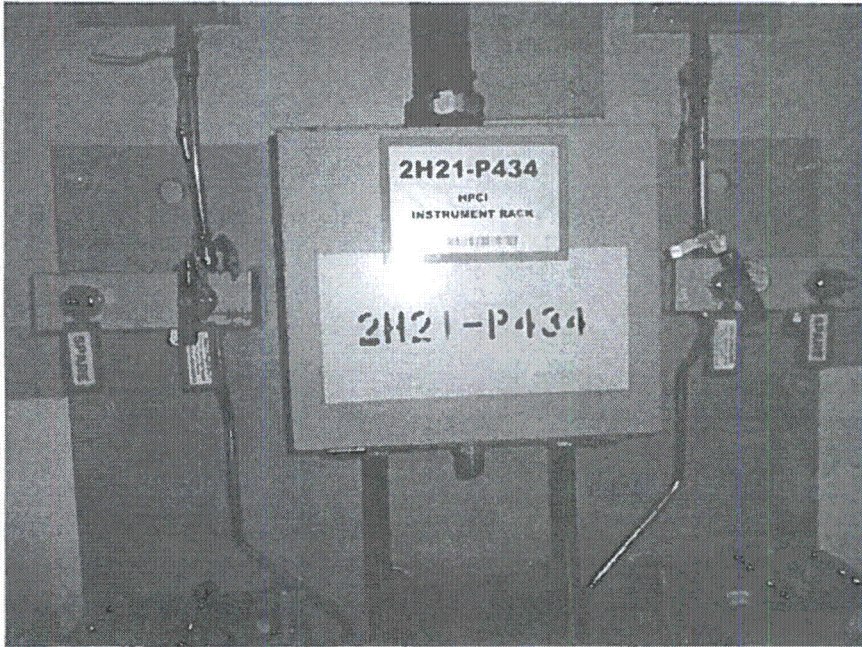
**Comments** (Additional pages may be added as necessary)*Area walkby was performed within the package for 2E21-C001B*Evaluated by: KURSAT KINALIDate: 9/24/2012WESLEY WILLIAMS9/24/2012

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2H21-P434 Equip. Class<sup>1</sup> 18

Equipment Description HPCI INSTR RACK

**Photographs**





**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2H21-P016 Equip. Class<sup>1</sup> 18Equipment Description MAIN STEAM FLOW INST RACKLocation: Bldg. REACTOR Floor El. 87 Room, Area \_\_\_\_\_

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
  
5. Is the anchorage configuration consistent with plant documentation?  
(Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)  
*Anchorage was compared against the SQUG package for item 1H21-P016 which is also applicable for this item. The SQUG package was dated 10/26/88.* Y  N  U  N/A
  
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y N U

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2H21-P016 Equip. Class<sup>1</sup> 18

Equipment Description MAIN STEAM FLOW INST RACK

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y N U N/A  
*Platform grating on the top of this item prevents any impact from above.*

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y N U N/A

9. Do attached lines have adequate flexibility to avoid damage? Y N U N/A

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y N U

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y N U

**Comments** (Additional pages may be added as necessary)

*Area walkby was performed within the package for 2E21-C001B.*

Evaluated by: KURSAT KINALI  Date: 9/24/2012

WESLEY WILLIAMS  9/24/2012

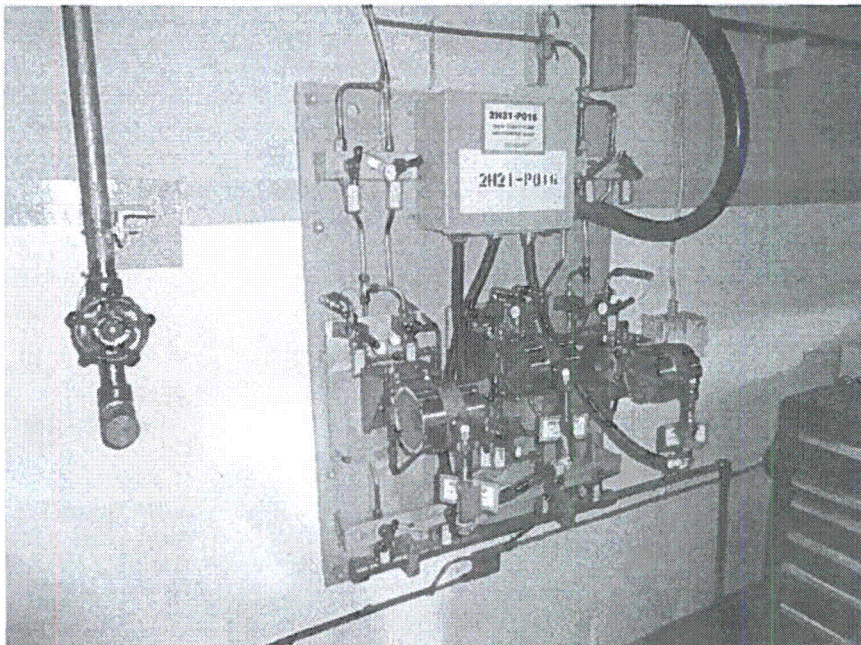
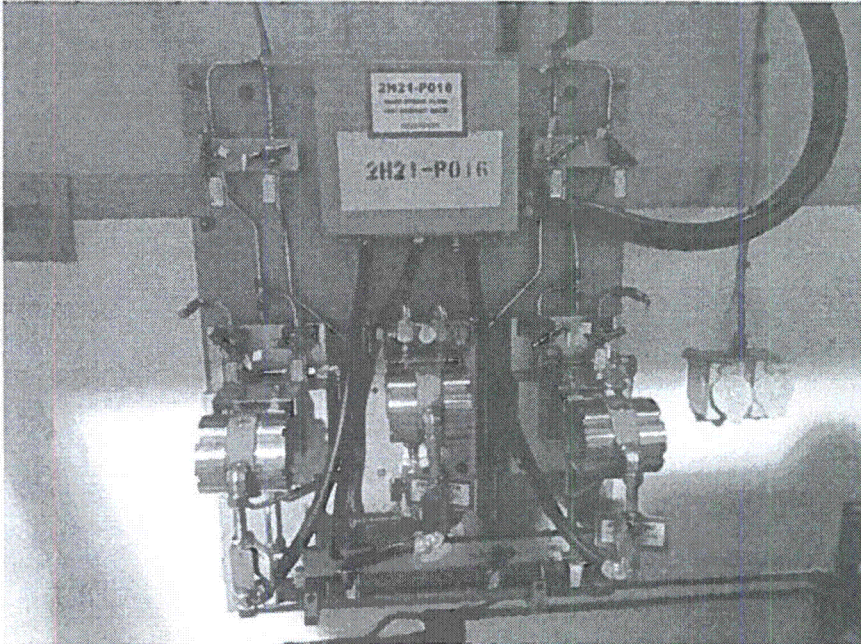


**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2H21-P016 Equip. Class<sup>1</sup> 18

Equipment Description MAIN STEAM FLOW INST RACK

**Photographs**



**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2H21-P036 Equip. Class<sup>1</sup> 18Equipment Description HPCI SYS LOCAL RACKLocation: Bldg. REACTOR Floor El. 130 Room, Area RJ-R23 Southside

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A   
*There is a horizontal surface crack on the wall but it is not passing through the anchors. It is not major enough to affect the integrity of the support.*
  
5. Is the anchorage configuration consistent with plant documentation? Y  N  U  N/A   
 (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)  
*Anchorage was compared against the SQUG package dated 2/15/94.*
  
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.



Status: Y N U

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2H21-P036 Equip. Class<sup>1</sup> 18

Equipment Description HPCI SYS LOCAL RACK

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y N U N/A

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y N U N/A

9. Do attached lines have adequate flexibility to avoid damage? Y N U N/A

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y N U

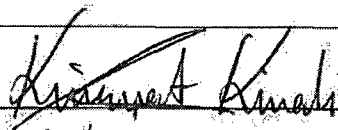
**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y N U

**Comments** (Additional pages may be added as necessary)

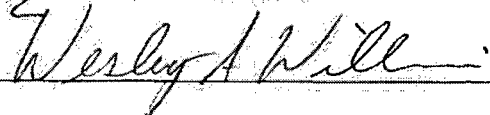
*Area walkby was performed within the package for 2H21-P410.*

Evaluated by: KURSAT KINALI



Date: 9/25/2012

WESLEY WILLIAMS



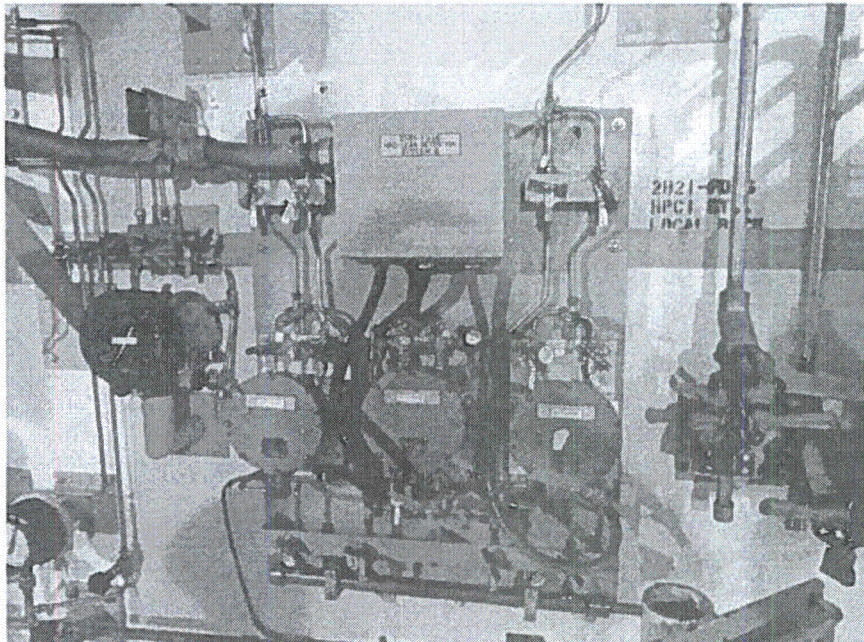
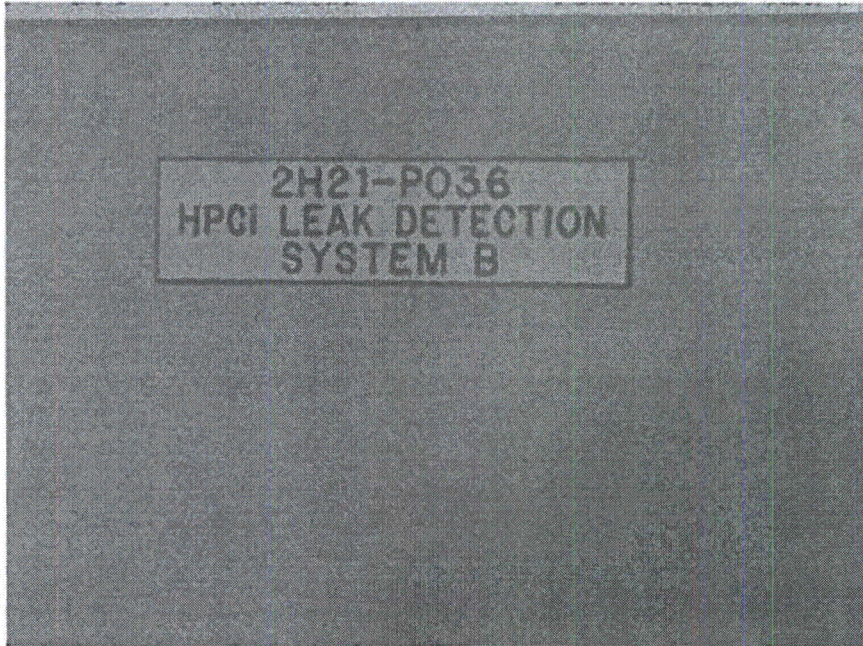
9/25/2012

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2H21-P036 Equip. Class<sup>1</sup> 18

Equipment Description HPCI SYS LOCAL RACK

**Photographs**





**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2H21-P018 Equip. Class<sup>1</sup> 18Equipment Description RHR Instrument RackLocation: Bldg. REACTOR Floor El. 87 Room, Area NE Diagonal

Manufacturer, Model, Etc. (optional but recommended) \_\_\_\_\_

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y  N
  
2. Is the anchorage free of bent, broken, missing or loose hardware? Y  N  U  N/A
  
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y  N  U  N/A   
*There is mild surface oxidation on two of the anchor bolts. Since oxidation is only on the surface, the bolts are not degraded. Therefore, judged not to be a concern.*
  
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y  N  U  N/A
  
5. Is the anchorage configuration consistent with plant documentation? Y  N  U  N/A   
 (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)  
*SEWS Package 2H21-P018 (dated 2/15/94)*
  
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y  N  U

<sup>1</sup> Enter the equipment class name from Appendix B: Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**Equipment ID No. 2H21-P018 Equip. Class<sup>1</sup> 18Equipment Description RHR Instrument Rack**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y  N  U  N/A
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y  N  U  N/A
9. Do attached lines have adequate flexibility to avoid damage? Y  N  U  N/A
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y  N  U

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y  N  U   
*There is a small nut lying on the floor next to one of the anchor bolts. The nut is light and not capable of impacting any sensitive equipment, so there is no potentially adverse seismic condition.*

**Comments** (Additional pages may be added as necessary)*See Component 2E11-F004A for Area Walk-by Checklist.*Evaluated by: John McFarlandDate: 09/24/2012Jeff Horton09/24/2012



Status:  Y  N  U

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. 2H21-P018 Equip. Class<sup>1</sup> 18

Equipment Description RHR Instrument Rack

**Photographs**

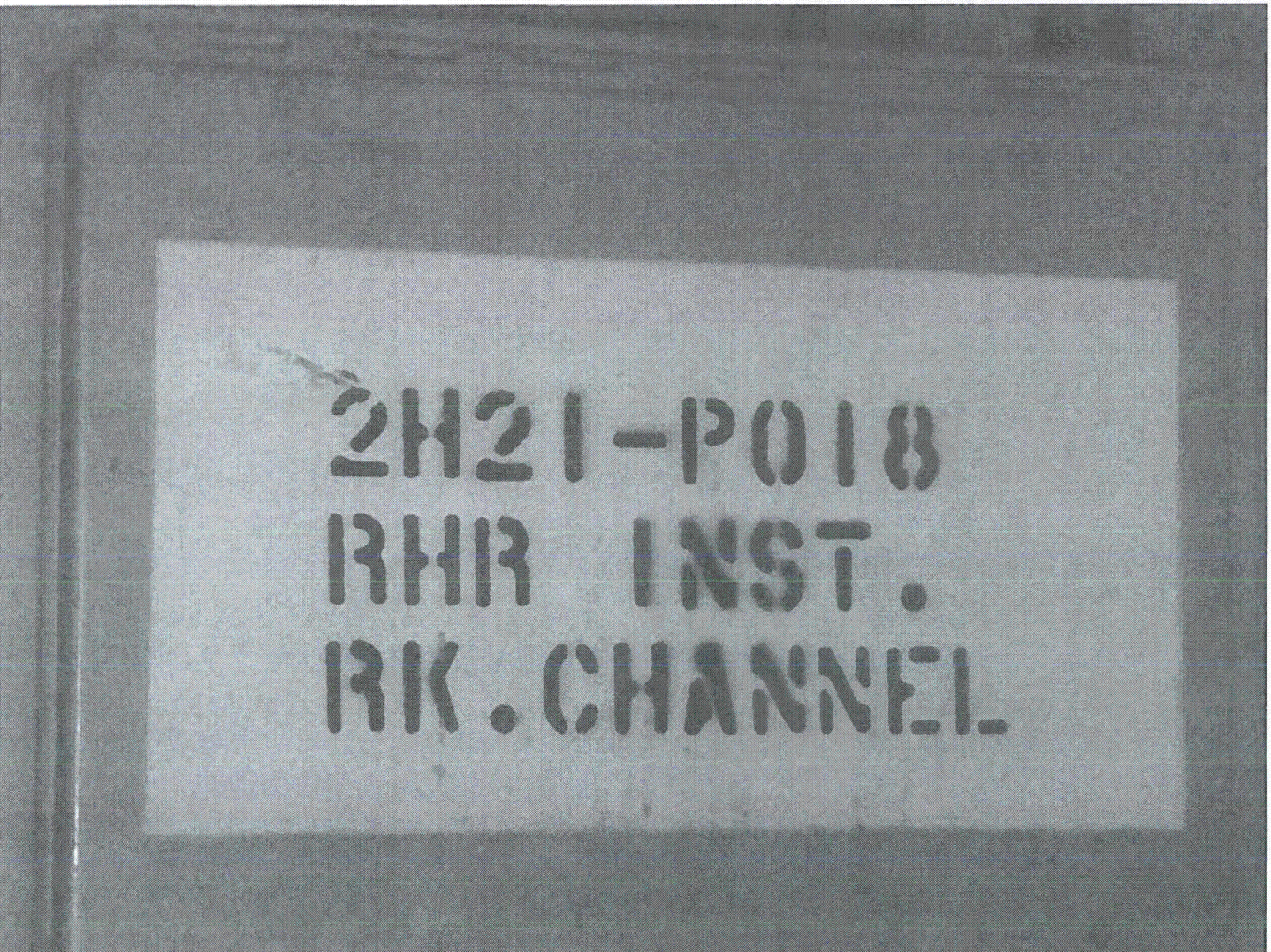


Figure 1 – Equipment ID No (2H21-P018)



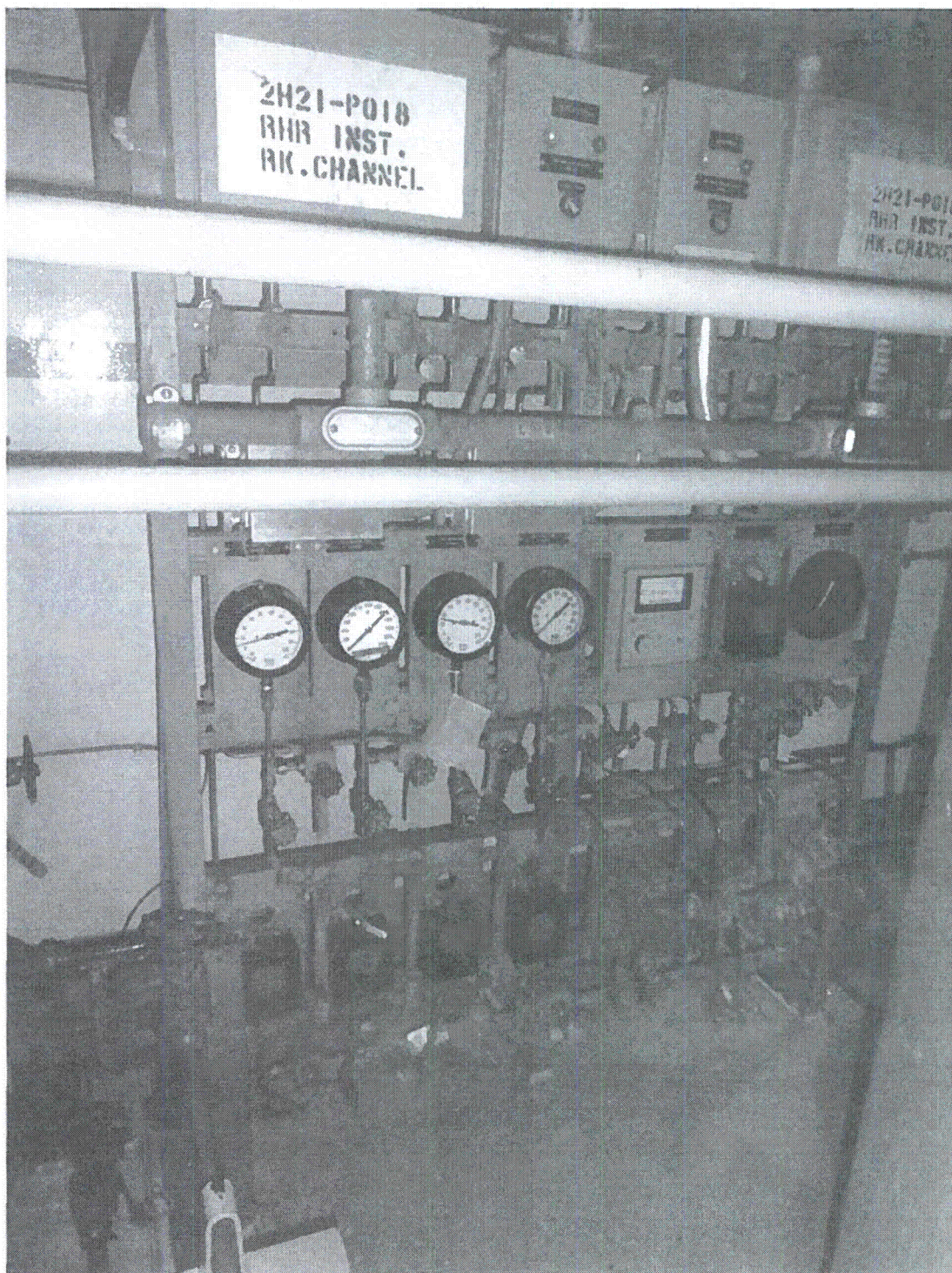


Figure 2 – Equipment Elevation (2H21-P018)





Figure 3 – Mild Oxidation on Anchor Bolts (2H21-P018)



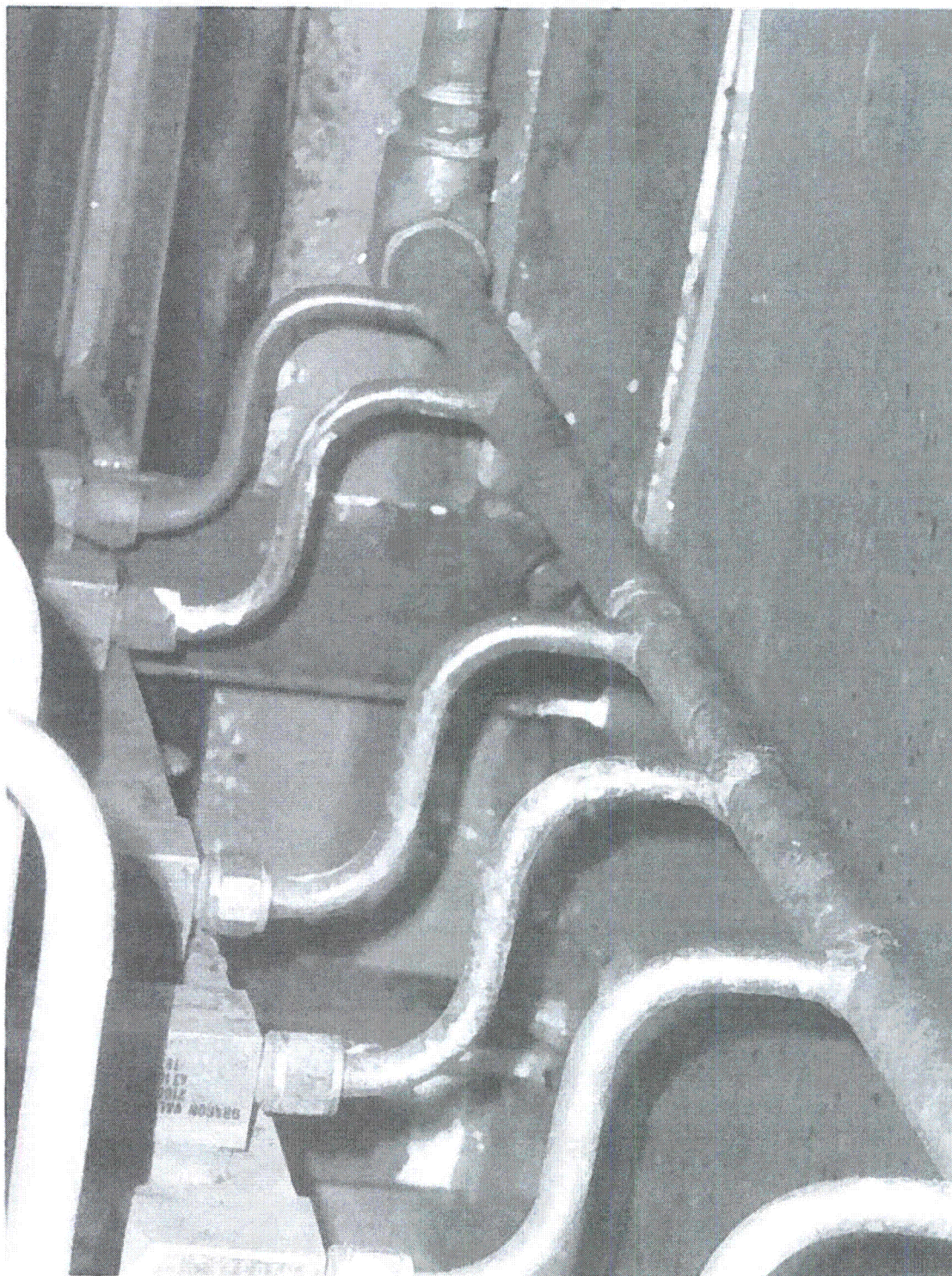


Figure 4 – Nut Next to Anchor Bolt (2H21-P018)