Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-21

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. 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.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes
   Minor corrosion judged to be acceptable. Grout pads with corners chipped judged to be acceptable.

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Yes

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Yes
   Tubes, pipes, and conduits in contact in a number of locations. Judged to be acceptable due to inherent flexibility of the items.

   Several overhead light fixtures with open S-hooks. See IR 1400098.

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
   Threaded fire piping, room heater, and associated piping well-supported. Other piping welded.

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
   Metal oily rag bin with cover judged to be acceptable.

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
   Storage issue corrected during walkdown. See IR 1400948.

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-21

8.	Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?	Yes

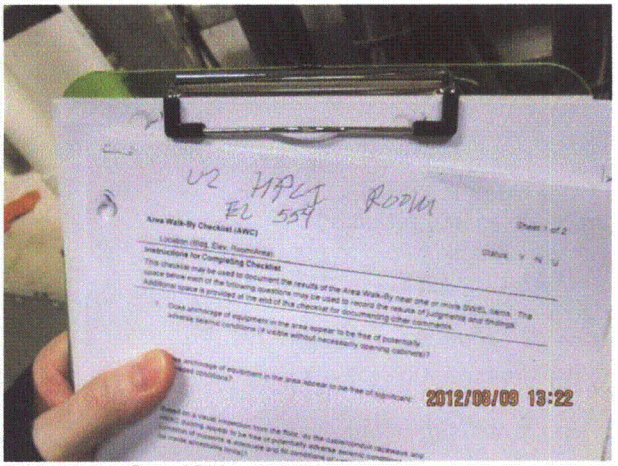
Comments

Seismic Walkdown Team: J. Griffith & M. Wodarcyk - 8/9/2012

Evaluated by: James Griffith Date: 10/4/2012

Michael Wodarcyk 10/4/2012

Photos



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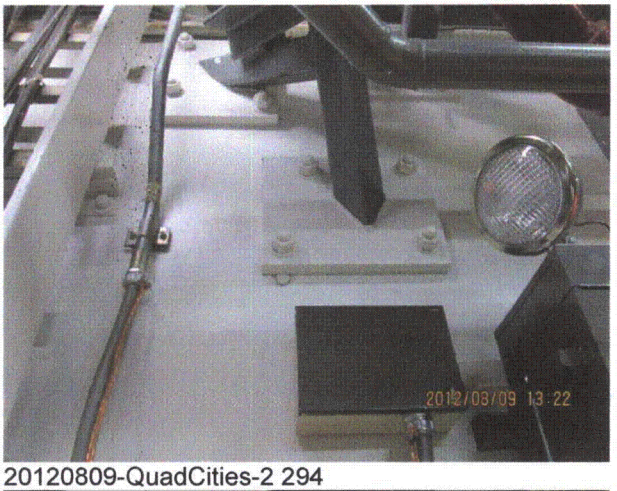

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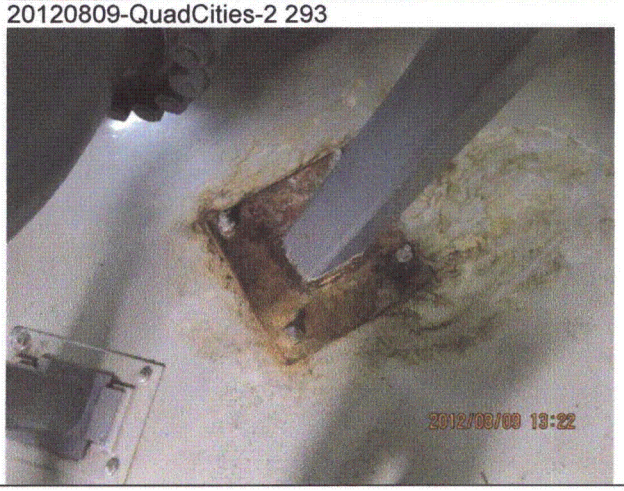

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-21

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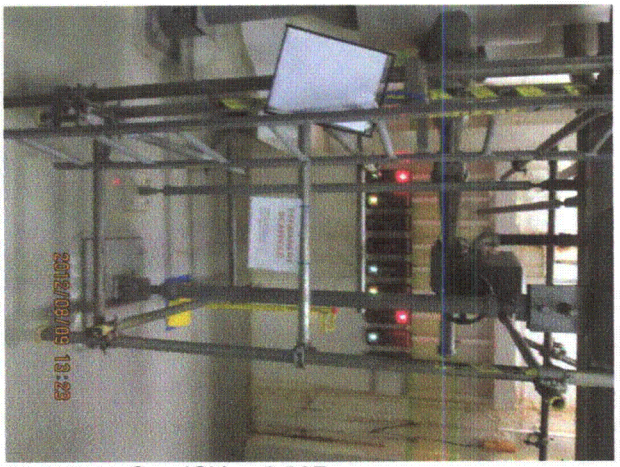

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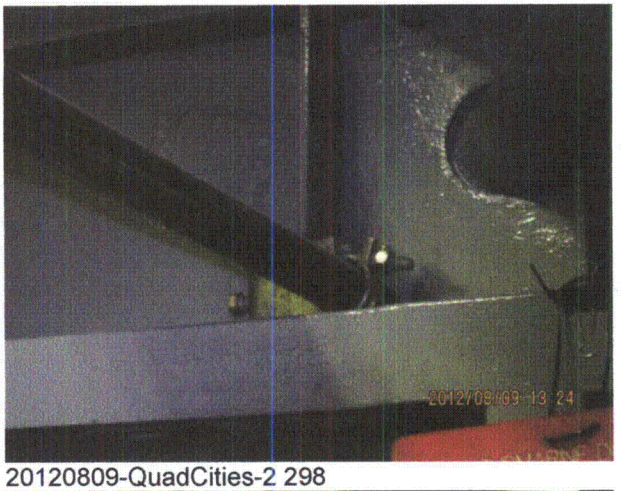

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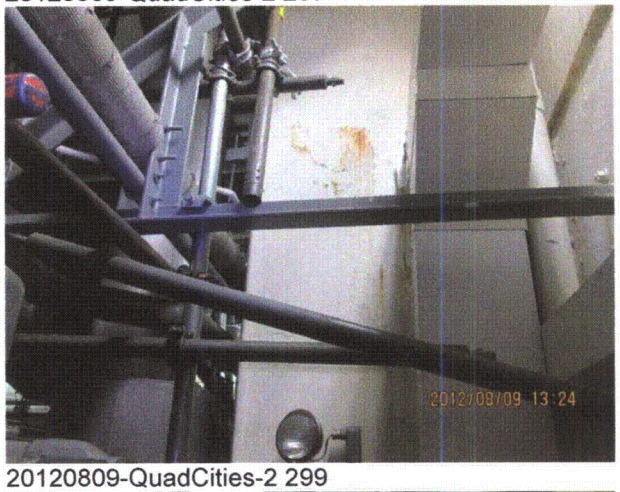

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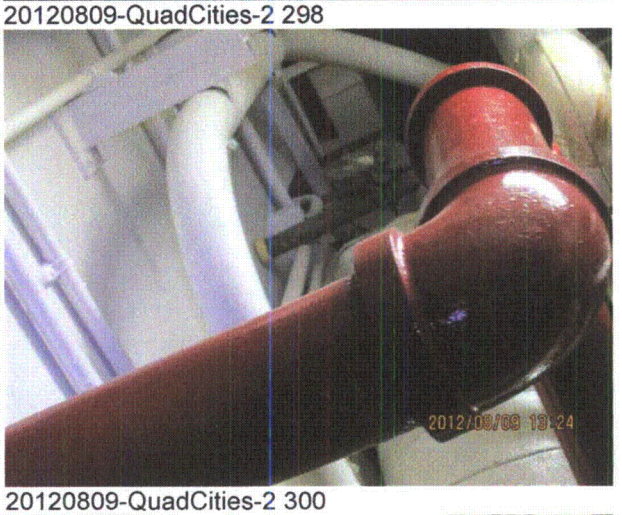

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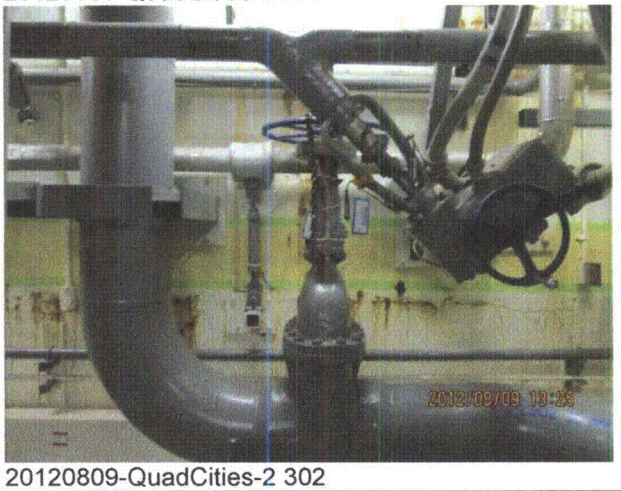

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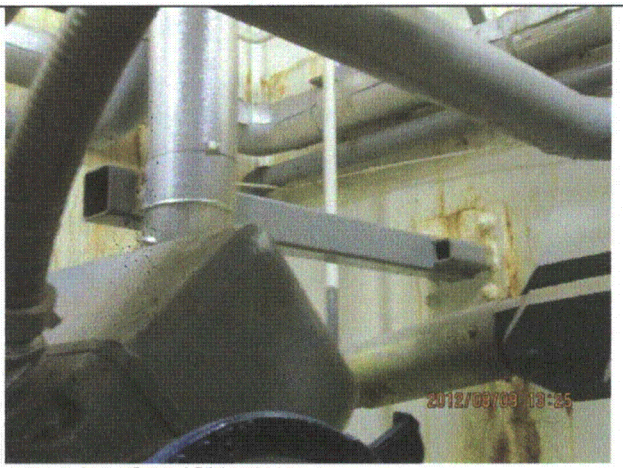
20120809-QuadCities-2 302

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-21

20120809-QuadCities-2 303



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20120809-QuadCities-2 306

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Status: [Y] N U

Area Walk-By Checklist (AWC)

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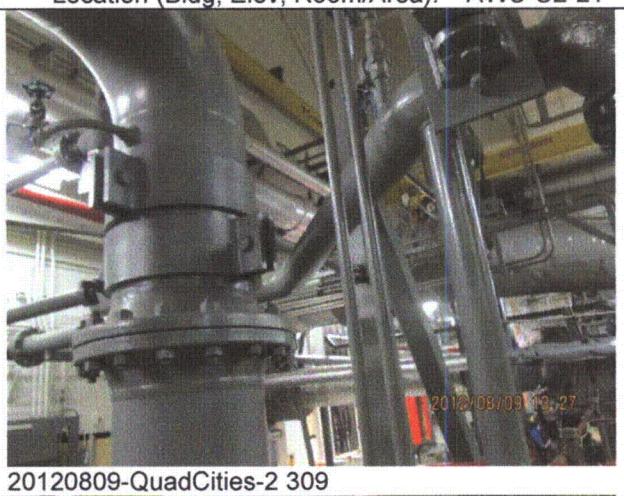

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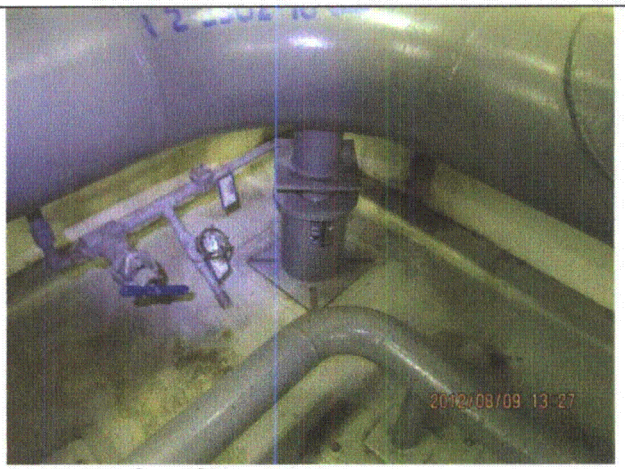

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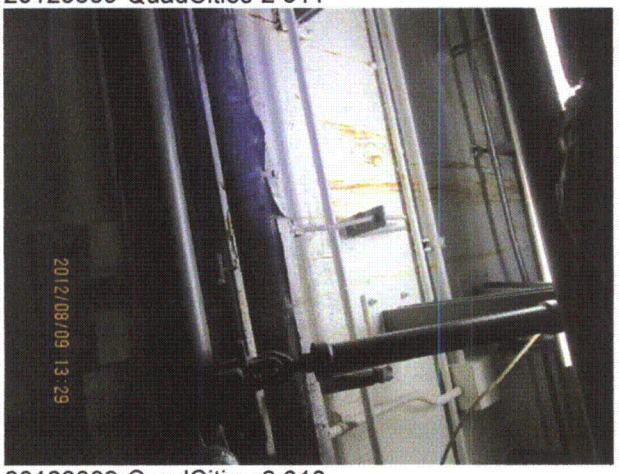

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Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-21

20120809-QuadCities-2 316

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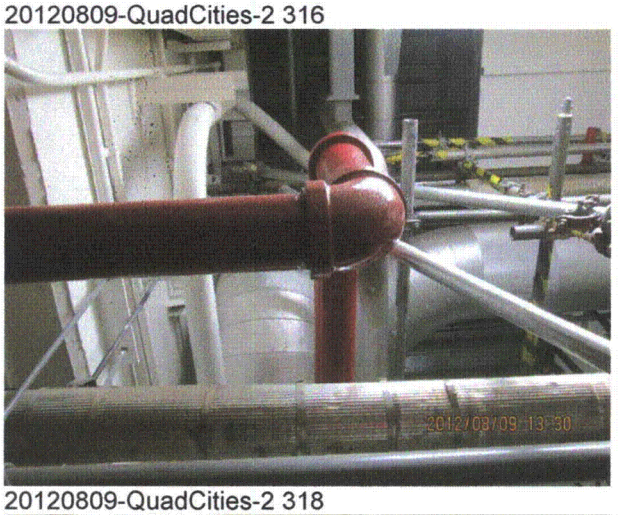

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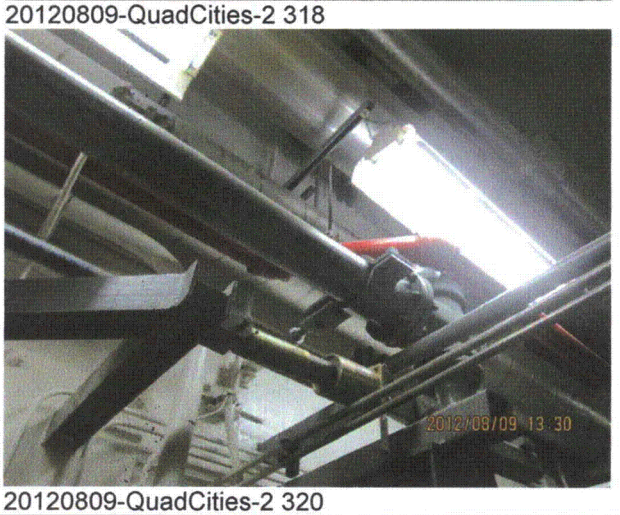

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Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-21

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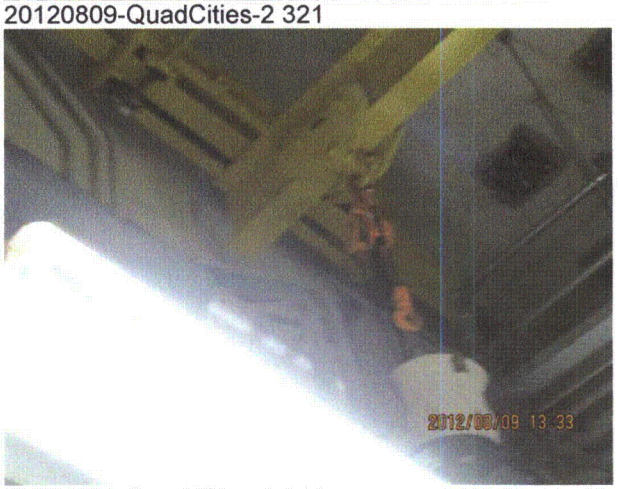
20120809-QuadCities-2 322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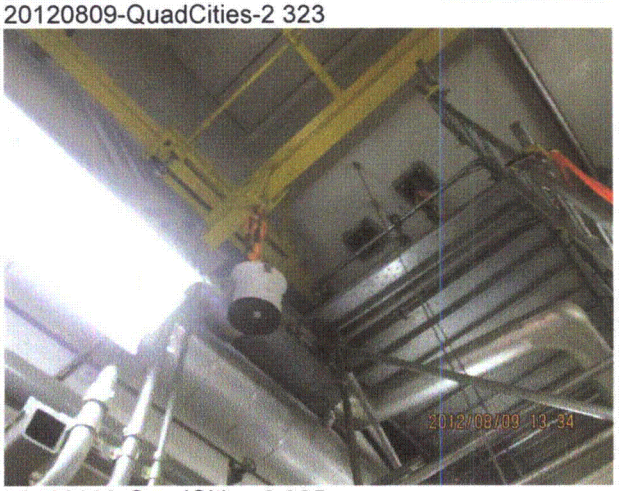
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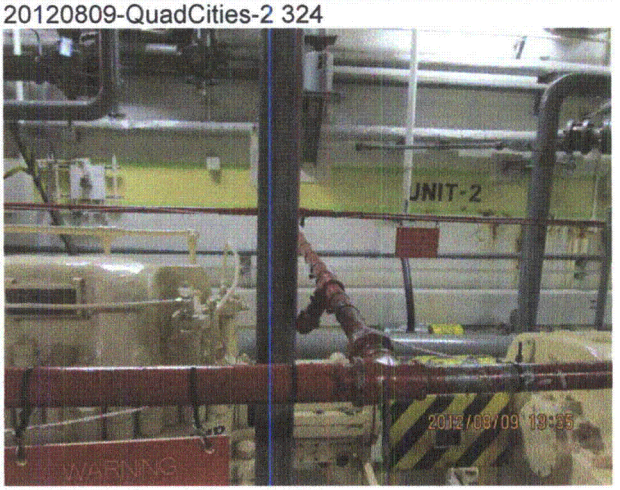

20120809-QuadCities-2 326

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-21

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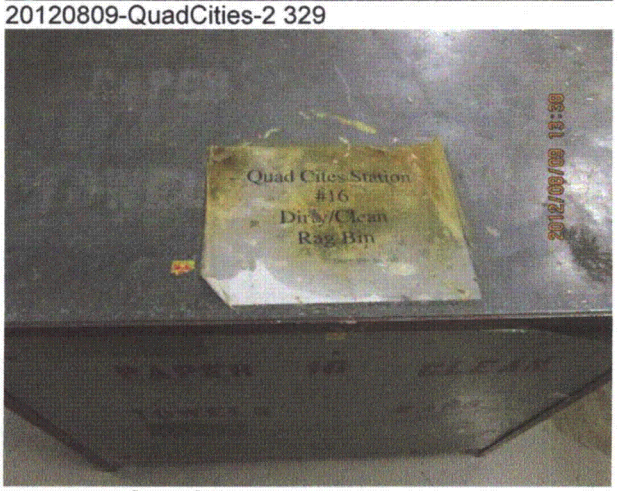

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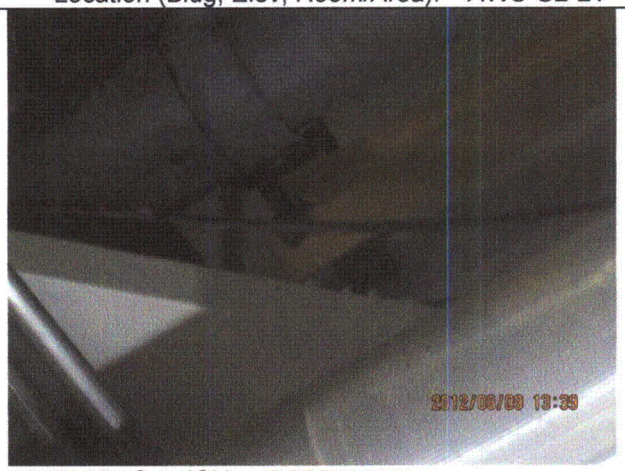
Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-21



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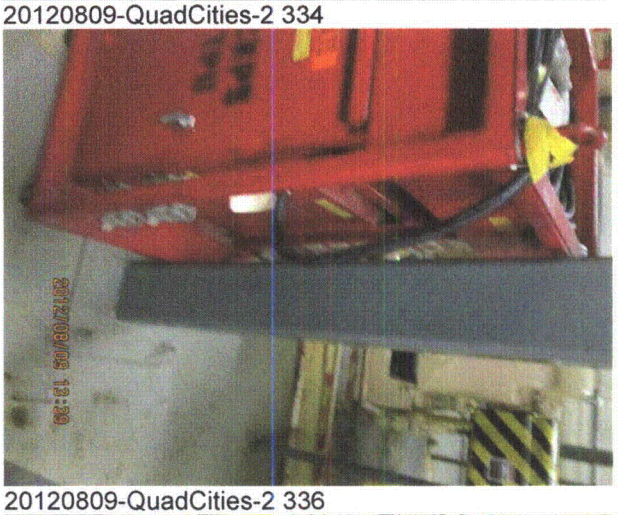

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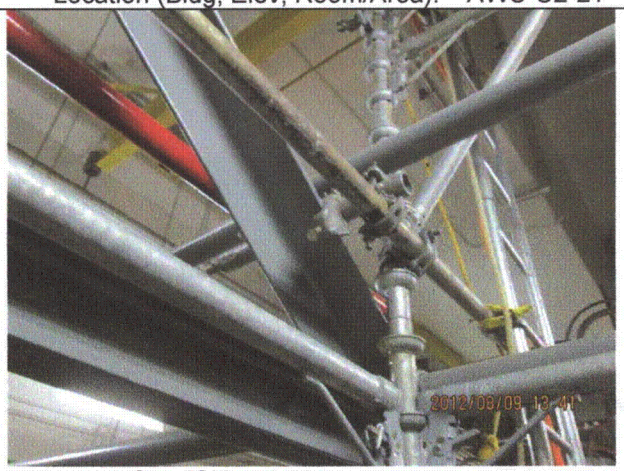
Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-21



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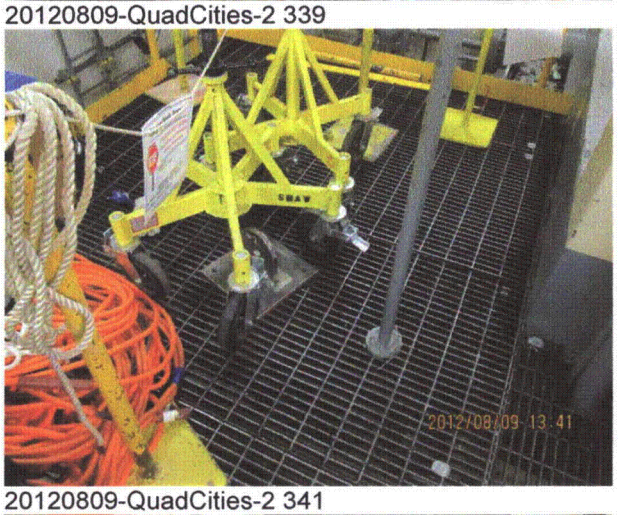

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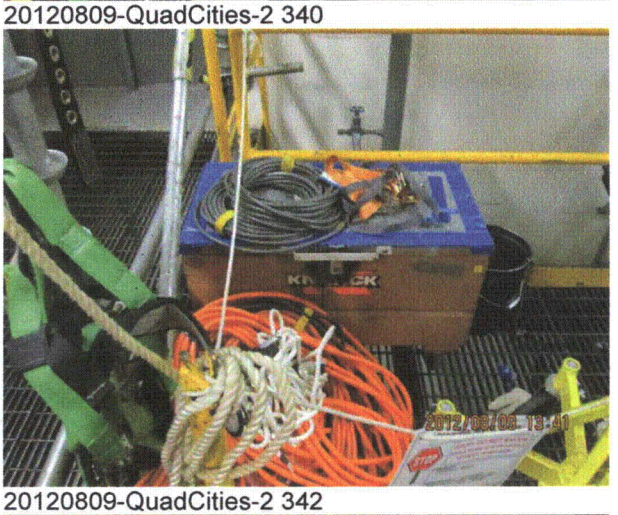

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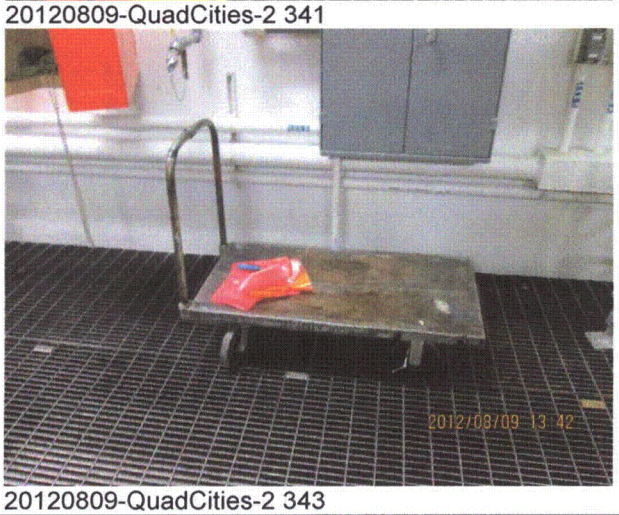

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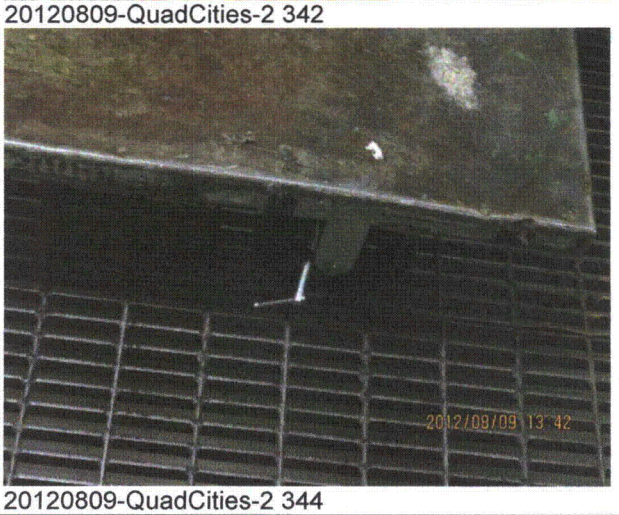
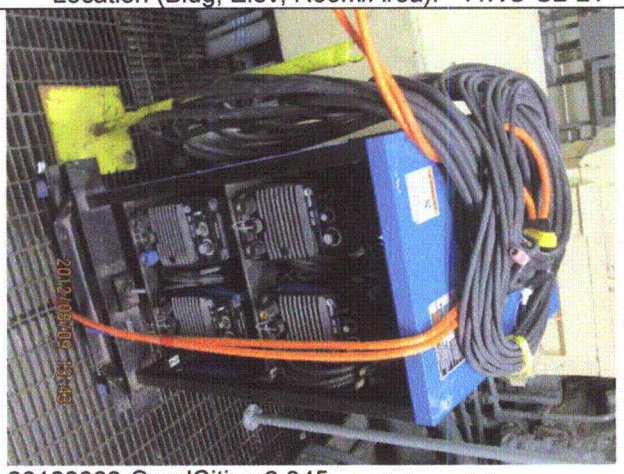


20120809-QuadCities-2 344

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-21



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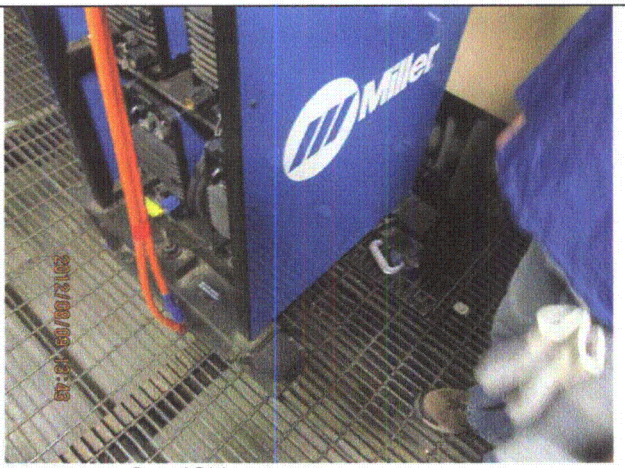

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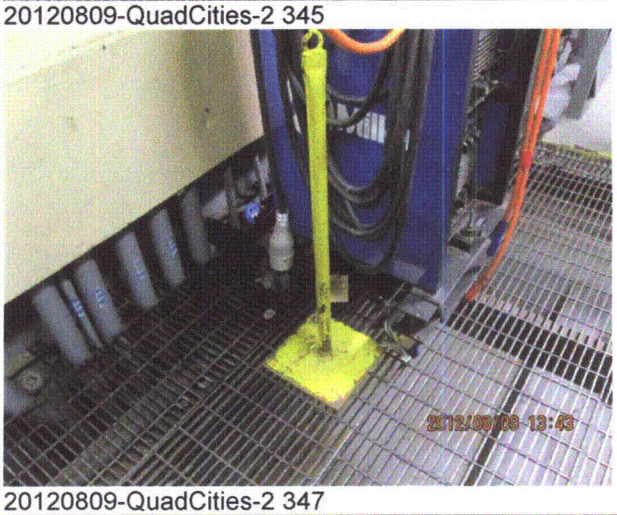


20120809-QuadCities-2 347

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-22

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. 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.

1.	Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?	Yes
2.	Does anchorage of equipment in the area appear to be free of significant degraded conditions?	Yes
3.	Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?	Yes
4.	Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?	Yes
5.	Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? *Room heater and associated piping well-supported and judged to be acceptable.*	Yes
6.	Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area?	Yes
7.	Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)?	Yes

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-22

8.	Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?	Yes

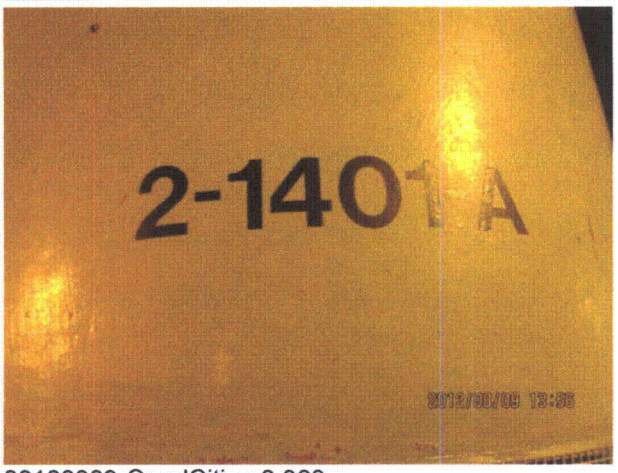
Comments

Seismic Walkdown Team: J. Griffith & M. Wodarcyk - 8/9/2012

Evaluated by: James Griffith Date: 10/4/2012

Michael Wodarcyk 10/4/2012

Photos



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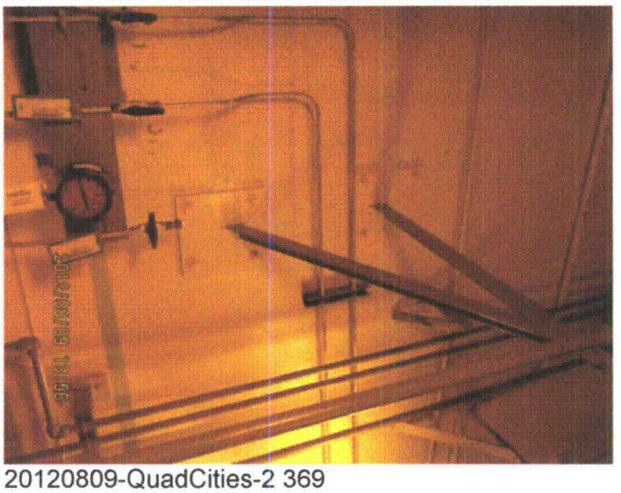
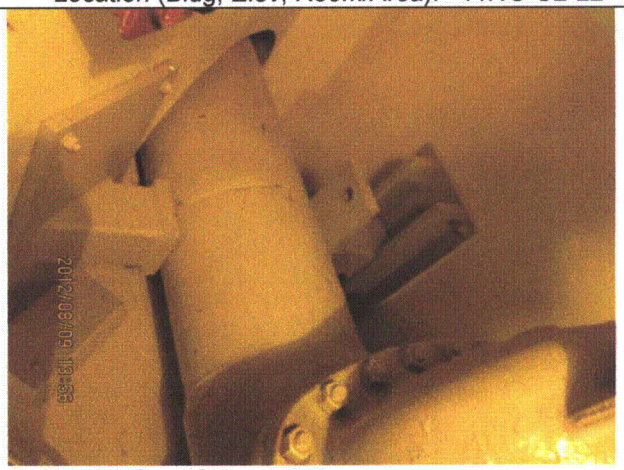


20120809-QuadCities-2 369

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-22



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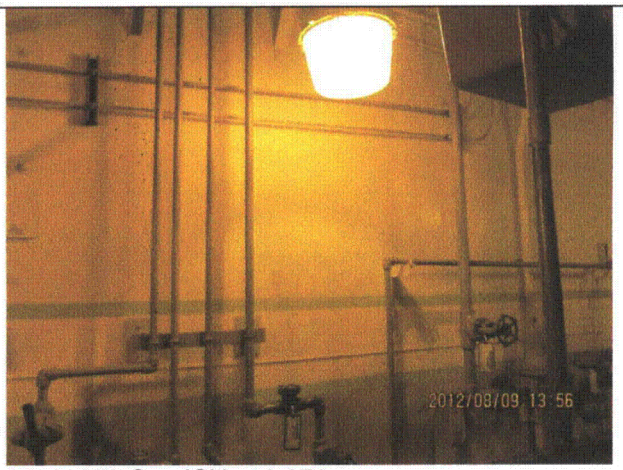

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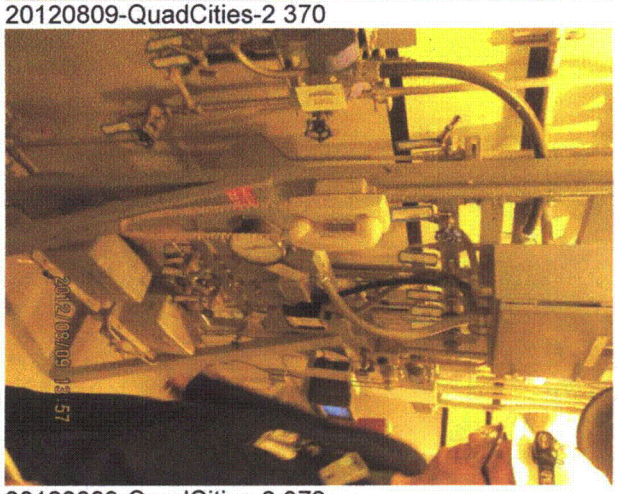

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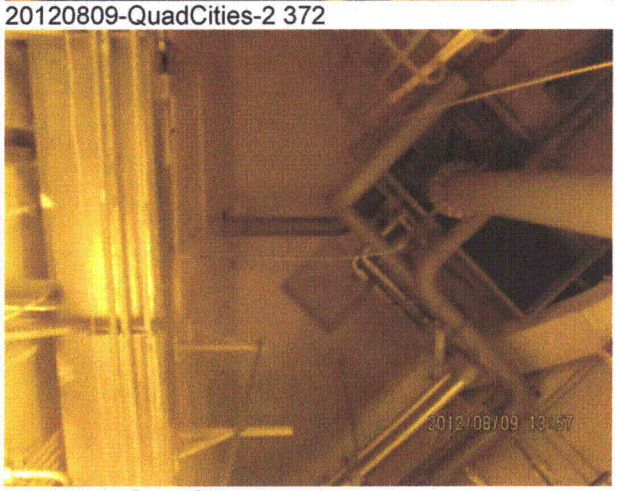

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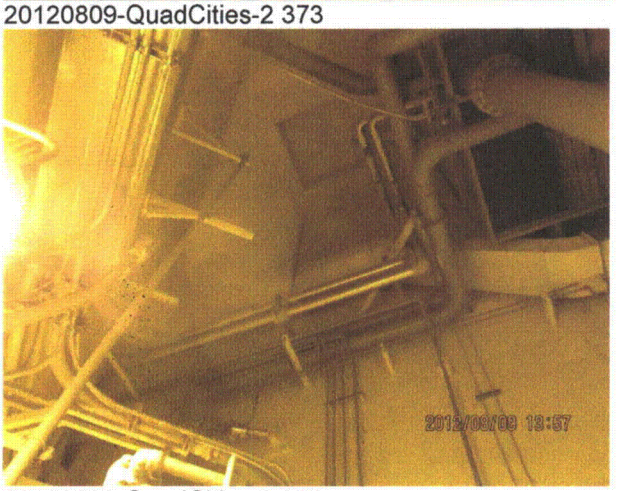

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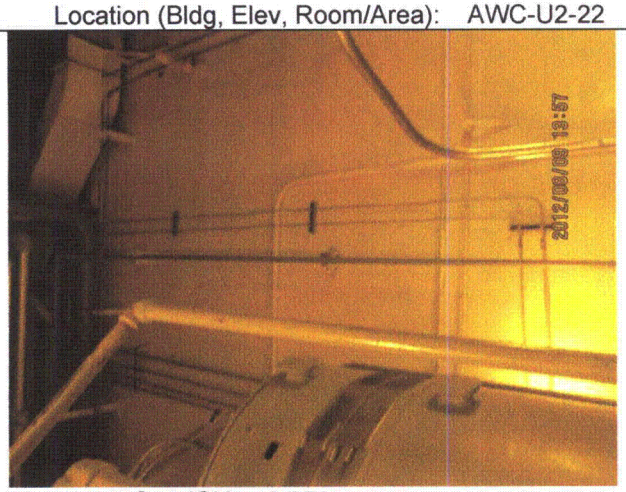
Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-22



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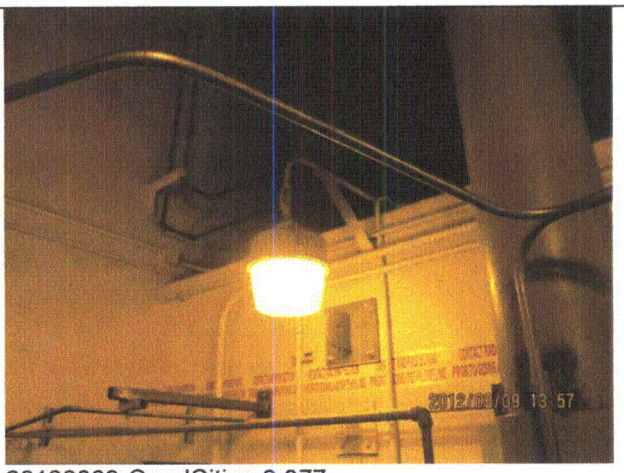

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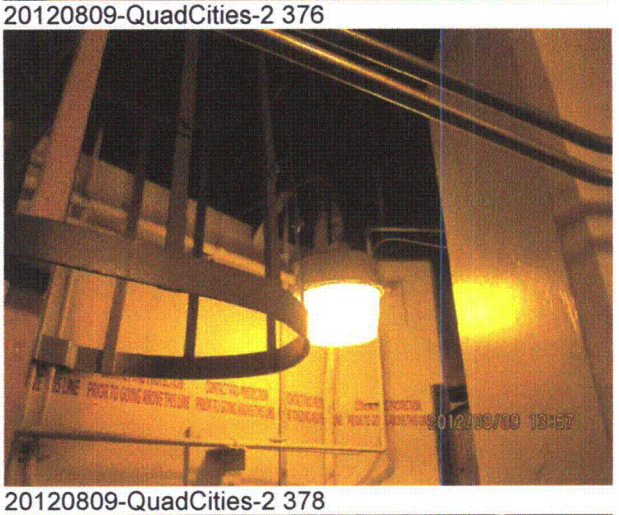

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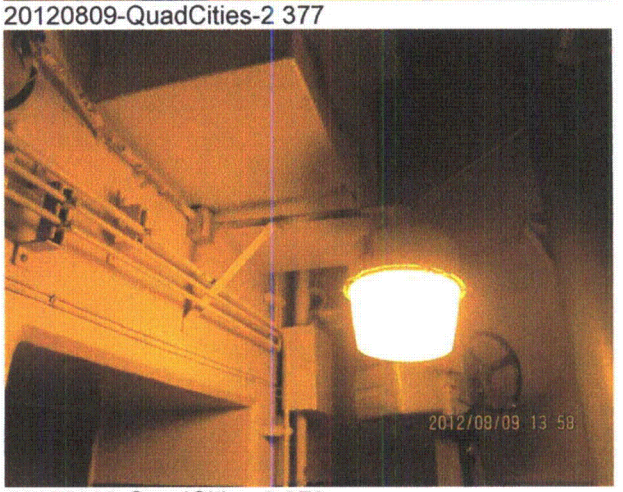

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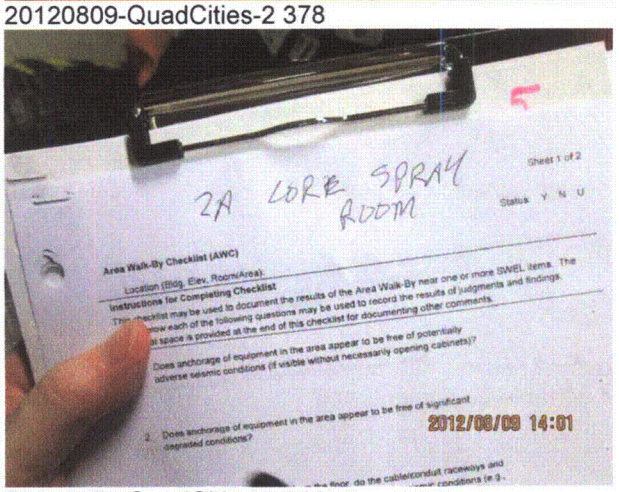


20120809-QuadCities-2 380

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-23

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. 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.

1.	Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?	Yes
2.	Does anchorage of equipment in the area appear to be free of significant degraded conditions? *Minor corrosion and minor grout pad cracks judged to be acceptable.*	Yes
3.	Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? *Close proximity between conduit supports and robust valve body. Judged to be acceptable.* *Well-supported pipe sits on base plate near anchors. Judged to be acceptable.*	Yes
4.	Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? *Overhead light fixtures judged to be acceptable.*	Yes
5.	Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?	Yes
6.	Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area?	Yes
7.	Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)?	Yes

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-23

8.	Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?	Yes

Comments

Seismic Walkdown Team: J. Griffith & M. Wodarcyk - 8/10/2012

Evaluated by: James Griffith Date: 10/4/2012

Michael Wodarcyk 10/4/2012

Photos

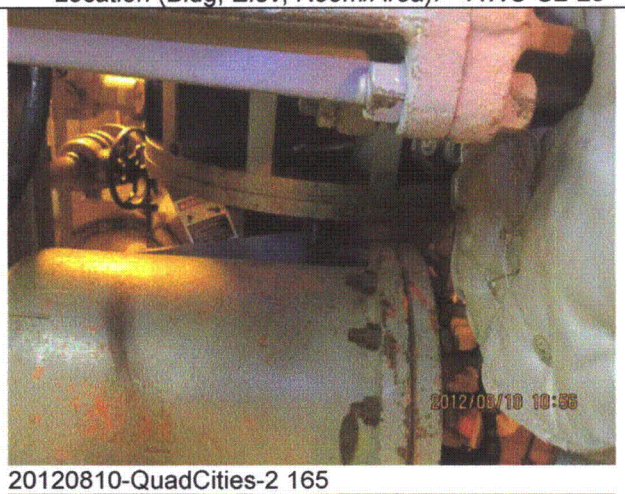
20120810-QuadCities-2 163

20120810-QuadCities-2 164

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-23



20120810-QuadCities-2 165

20120810-QuadCities-2 166

20120810-QuadCities-2 167

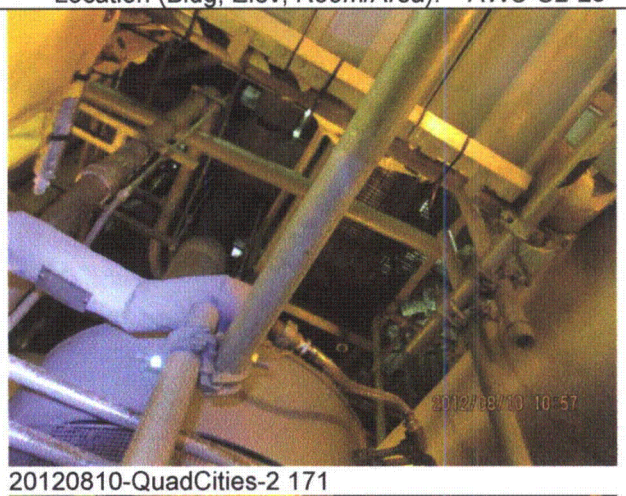
20120810-QuadCities-2 168

20120810-QuadCities-2 169

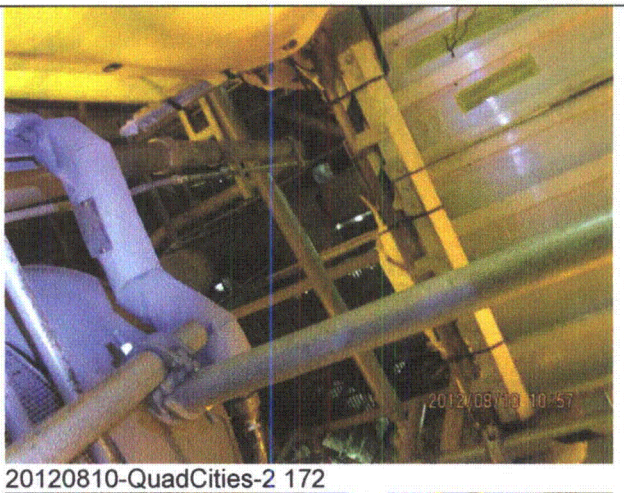
Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-23



20120810-QuadCities-2 171

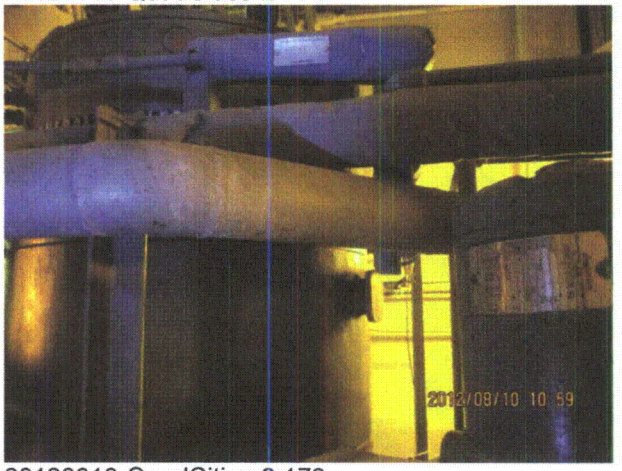


20120810-QuadCities-2 172

20120810-QuadCities-2 173

20120810-QuadCities-2 174

20120810-QuadCities-2 175

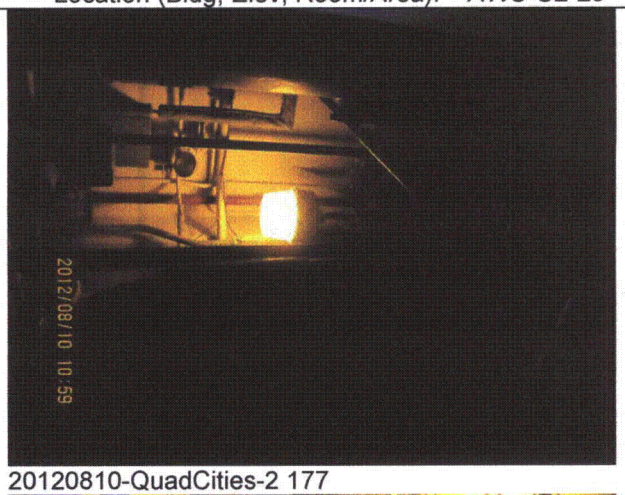


20120810-QuadCities-2 176

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-23

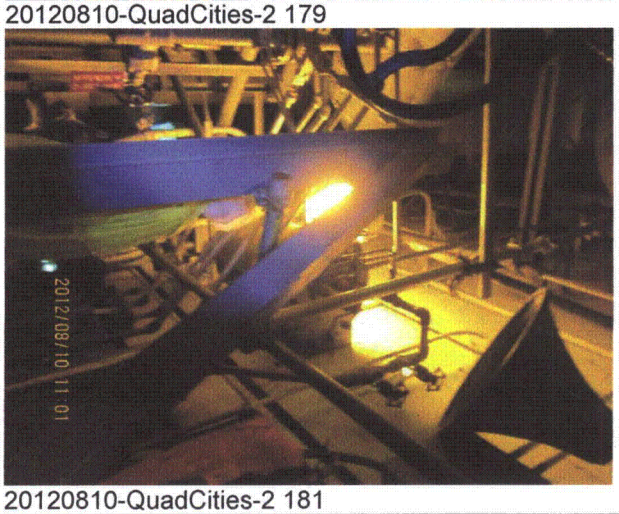


20120810-QuadCities-2 177

20120810-QuadCities-2 178

20120810-QuadCities-2 179

20120810-QuadCities-2 180



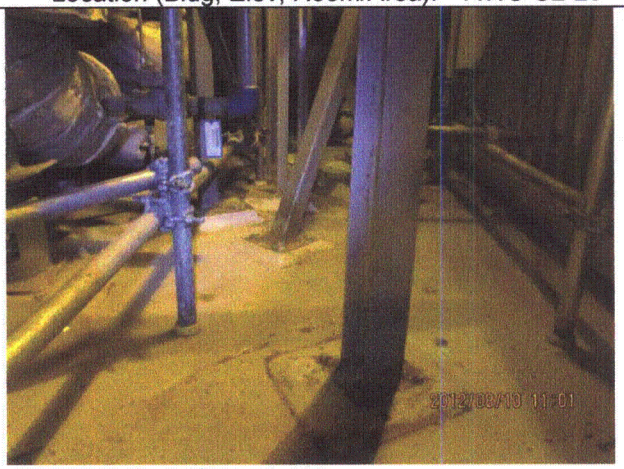
20120810-QuadCities-2 181

20120810-QuadCities-2 182

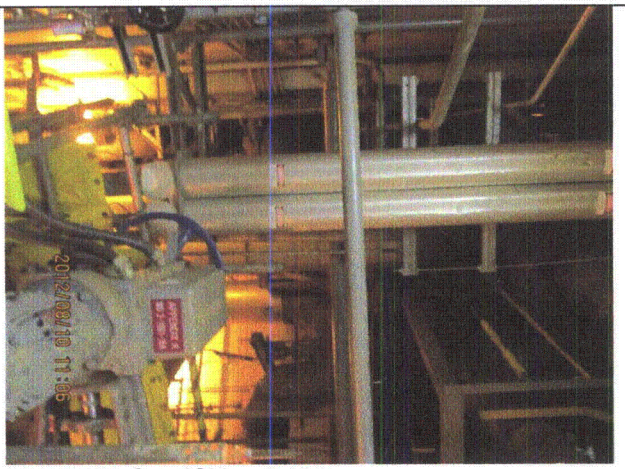
Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-23



20120810-QuadCities-2 183



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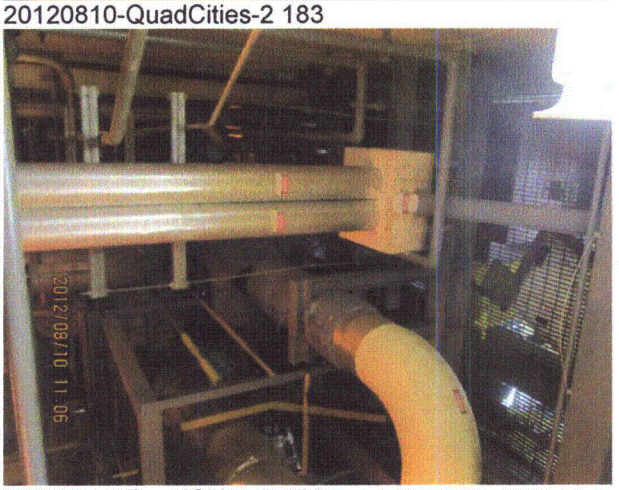

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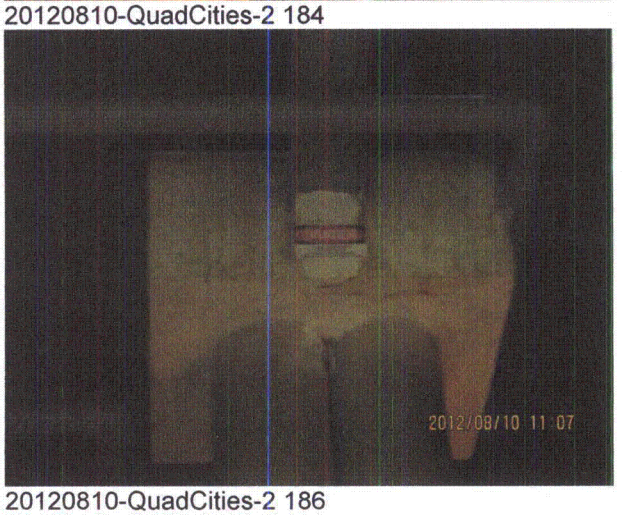
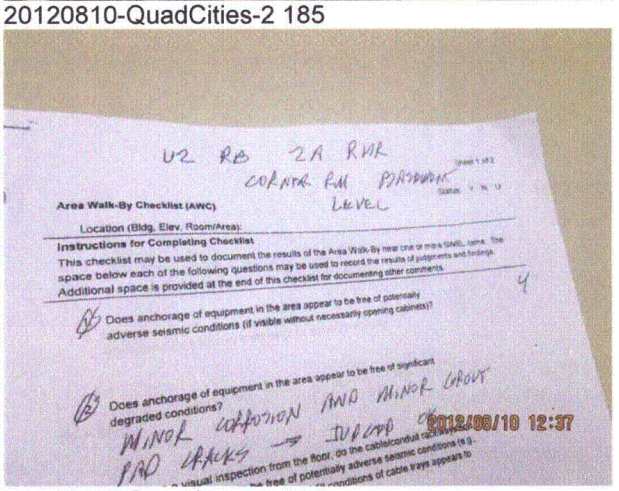


20120810-QuadCities-2 186


U2 RB 2A RHR CONTR RM BOTTOM LEVEL

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area):

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. 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.

Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?

Does anchorage of equipment in the area appear to be free of significant degraded conditions?

MINOR CORROSION AND MINOR GROUT PAD CRACKS

2012/08/10 12:37

20120810-QuadCities-2 234

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-24

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. 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.

1.	Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?	Yes
2.	Does anchorage of equipment in the area appear to be free of significant degraded conditions?	Yes
3.	Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?	Yes
4.	Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? *Overhead light fixtures judged to be acceptable.*	Yes
5.	Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?	Yes
6.	Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area?	Yes
7.	Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? *Slug wrench left in area. Not near soft targets, not a concern. See IR 1400948.*	Yes

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-24

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Room cooler outlets (louvers) with bent sheet metal not affecting operation; not a seismic concern.

Minor damage to pipe insulation not a seismic concern.

Chemical deposits on one bolt for valve stem on Valve 2-1001-187A-MO. Bolt not more than surface-corroded; judged to be acceptable.

Comments

Seismic Walkdown Team: J. Griffith & M. Wodarcyk - 8/10/2012

Evaluated by: James Griffith Date: 10/4/2012

Michael Wodarcyk 10/4/2012

Photos

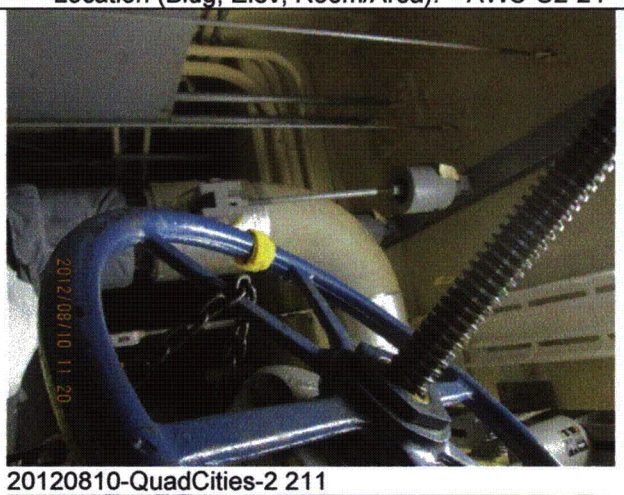
20120810-QuadCities-2 209

20120810-QuadCities-2 210

Status: [Y] N U

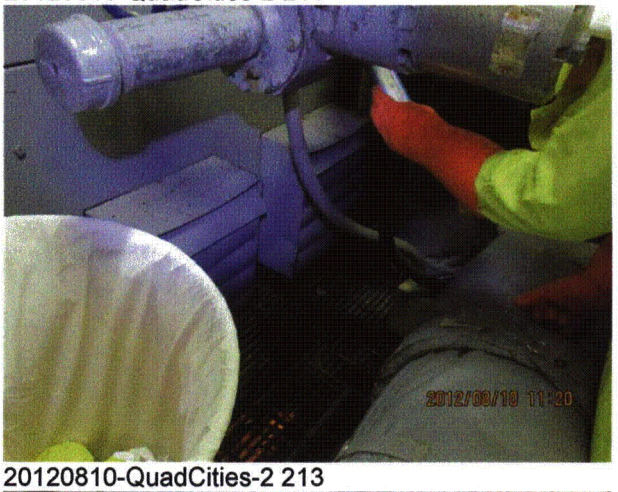
Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-24

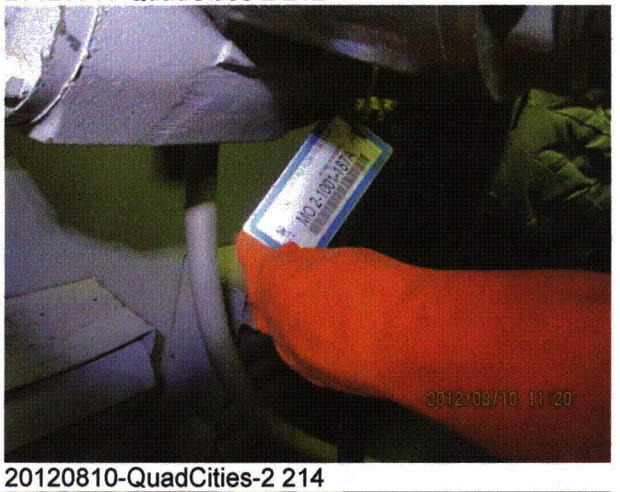


20120810-QuadCities-2 211

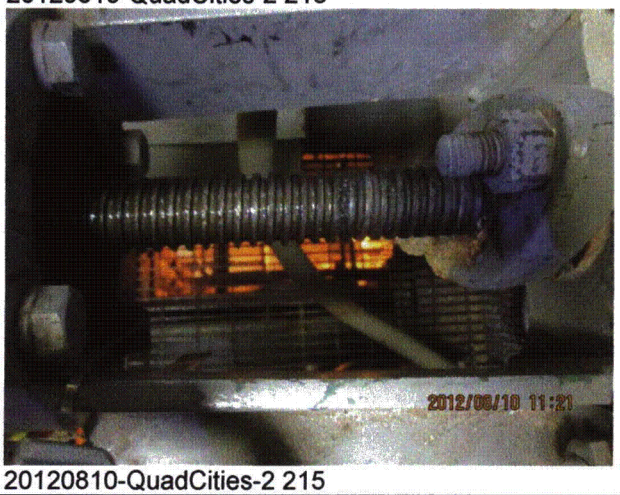
20120810-QuadCities-2 212



20120810-QuadCities-2 213



20120810-QuadCities-2 214



20120810-QuadCities-2 215

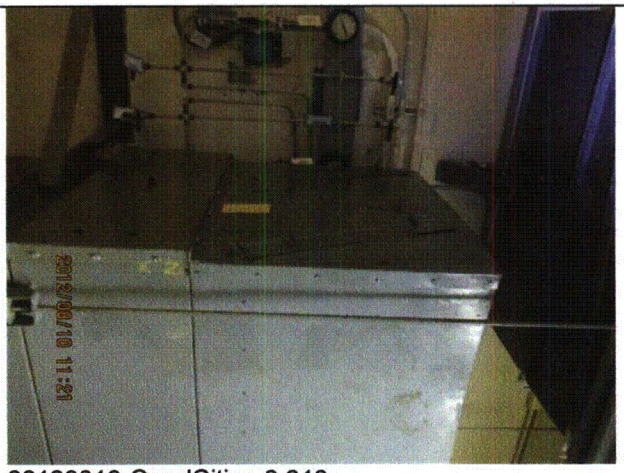
20120810-QuadCities-2 216

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-24

20120810-QuadCities-2 217



20120810-QuadCities-2 218

20120810-QuadCities-2 219

20120810-QuadCities-2 220

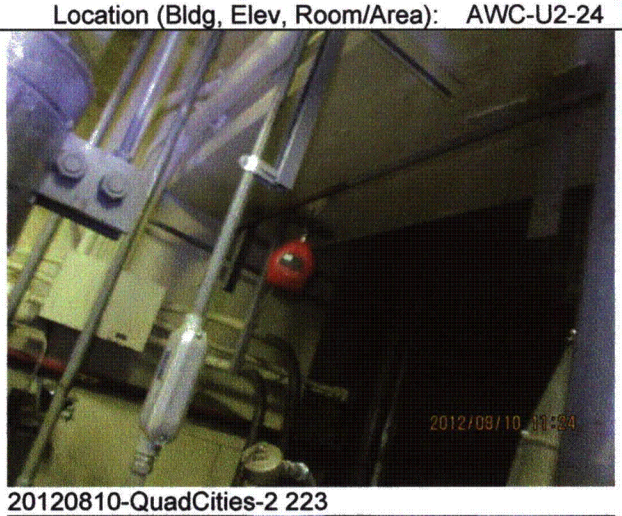
20120810-QuadCities-2 221

20120810-QuadCities-2 222

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-24



20120810-QuadCities-2 223

20120810-QuadCities-2 224

20120810-QuadCities-2 225

20120810-QuadCities-2 226

20120810-QuadCities-2 227

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. 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.

1.	Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?	Yes
2.	Does anchorage of equipment in the area appear to be free of significant degraded conditions?	Yes
3.	Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? *Missing bolt for conduit clamp at unistrut support. Conduit support sits on torus. Adjacent span to next acceptable support is relatively short in each direction. Judged to be acceptable.*	Yes
4.	Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?	Yes
5.	Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?	Yes
6.	Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area?	Yes
7.	Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)?	Yes

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes
   Minor tubing bends at various locations. None severe, all judged to be acceptable.

Comments

Seismic Walkdown Team: J. Griffith & M. Wodarcyk - 8/10/2012

Evaluated by: James Griffith Date: 10/4/2012

Michael Wodarcyk 10/4/2012

Photos

20120810-QuadCities-2 016

20120810-QuadCities-2 017

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25

20120810-QuadCities-2 018

20120810-QuadCities-2 019

20120810-QuadCities-2 020

20120810-QuadCities-2 021

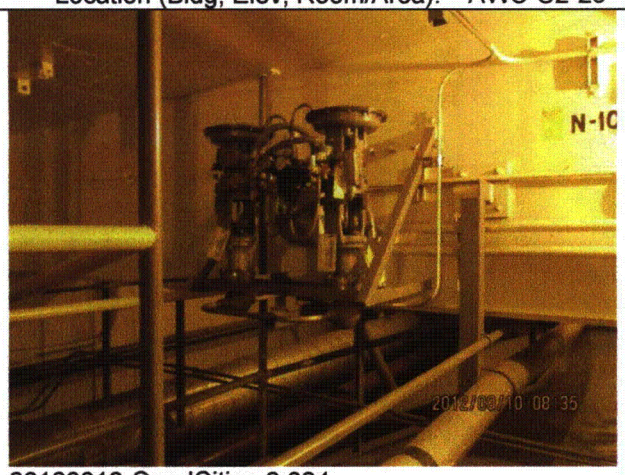
20120810-QuadCities-2 022

20120810-QuadCities-2 023

Status: [Y] N U

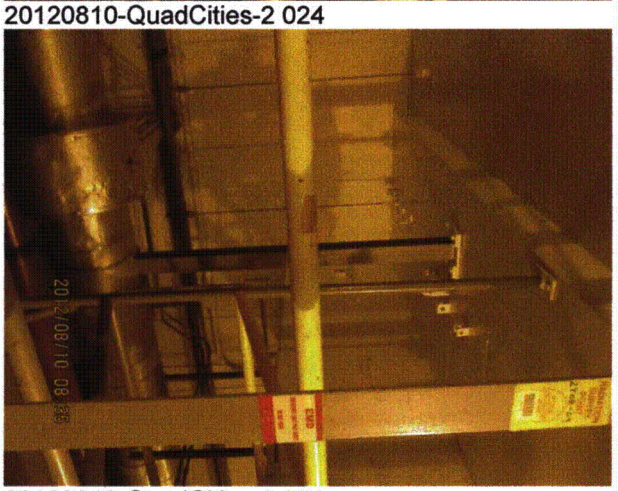
Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25



20120810-QuadCities-2 024

20120810-QuadCities-2 025



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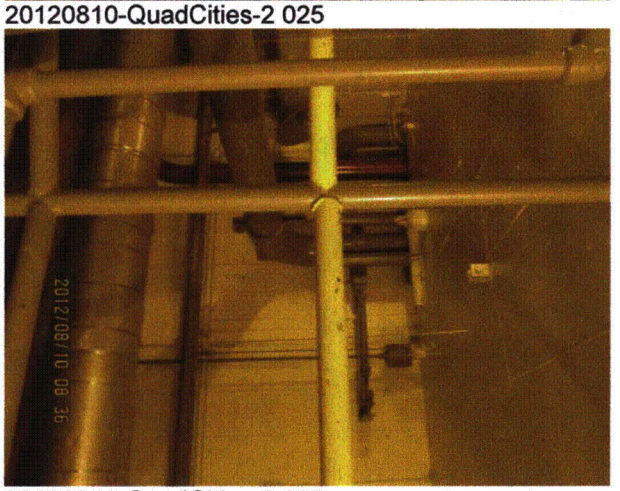

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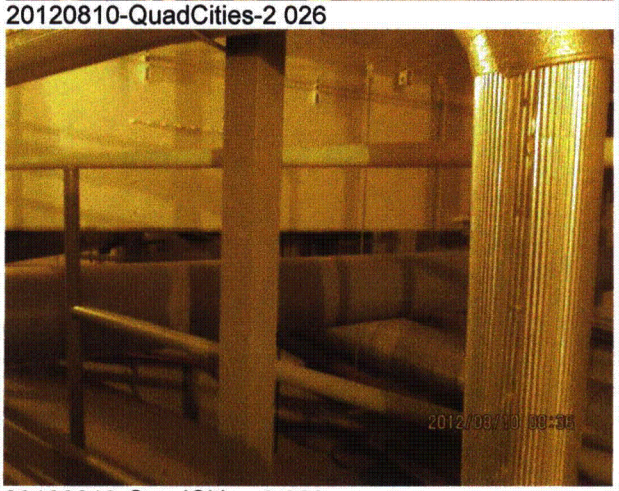


20120810-QuadCities-2 028

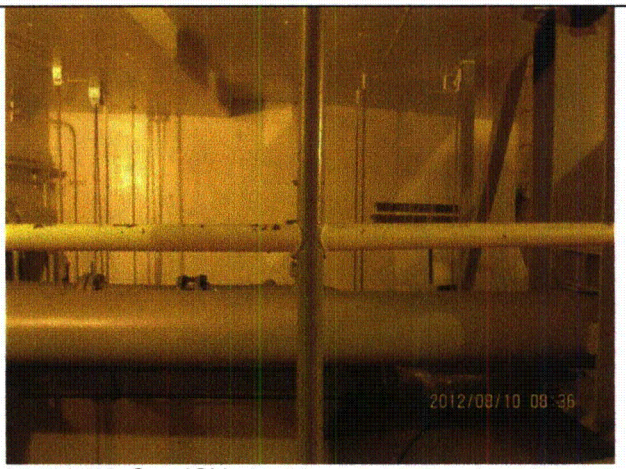
20120810-QuadCities-2 029

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25

20120810-QuadCities-2 030



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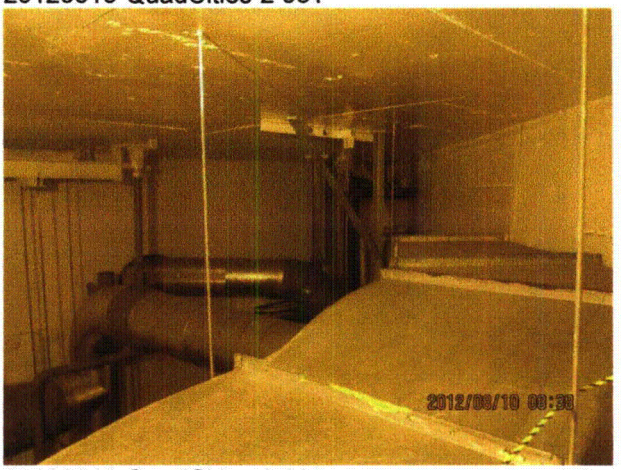
20120810-QuadCities-2 032



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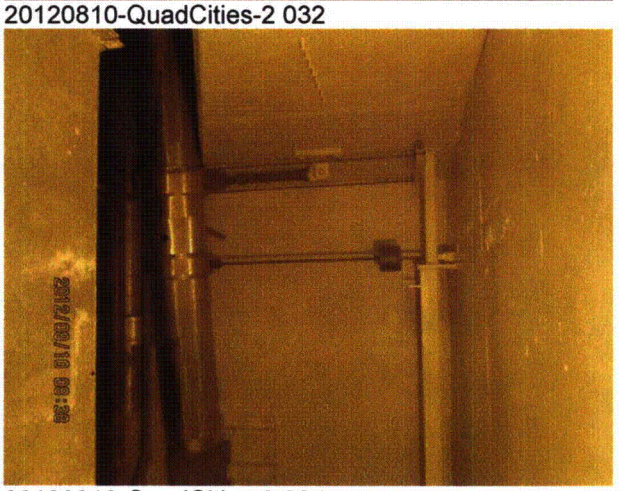

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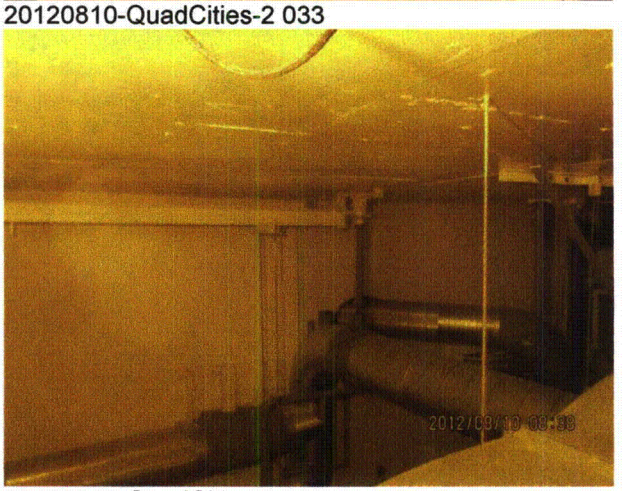


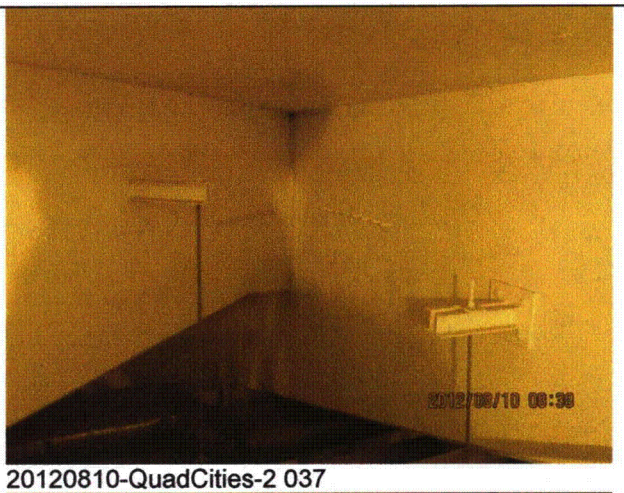
20120810-QuadCities-2 035

Status: [Y] N U

Area Walk-By Checklist (AWC)

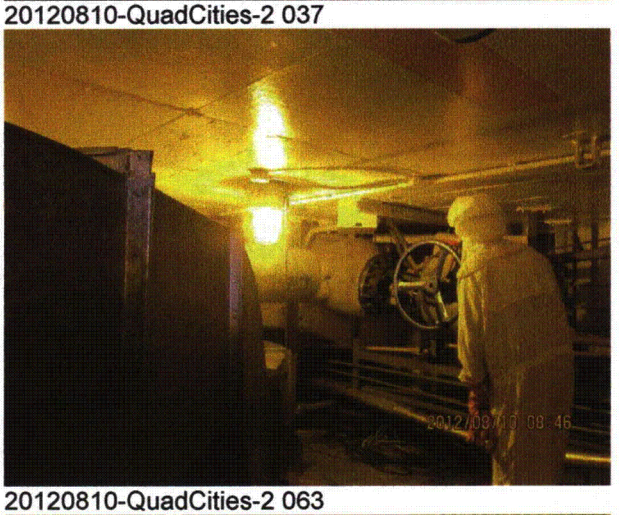
Location (Bldg, Elev, Room/Area): AWC-U2-25

20120810-QuadCities-2 036



20120810-QuadCities-2 037

20120810-QuadCities-2 062



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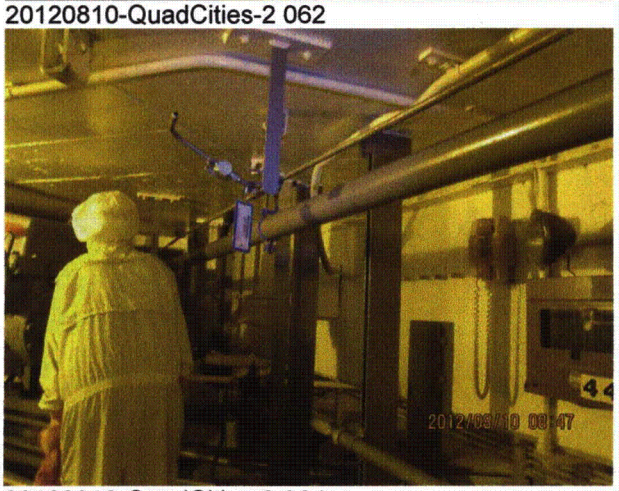

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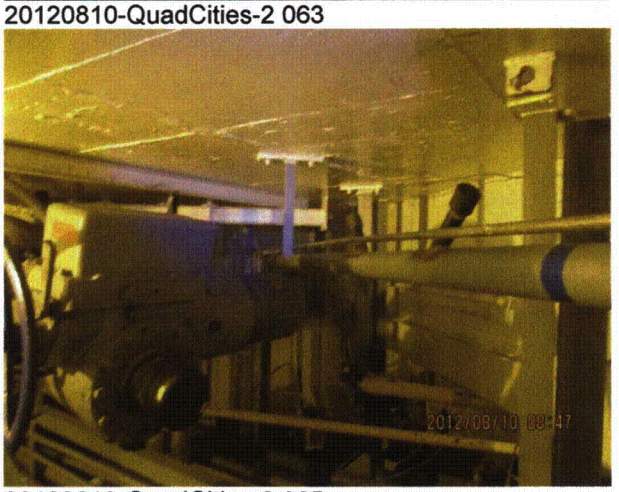


20120810-QuadCities-2 065

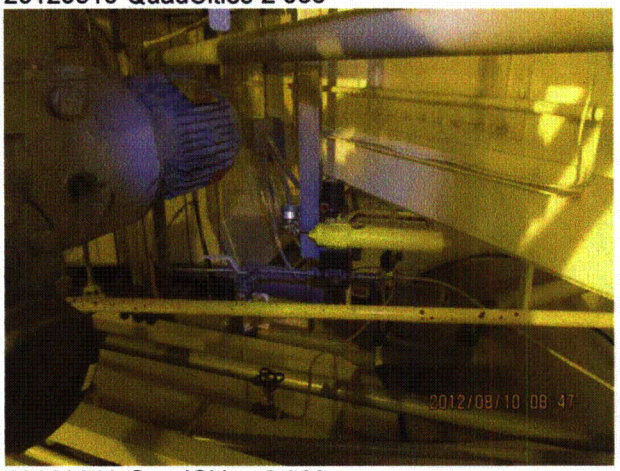
Status: [Y] N U

Area Walk-By Checklist (AWC)

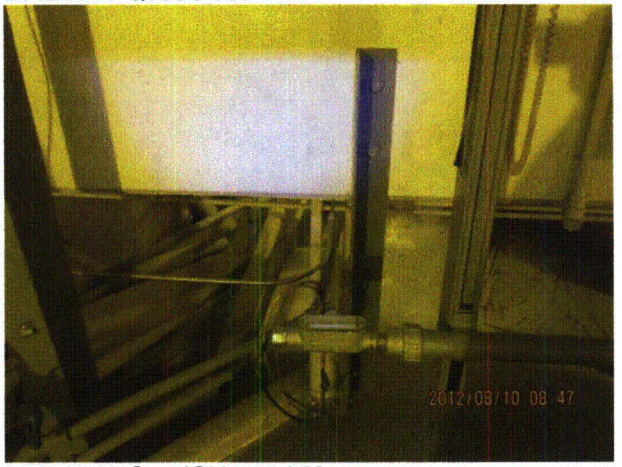
Location (Bldg, Elev, Room/Area): AWC-U2-25

20120810-QuadCities-2 066

20120810-QuadCities-2 067



20120810-QuadCities-2 068



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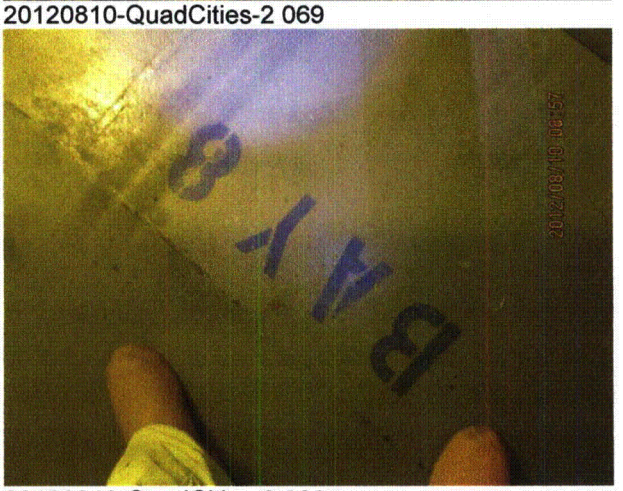
20120810-QuadCities-2 070



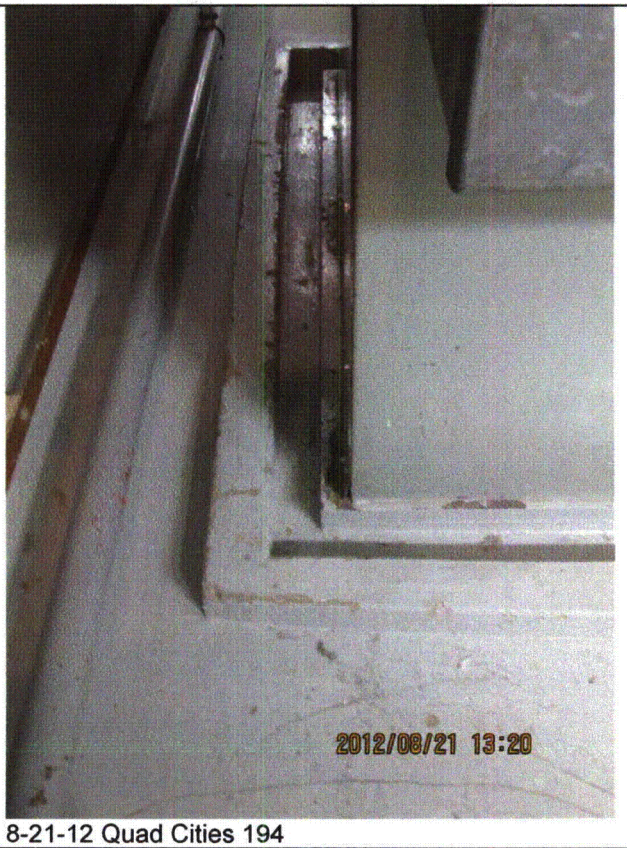
20120810-QuadCities-2 086

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-18

8-21-12 Quad Cities 193

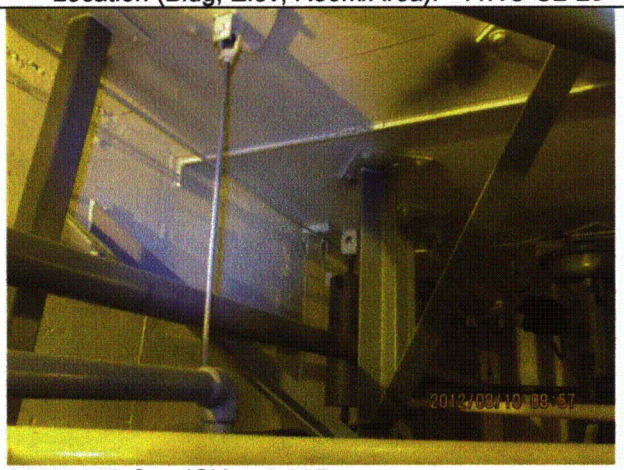


8-21-12 Quad Cities 194

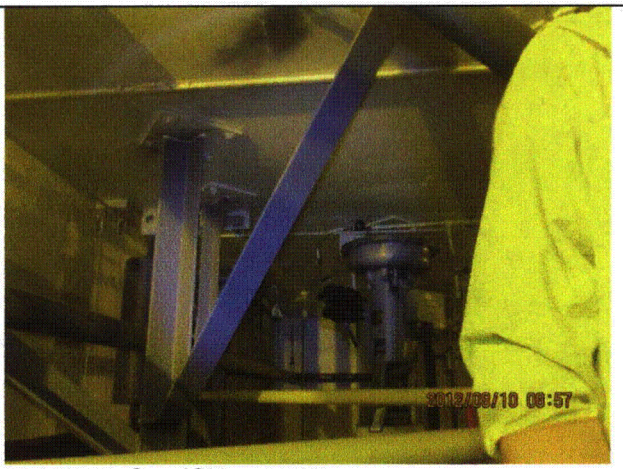
Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25



20120810-QuadCities-2 087



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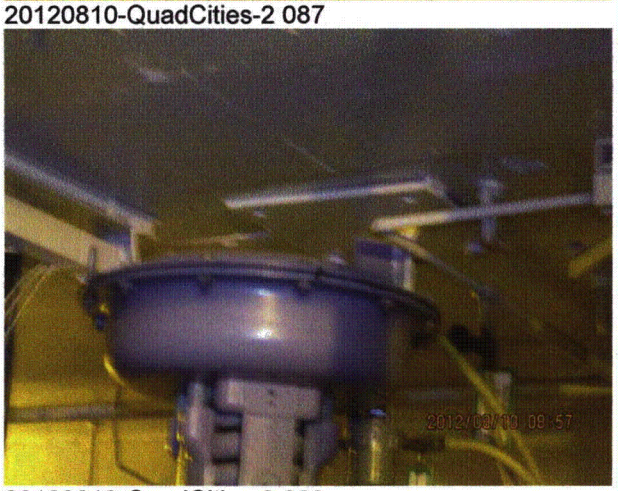

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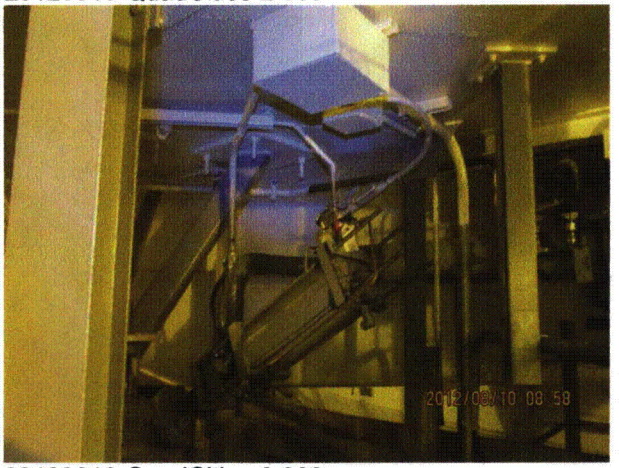
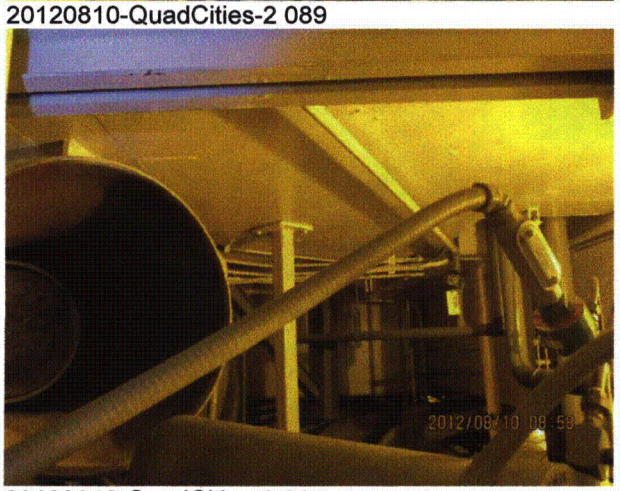


20120810-QuadCities-2 090



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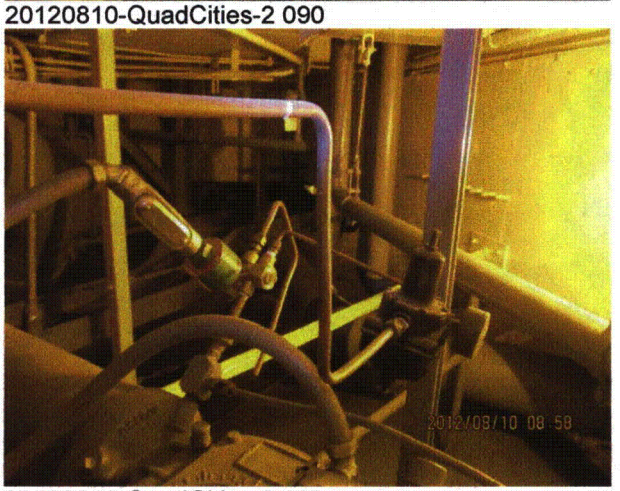
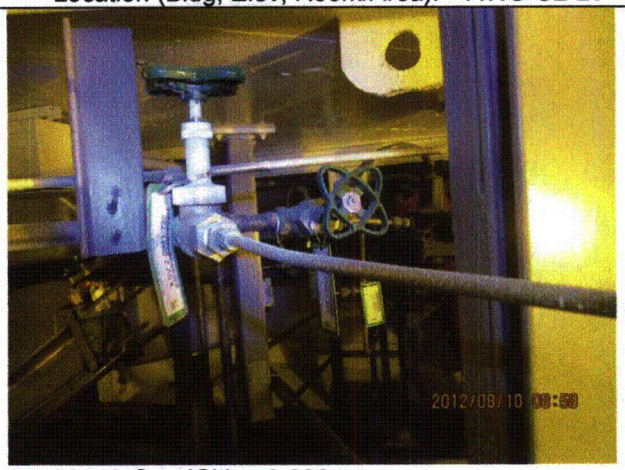


20120810-QuadCities-2 092

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25



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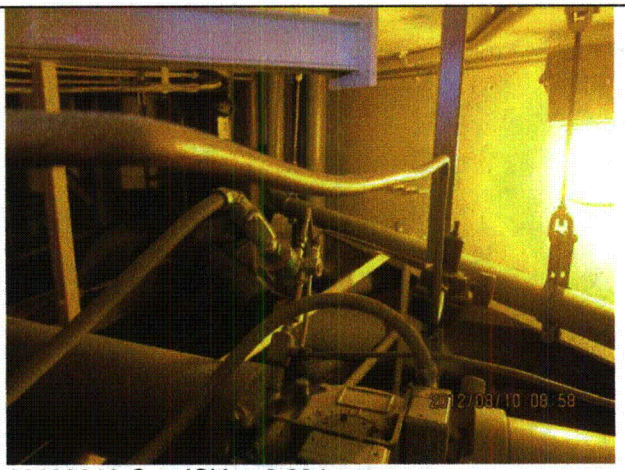

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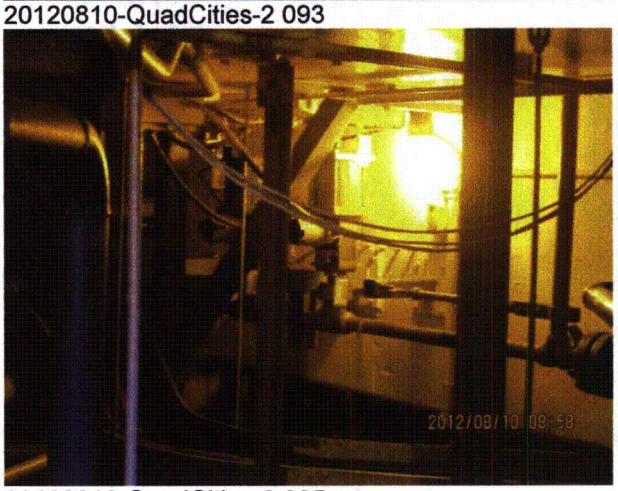

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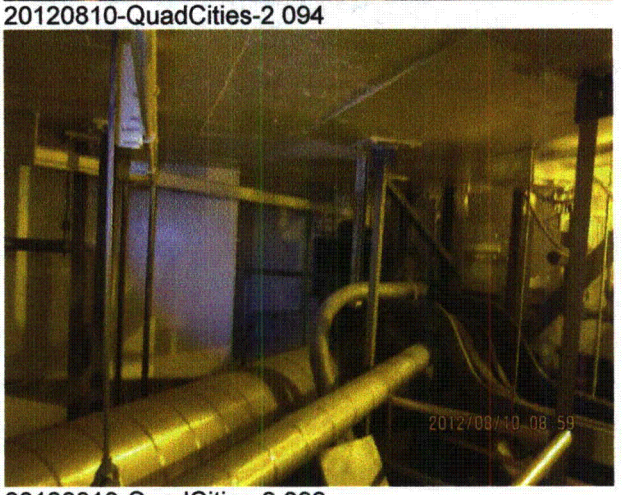

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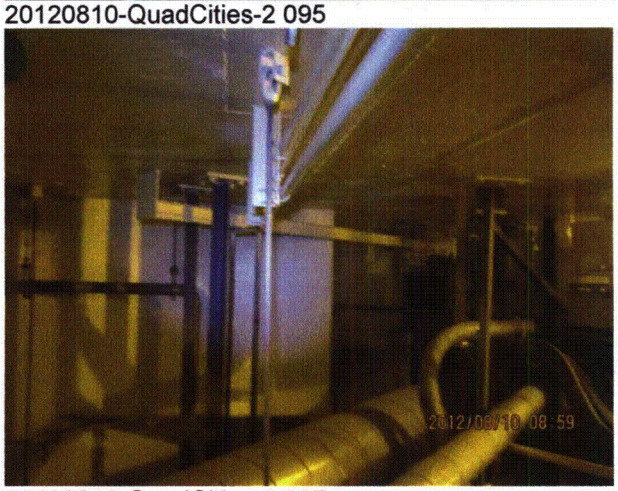

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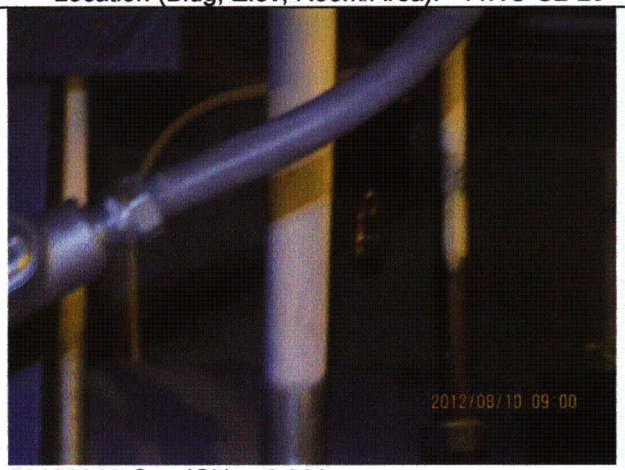
Status: [Y] N U

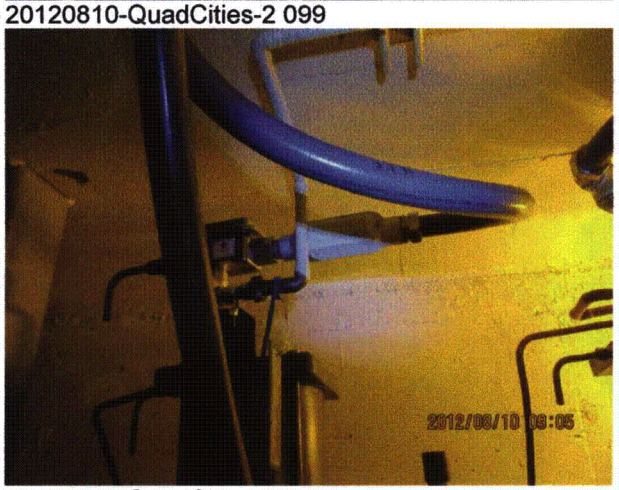
Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25



20120810-QuadCities-2 099

20120810-QuadCities-2 113



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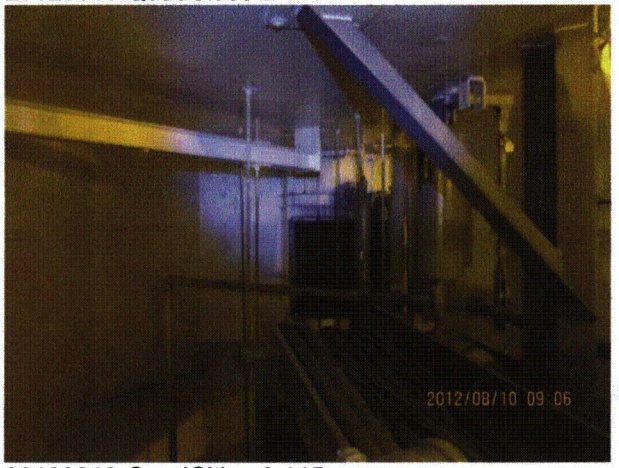

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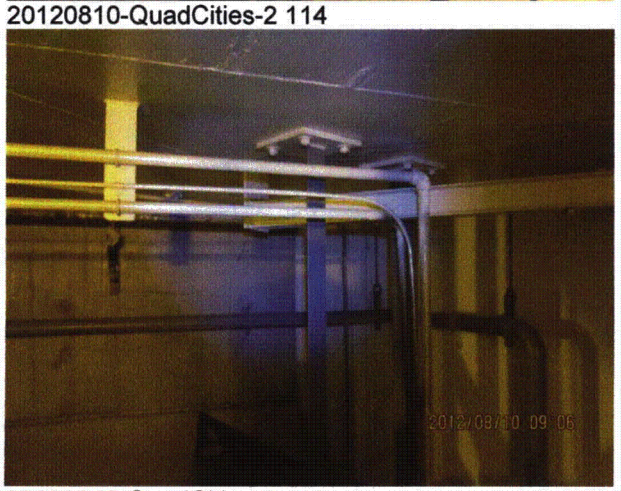

20120810-QuadCities-2 116

20120810-QuadCities-2 117

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25

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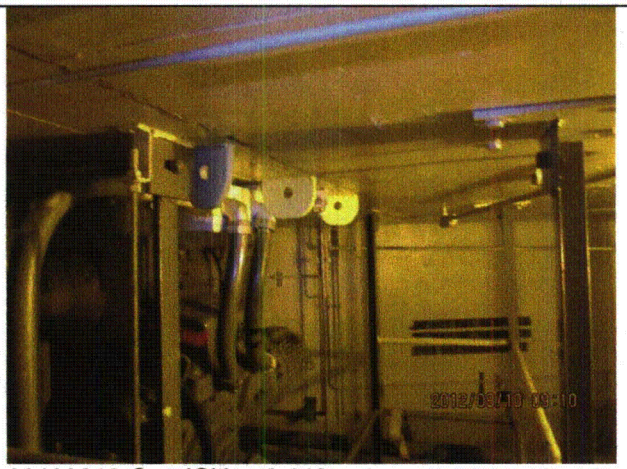

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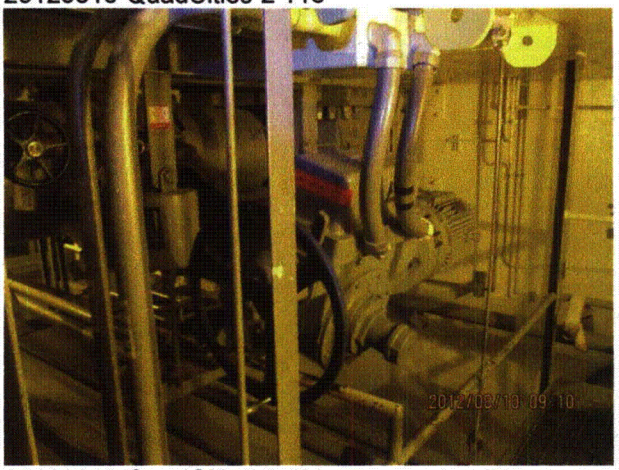

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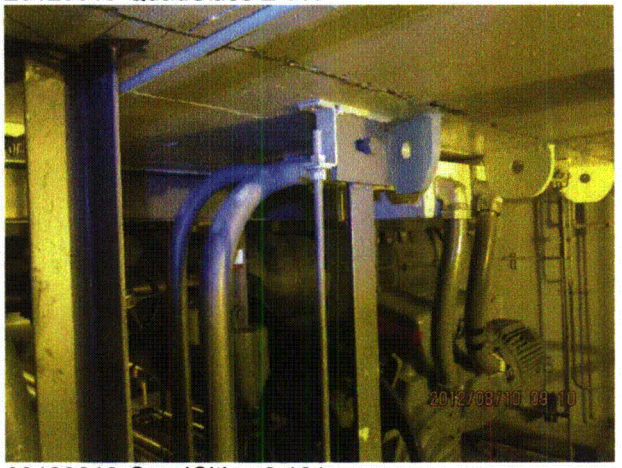

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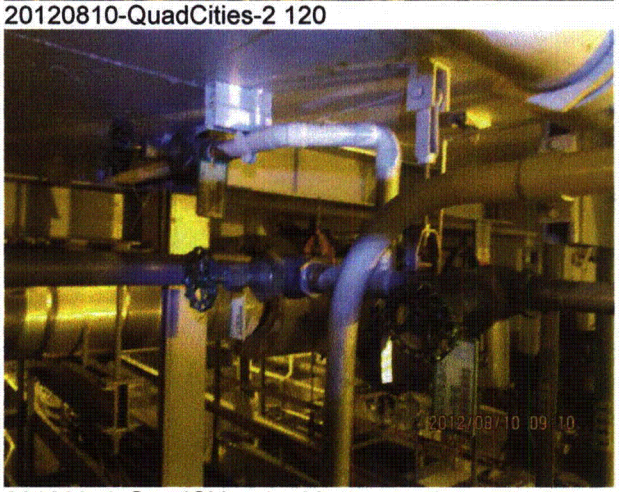

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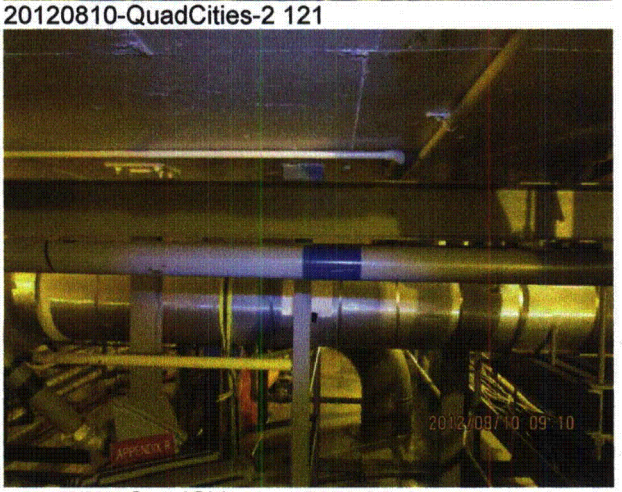

20120810-QuadCities-2 123

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Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25

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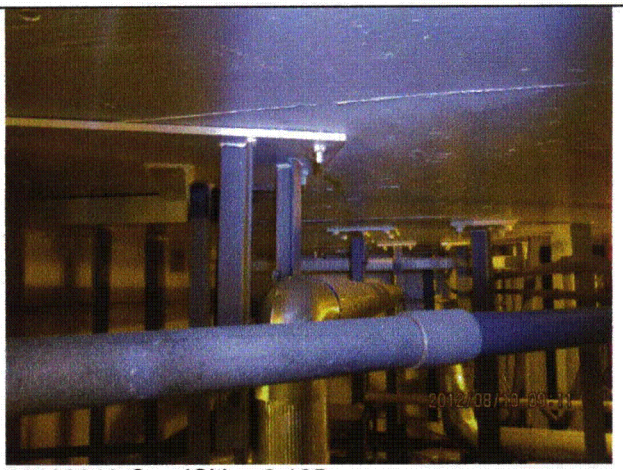

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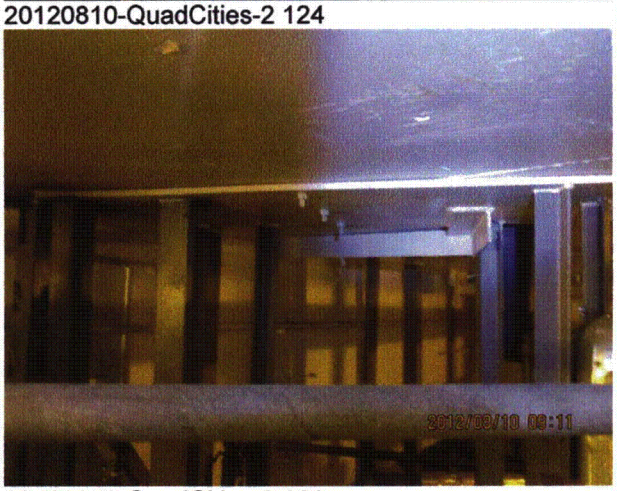

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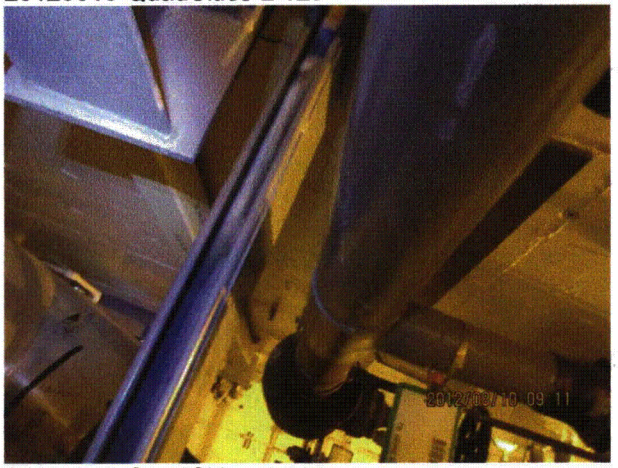

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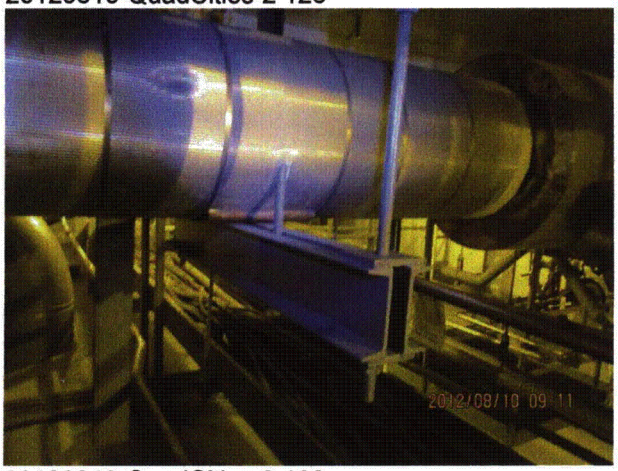

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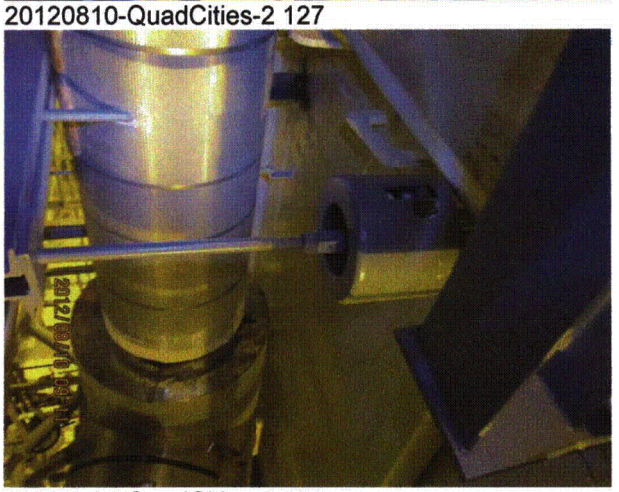

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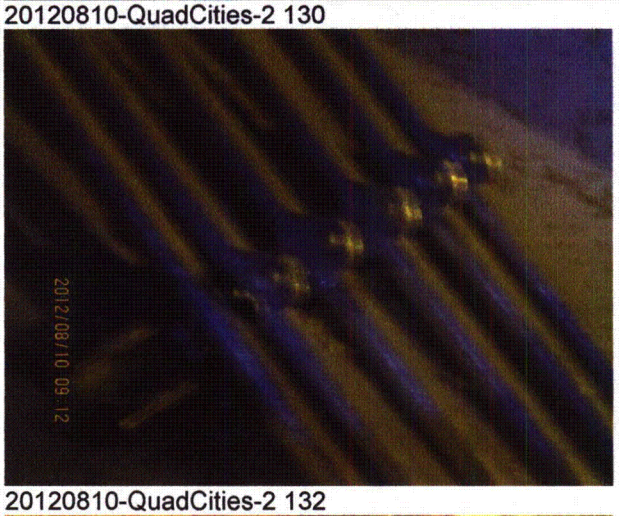
Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25

20120810-QuadCities-2 130

20120810-QuadCities-2 131



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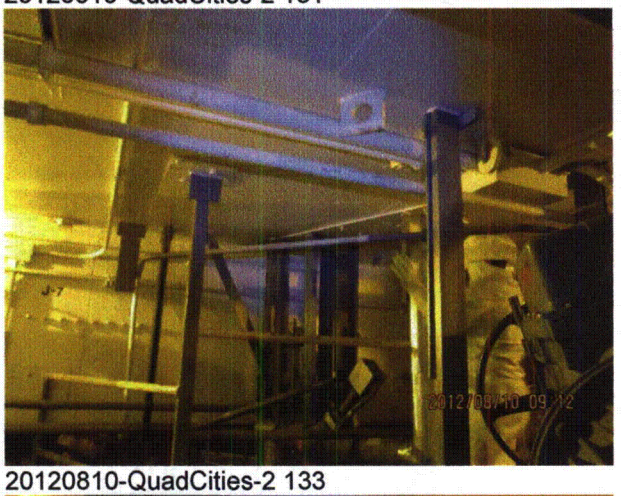

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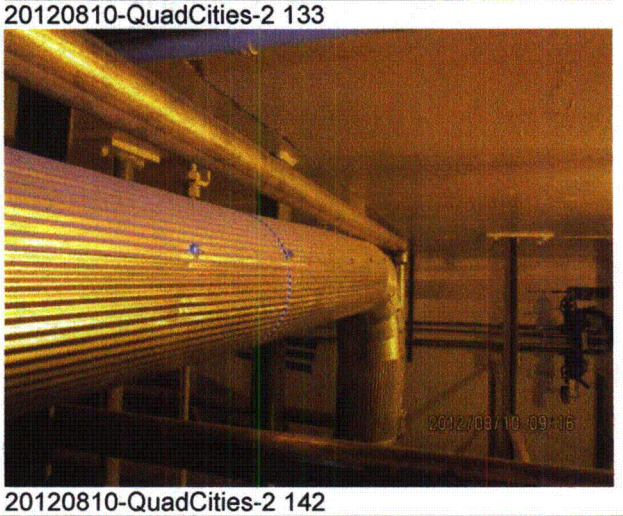

20120810-QuadCities-2 142

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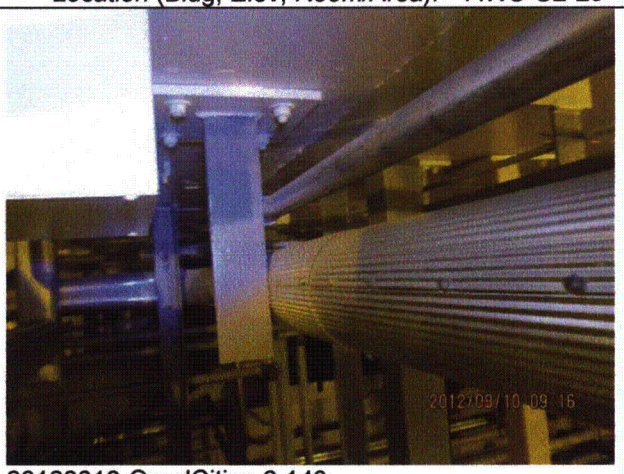
Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25



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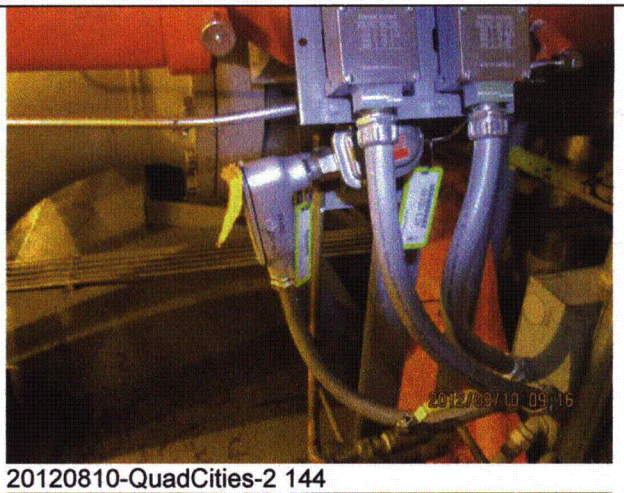

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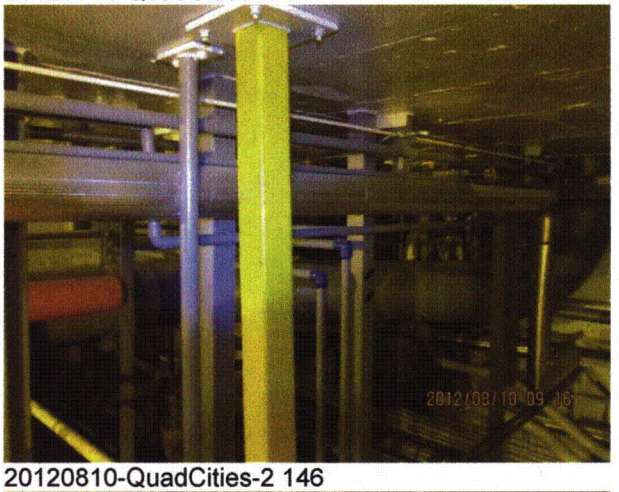

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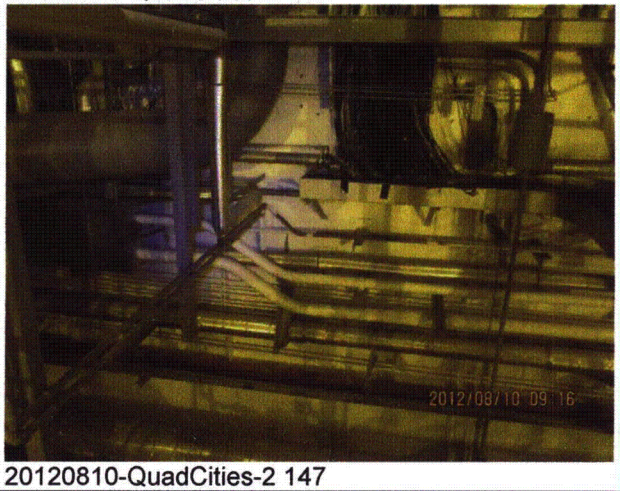

20120810-QuadCities-2 147

20120810-QuadCities-2 148

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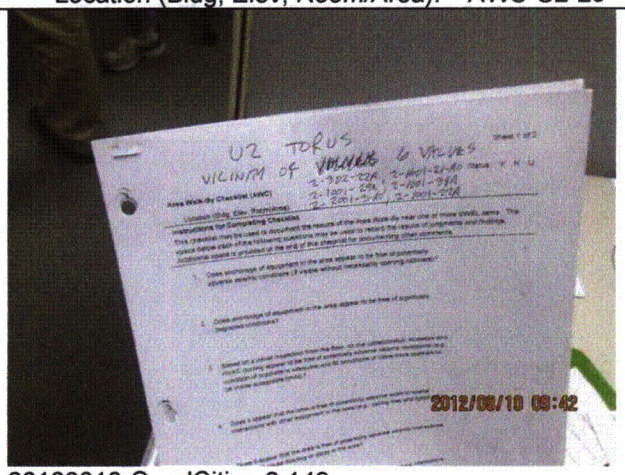
Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-25



20120810-QuadCities-2 149

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-26

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. 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.

1.	Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?	Yes
2.	Does anchorage of equipment in the area appear to be free of significant degraded conditions?	Yes
3.	Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? *Sheet metal ceiling inside cabinet and drop-panel ceiling outside cabinet prevent overhead access/visibility.*	Yes
4.	Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?	Yes
5.	Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?	Yes
6.	Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area?	Yes

Status: [Y] N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): AWC-U2-26

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
   Recorder on top of cart against frame of 902-36. See IR 1399135.

   MSA SCBA breathing packs on wall-mounted rack with lip to prevent sliding. Packs not strapped to rack. Per MA-QC-716-026-1001 (Seismic Housekeeping), the critical aspect ratio (height to least width) is 2.5 to 1 for overturning when the object is located on a fixed item. The shelf is considered a fixed item based on the mounting of the shelf to the structure. These cases have an aspect ratio less that 2.5 to 1, therefore overturning is not of concern. See IR 1398527.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes
   Plastic wireways have some bent fingers. Some covers bent away for cable access, Judged to be acceptable.

Comments

Seismic Walkdown Team: J. Griffith & M. Wodarcyk - 8/7/2012

No photos permitted per Operations.

Evaluated by: James Griffith Date: 10/4/2012

Michael Wodarcyk 10/4/2012

Photos

E

Plan for Future Seismic Walkdown of Inaccessible Equipment

Ten (10) items could not be walked down during the 180-day period following the issuance of the 10CFR50.54(f) letter due to their being inaccessible. The items will be walked down during a unit outage or another time when the equipment is accessible, as appropriate. Table E-1 summarizes the reason(s) each item is inaccessible during normal plant operation and notes the Quad Cities Station Issue Report (IR) that has been written to schedule the Seismic Walkdowns (and Area Walk-bys) for the item.

In addition, certain cabinets require internal inspection for other adverse seismic conditions as summarized in Table E-2. Supplemental internal inspections of these cabinets are required due to clarification informally provided to the industry after the online seismic walkdowns were completed. These supplemental inspections will be completed during a unit outage or time when the equipment is accessible, as appropriate.

Table E-1. Summary of Inaccessible Equipment

Component ID	Description	Reason for Inaccessibility	Action Request ID (IR No.)	Resolution / Status	Milestone Completion
2-0203-0001AH25	VALVE, PNUEMATIC - MAIN STEAM INBOARD ISOLATION VALVE	Located in Drywell	1404685	Tracking	Q2R22
2-0203-1A-1	SOV, FOR MSIV - SOLENOID 1A INBD MSIV AC	Located in Drywell			
2-0203-3A	VALVE, ERV	Located in Drywell			
2-0203-4A	VALVE, SRV	Located in Drywell			
2-0220-45	VALVE, PNUEMATIC - 2A RECIRC LOOP SMPL DOWNSTREAM SV	Located in Drywell			
2-1201-2	VALVE - U-2 CU SYS UPSTREAM INLET VLV (HW)	Located in Regen/Non-Regen HTX Room			
2-1201-5	VALVE - U-2 CU SYS DOWNSTREAM INLET VLV	Located in Regen/Non-Regen HTX Room			
2-1301-16-MO	VLV, ISOLATION, 3 - U-2 MAIN STM TO RCIC UPSTREAM SV	Located in Drywell			
2-1301-17-MO	U-2 MAIN STM TO RCIC DOWNSTREAM SV	Located in MSIV Room (X-area)			
2-2301-8-MO	U2 HPCI DSCH VLV (HW)	Located in MSIV Room (X-area)			

Table E-2. Supplemental Internal Cabinet Inspection

COMPONENT ID	DESCRIPTION	EQUIPMENT CLASS	ACCESSIBLE (Y/N)	IF NOT ACCESSIBLE, WHY?	MILESTONE COMPLETION	TRACKING NUMBER (IR NUMBER)	STATUS/ INSPECTION RESULTS
250VDC MCC 2	MCC	(01) Motor Control Centers	YES	N/A	Q2R22	IR 1422564	tracking
250VDC MCC 2A	MCC	(01) Motor Control Centers	YES	N/A	Q2R22	IR 1422564	tracking
2-7800-28-1B	MCC - MCC 28-1B	(01) Motor Control Centers	YES	N/A	Q2R23	IR 1422564	tracking
2-7800-28-2	MCC - MCC 28-2	(01) Motor Control Centers	YES	N/A	Q2R23	IR 1422564	tracking
2-7800-28295	MCC - MCC 28/29-5	(01) Motor Control Centers	YES	N/A	Q2R27	IR 1422564	tracking
2-7800-29-1	MCC - MCC 29-1	(01) Motor Control Centers	YES	N/A	Q2R26	IR 1422564	tracking
2-7100-28	SWGR 28	(02) Low Voltage Switchgear	YES	N/A	Q2R23	IR 1422564	tracking
2-6705-23-1	SWGR 23-1	(03) Medium Voltage Switchgear	YES	N/A	Q2R27	IR 1422564	tracking
2-7100	TRANSFORMER T28 4160V-480V	(04) Transformers	NO	Filled with oil	8/6/2012	N/A	NO OTHER ADVERSE SEISMIC CONDITIONS
902-61	PNL, CONTROL	(14) Distribution Panels	YES	N/A	Q2R22	IR 1422564	tracking
902-62	PNL, CONTROL	(14) Distribution Panels	YES	N/A	Q2R22	IR 1422564	tracking
2-8300-2	CHRGR #2, 125V	(16) Battery Chargers and Inverters	YES	N/A	Q2R22	IR 1422564	tracking
2-8350	CHRGR #2, 250V	(16) Battery Chargers and Inverters	YES	N/A	Q2R22	IR 1422564	tracking

COMPONENT ID	DESCRIPTION	EQUIPMENT CLASS	ACCESSIBLE (Y/N)	IF NOT ACCESSIBLE, WHY?	MILESTONE COMPLETION	TRACKING NUMBER (IR NUMBER)	STATUS/ INSPECTION RESULTS
902-3	PANEL	(20) Instrumentation and Control Panels and Cabinets	YES	N/A	8/7/2012	N/A	NO OTHER ADVERSE SEISMIC CONDITIONS (NO PHOTO ALLOWED)
902-33	PANEL	(20) Instrumentation and Control Panels and Cabinets	YES	N/A	8/7/2012	N/A	NO OTHER ADVERSE SEISMIC CONDITIONS
902-39	PANEL	(20) Instrumentation and Control Panels and Cabinets	YES	N/A	8/7/2012	N/A	NO OTHER ADVERSE SEISMIC CONDITIONS
902-5	PANEL	(20) Instrumentation and Control Panels and Cabinets	YES	N/A	8/7/2012	N/A	NO OTHER ADVERSE SEISMIC CONDITIONS (NO PHOTO ALLOWED)
2202-32	RACK, AUTO BLOWDOWN	(18) Instruments on Racks	YES	N/A	Q2R22	IR 1422564	tracking
2202-73A	RACK, ANALOG TRIP	(18) Instruments on Racks	YES	N/A	Q2R22	IR 1422564	tracking
2212-125	RACK, 1/2 DG ENGINE CONTROL	(18) Instruments on Racks	YES	N/A	Q2R22	IR 1422564	tracking
2212-32	Wall mounted Panel DG	(18) Instruments on Racks	YES	N/A	Q2R22	IR 1422564	tracking
2252-86	RACK	(18) Instruments on Racks	YES	N/A	Q2R27	IR 1422564	tracking
2252-87	RACK	(18) Instruments on Racks	YES	N/A	Q2R26	IR 1422564	tracking

F

Peer Review Report

This appendix includes the Peer Review Team's report, including the signed Peer Review Checklist for SWEL from Appendix F of the EPRI guidance document.

Peer Review Report
For
Near Term Task Force (NTTF) Recommendation 2.3
Seismic Walkdown Inspection
of
Quad Cities Nuclear Station Unit 2

October 8, 2012

Prepared by Peer Reviewers

Walter Djordjevic (Team Leader)
Todd A. Bacon
Tribhawan K. Ram

Walter Djordjevic	10/8/2012
Peer Review Team Leader Certification Signature	Date

1 Introduction

1.1 OVERVIEW

This report documents the independent peer review for the Near Term Task Force (NTTF) Recommendation 2.3 Seismic Walkdowns performed by Stevenson & Associates (S&A) for Unit 2 of Quad Cities Nuclear Station (QCNS). The peer review addresses the following activities:

- Review of the selection of the structures, systems, and components, (SSCs) that are included in the Seismic Walkdown Equipment List (SWEL)
- Observation of the seismic walkdown on August 7, 2012 by Peer Review Team Leader, Mr. Walter Djordjevic
- Review of a sample of the checklists prepared for the Seismic Walkdowns & Walk-Bys
- Review of any licensing basis evaluations
- Review of the decisions for entering the potentially adverse conditions in to the plant's Corrective Action Plan (CAP)
- Review of the final submittal report

The peer reviewers for QCNS, Unit 2 are Messrs. Walter Djordjevic, Todd A. Bacon, and Tribhawan K. Ram, all of S&A. Mr. Djordjevic is designated the Peer Review Team Leader. None of the aforementioned engineers is involved in the seismic walkdown inspection process so that they can maintain their independence from the project. Mr. Djordjevic is an advanced degree structural engineer, has over thirty years of nuclear seismic experience and has been trained as a Seismic Capability Engineer (EPRI SQUG training), EPRI IPEEE Add-on, Seismic Fragility and Seismic Walkdown Engineer (SWE). Mr. Bacon is a civil-structural engineer with 25 years of nuclear engineering experience and received the Seismic Walkdown Engineer (SWE) training. Mr. Ram is an advanced degree nuclear engineer with over 28 years of nuclear power plant experience. Mr. Djordjevic led the seismic peer review activities and Mr. Ram led the SWEL selection peer review. Mr. Djordjevic, as Peer Review Team Leader, has participated in all phases of the peer review process for Quad Cities, Unit 2.

The SWEL development was performed by Mr. Tony Perez of S&A. There were a few observations noted on the SWEL Peer Review Checklist which were resolved. No findings were cited. The completed SWEL Peer Review Checklist is found in Attachment 1. The discussion for the SWEL development peer review is found in Section 2.

The peer review of the seismic walkdown inspection started on August 7, 2012 with a peer check of the actual walkdowns for Quad Cities, Unit 2. Mr. Djordjevic joined the walkdown team for a portion of the day's planned walkdowns to observe the conduct of walkdowns and adherence to the Seismic Walkdown Guidance (SWG)[1]. An interview was conducted by Messrs. Djordjevic and Bacon with the SWE inspection team on September 7, 2012 after review of a sample of the Unit 2 Seismic Walkdown Checklists (SWCs) and Area Walk-By Checklists (AWCs) to ascertain the procedural compliance with the SWG. The discussion of the sample SWCs and AWCs is provided in Section 3.

No issues were identified which challenged the current licensing basis.

[1] Seismic Walkdown Guidance For Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic, EPRI Report 1025286, June 2012.

2 Peer Review - Selection of SSCs

2.1 PURPOSE

The purpose of this section is to describe the process that was used to perform the peer review of the selected structures, systems, and components, (SSCs) that were included in the Seismic Walkdown Equipment List (SWEL).

This section documents the Peer Review – Selection of SSCs performed for Quad Cities Unit 2

2.2 PEER REVIEW ACTIVITY – SELECTION OF SSCS

The guidance in EPRI Technical Report 1025286, *Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic*, dated June 2012, Section 3: Selection of SSCs was used as the basis for this review

This peer review was based on reviews of the following documents:

1. UFSAR chapters 3, 6, 7, 8, and 9
2. SWEL 1 List
3. P&ID M-80 for Spent Fuel Pool Cooling System

This peer review was based on interviews with the following individual who was (were) directly responsible for development of the SWEL:

Tony Perez, Senior Mechanical Engineer

This peer review utilized the checklist shown in the SWG Appendix F: Checklist for Peer Review of SSC Selection. The completed checklist is included in this report as Attachment 1.

For SWEL 1 development, the following actions were completed in the peer review process:

1. **Verification that the SSCs selected represented a diverse sample of the equipment required to perform the following five safety functions:**

   A. Reactor Reactivity Control (RRC)

   B. Reactor Coolant Pressure Control (RCPC)

   C. Reactor Coolant Inventory Control (RCIC)

   D. Decay Heat Removal (DHR)

E. Containment Function (CF)

This peer review determined that the SSCs selected for the seismic walkdowns represent a diverse sample of equipment required to perform the five safety functions. This conclusion was based on a review of UFSAR chapters 3, 6, 7, 8, and 9 which determined that all five safety functions (RRC, RCPC, RCIC, DHR, and CF) are adequately represented.

2. Verification that the SSCs selected include an appropriate representation of items having the following sample selection attributes:

A. Various types of systems

B. Major new and replacement equipment

C. Various types of equipment

D. Various environments

E. Equipment enhanced based on the findings of the IPEEE

F. Risk insight consideration

This peer review determined that the SSCs selected for the seismic walkdowns include a sample of items that represent each attribute/consideration identified above. The justification for this conclusion is: a) Based on a review of UFSAR chapters referenced above and the SWEL 1 list, it was determined that appropriate variety of equipment and systems are represented (e.g., EDG, EDG Fuel Oil Transfer, RHR, RHR Service Water, HPCI, Batteries, Battery Chargers, Low and Med Vol Switchgear and MCCs); b) The "New or Replace" equipment are indicated as such; c) A variety of location environments are included: e.g., MCCs (TB and RB), Pumps (TB, DG, and RB), Tanks and Heat Exchangers (DG and RB), and Valves (RB @ EL 554, 595, and 623); d) The IPEEE Enhancement related equipment is indicated as such; and e) The risk quantification has been included in the "Comments" column.

Note: Because of accessibility reasons, some equipment has appropriately been deferred to Outage.

For SWEL 2 development, the following actions were completed in the peer review process:

1. Verification that SFP related items were considered and appropriately added to SWEL 2.

This peer review determined that there was no spent fuel pool cooling system Seismic CAT 1 items. This determination is based on a review of the licensing and design basis documents including SFP Cooling System P&ID M-80.

2. **Verification that appropriate justification was documented for spent fuel pool related items that were not added to the SWEL 2.**

   This peer review determined that an appropriate level of justification was documented for having no items on SWEL 2. The justification for not including any Seismic Category I Structure has appropriately been documented in the interim report. There are no rapid drain down related components in SWEL2. Appropriate justification for this item is included in the interim report as well.

2.3 Peer Review Findings – Selection of SSCs

This peer review found that the process for selection for SWEL 2 SSCs was consistent with the process outlined in the SWG Section 3: Selection of SSCs.

The peer review checklist is attached to this document.

This peer review resulted in no additional findings.

2.4 Resolution of Peer Review Comments – Selection of SSCs

There were no additional comments requiring resolution.

2.5 Conclusion of Peer Review – Selection of SSCs

This peer review concludes that the process for selecting SSCs to be included on the seismic walkdown equipment list appropriately followed the process outlined in the SWG, Section 3: Selection of SSCs. It is further concluded that the SWEL sufficiently represents a broad population of plant Seismic Category 1 equipment and systems to meet the objectives of the NRC 50.54(f) Letter.

3 Review of Sample Seismic Walkdown & Area Walk-Bys Checklists

3.1 Overview

A peer review of the SWCs and AWCs was performed on September 7, 2012, after which an interview was conducted by Messrs. Djordjevic and Bacon with the SWE inspection team in accordance with the SWG requirements. The SWE trained walkdown engineers were Messrs. James Griffith and Michael Wodarcyk.

3.2 Sample Checklists

Table 3-1 lists the SWC and AWC samples which represent 12% of the SWCs and 35% of the AWCs. The sample includes the equipment inspected during the peer review and other equipment items from other classes to introduce diversity to the sampling procedure.

Table 3-1: Table of SWC and AWC Samples from Seismic Walkdown Inspection for Unit 2

Equipment Identification	Equipment Class	Walkdown Item	Observations
2-7100	4	Transformer T-28	No concerns
2-7800-28-1B	1	MCC 28-1B	Open s-hooks deemed not a seismic concern
2-7800-29-1	1	MCC 29-1	No concerns
2202-32	18	Auto Blowdown Rack	No concerns
2-7800-28295	1	MCC 28/29-5	No concerns
2-2301-29-AO	7	HPCI Drain Line Valve	Missing u-bolt noted by work tag so it is being tracked. No seismic issues.
2-2399-15-PCV	7	HPCI Gland Seal Discharge Valve	Scaffolding deemed adequate in accordance with procedure

Equipment Identification	Equipment Class	Walkdown Item	Observations
2-2301-3-MO	8	HPCI Turbine Inlet Valve	No concerns
2202-29A	18	Instrument Rack 2202-29A	Open s-hooks deemed not a seismic concern
2-2308	5	HPCI Turbine Auxiliary Oil Pump	No concerns
2-2304	5	HPCI Condensate Pump	No concerns
2-2302	5	HPCI Pump	Open S-hook adjudged not a credible seismic interaction hazard

Area Walkdown Description	Observations
AWC at valve 2-1601-23	Camera tripod (not credible proximity hazard) recommended to be relocated
AWC DG Room	Drain line supported well, no seismic issue
AWC Room with 2-1001-65	No concerns
AWC Room containing 2-3903	No concerns
AWC HPCI room	Storage potential proximity hazard relocated on the spot
AWC Core spray room	No concerns
AWC Torus	No concerns
AWC RHR corner room - basement level	No concerns
AWC RHR corner room - gallery level	Minor housekeeping issues deemed not a seismic concern

3.3 EVALUATION OF FINDINGS

There were no findings that challenged the licensing basis. The plant was found to have some seismic housekeeping and maintenance (concerning loose screws and fasteners) issues. Tables 5-2 and 5-3 of the Seismic Walkdown Report (final submittal report) provide the lists of the issues encountered for the equipment seismic walkdowns and area walk-bys.

The scaffolding and seismic housekeeping procedures were reviewed by the SWEs in order to gain a full understanding of the plant practices in regard to those procedures. There were no seismic concerns noted in Unit 2 with regard to scaffold erection. The scaffolds were properly tied off and braced, and properly tagged with respect to the procedure.

Concerning seismic housekeeping, if an item posed a potential proximity hazard to a vital component and it was removed "on the spot" in accordance with the housekeeping procedure, it was still dispositioned to an IR. A generic IR (IR No. 01405922) was written addressing instances of seismic housekeeping.

The instances of loose screws and fasteners are seen as simple general maintenance issues and none of them were adjudged a concern from the seismic performance viewpoint. However, IRs were generated to repair the affected components.

There were instances of partially open s-hooks on light fixtures but they were isolated and not "clustered" around a single fixture. In most cases they were adjudged not to be immediate seismic interaction hazards to the equipment in their general proximity. Importantly, if the situation warranted a correction then an IR was specifically generated for that component, or area in the case of area walk-bys.

In all instances the Seismic Walkdown Checklists document the details of all issues identified, the action taken and the conclusion rendered by the SWE inspectors.

The peer reviewers consider the judgments made by the SWEs to be appropriate and in concurrence with the SWG.

4 Review of Assessment of Identified Issues

Tables 5-2 and 5-3 provide a list of the issues encountered during the Unit 2 seismic walkdown inspections for the SWEL components and how they were addressed. If a Quad Cities IR request was generated it is shown in the Tables. An interview was conducted by Messrs. Djordjevic and Bacon with the SWE inspection team on September 7, 2012 to discuss the issues identified. No potentially adverse seismic conditions were identified that resulted in a seismic licensing basis evaluation. The peer reviewers concur with this outcome.

5 Review Final Submittal Report & Sign-off

The entire final submittal report has been reviewed by Messrs. W. Djordjevic and T. A. Bacon and found to meet the requirements of the EPRI 1025286 – Seismic Walkdown Guidance. The Peer Review determined that the objectives and requirements of the 50.54(f) letter[2] are met. Further, the efforts completed and documented within the final submittal report are in accordance with the EPRI guidance document.

[2] NRC Letter to All Power Reactor Licensees et al., "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendation 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," Enclosure 3, "Recommendation 2.3: Seismic," dated March 12, 2012

Attachment 1: Peer Review Checklist

QCNS Unit 2 Peer Review Checklist for SWEL

Instructions for Completing Checklist

This peer review checklist may be used to document the review of the Seismic Walkdown Equipment List (SWEL) in accordance with Section 6. The space below each question in this checklist should be used to describe any findings identified during the peer review process and how the SWEL may have changed to address those findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Were the five safety functions adequately represented in the SWEL 1 selection? Y☒ N☐
   Appropriate equipment has been included to maintain the five safety functions: RRC, DHR, RCIC, RCPC, and CF

2. Does SWEL 1 include an appropriate representation of items having the following sample selection attributes:

   a. Various types of systems? Y☒ N☐
      Various system types (e.g., EDG, EDG Fuel Oil Transfer, RHR, RHR Service Water, HPCI, Batteries, Battery Chargers, Low and Med Vol Switchgear and MCCs) have been included.

   b. Major new and replacement equipment? Y☒ N☐
      "New or Replace" equipment is included in the list.

   c. Various types of equipment? Y☒ N☐
      The equipment represents all required 21 types except 11, 13, and 19. The screenings #1, #2, and #3 resulted in no equipment in the latter 3 categories.

   d. Various environments? Y☒ N☐
      Appropriate environments (e. g., Reactor, DG, and Turbine buildings) have been included.

QCNS Unit 2 Peer Review Checklist for SWEL

e. Equipment enhanced based on the findings of the IPEEE (or equivalent) program? Y☒ N☐
Included as indicated in the column, "IPEEE Enhancement."

f. Were risk insights considered in the development of SWEL 1? Y☒ N☐
Risk quantifications (F-V and RAW) provided in the "Comments" column

3. For SWEL 2:

a. Were spent fuel pool related items considered, and if applicable included in SWEL 2? Y☒ N☐
There are no items on SWEL2.

b. Was an appropriate justification documented for spent fuel pool related items not included in SWEL 2? Y☒ N☐
Appropriate justification has been provided in the Interim Report.

4. Provide any other comments related to the peer review of the SWELs.

None

5. Have all peer review comments been adequately addressed in the final SWEL? Y☒ N☐

QCNS Unit 2 Peer Review Checklist for SWEL

Peer Reviewer #1: *TK Ram (Quad Cities 2)* TK Ram Date: *8/26/12*

Peer Reviewer #2: *Walter Djordjevic* W Djordjevic Date: *9/7/12*

G IPEEE Vulnerability Status

Table G-1 lists the plant improvements, the IPEEE/SQUG proposed resolution, the actual resolution and resolution date.

Table G-1. IPEEE Vulnerability Status

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Hydraulic Control Unit U1 HCU	1) No seismic capacity based on earthquake experience or generic seismic testing ruggedness data is available. 2) Red gas bottles at South bank restrained by only one chain as well as an orange gas bottle and an unrestrained green trash can are impact hazards. (See A3).	N/A	1) Unit consists of valves and accumulators which are in the earthquake experience and generic seismic testing ruggedness data. Rack load path and anchorage are separately analyzed and are OK. CRD piping and scram header seismically supported. Outlier is resolved. 2) Gas bottles need a second chain near the bottom. Relocate trash can. (See A3).	1) 01/28/1987 2) 03/28/2005
Hydraulic Control Unit U2 HCU	1) No seismic capacity based on earthquake experience or generic seismic testing ruggedness data is available for class 0 equipment.	N/A	Unit consists of valves and accumulators which are in the earthquake experience and generic seismic testing ruggedness data. Rack load path and anchorage are separately analyzed and are OK. CRD piping and scram header seismically supported. Outlier is resolved.	01/28/1987
Nitrogen Bottle N/A (1), N/A (2)	Nitrogen bottle is restrained only by top chain.	Gas bottles need a second chain near the bottom.	Justified acceptability of a single tight chain, as stated in station procedures.	12/28/1998

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Exhaust Silencer 1-6667 ½-6667 2-6667	The silencer saddle not positively supported.	N/A	Analyze piping adequacy for support of silencer.	07/31/2000
Fan and Damper 1-5727 ½-5727 2-5727	Seismic demand exceeds capacity	N/A	Develop realistic, median-amplified floor spectra to potentially reduce seismic demand to an acceptable level.	02/20/2000
MCC and Panel MCC 28-3 MCC 29-1 250VDC MCC 1A 250VDC MCC 1B 250VDC MCC 2A 250VDC MCC 2B	Seismic demand exceeds capacity	Develop realistic, median-amplified floor spectra to potentially reduce seismic demand to an acceptable level.	Used the MCC seismic test contained in Equipment Qualification (EQ) Binder EQ-24D/Q.	02/28/2003 06/30/2000 07/31/2000 10/01/2001 12/06/2001
Transformer MCC 28-1A-1 TR MCC 29-1-1 TR SWGR 18 TR SWGR 19 TR SWGR 28 TR SWGR 29 TR	Seismic demand exceeds capacity	N/A	Develop realistic, median-amplified floor spectra to potentially reduce seismic demand to an acceptable level.	06/30/2000 03/16/1999
Unit 2 250 VDC Battery Charger	Right rear anchor bolt missing.	N/A	Install missing anchor bolt.	09/24/1998

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
MCC and Panel MCC 18-1A MCC 19-1-1 MCC 19-1-1 PNL MCC 28-1A	1) Seismic demand exceeds capacity. 2) Unit has missing or loose sheet metal screws which attach the MCC unit to the base channel.	1) Develop realistic, median-centered floor spectra. 2) Install missing screws and tighten loose screws.	1) Used the MCC seismic test contained in Equipment Qualification (EQ) Binder EQ-24D/Q. 2) Install missing screws and tighten loose screws.	1) 06/30/2000 1) 01/20/1997 01/29/1999 01/20/1997
MCC MCC 18-3	1) Seismic demand exceeds capacity. 2) MCC is not bolted to adjacent distribution panel (3/16" gap). 3) Missing several corner sheet metal screws which attach the MCC units to the base channel.	1) Develop realistic, median-centered floor spectra. 2) Bolt MCC to adjacent panel. 3) Install missing screws and tighten loose screws.	1) Used the MCC seismic test contained in Equipment Qualification (EQ) Binder EQ-24D/Q. 2) Bolt MCC to adjacent panel. 3) Install missing screws and tighten loose screws.	1) 06/30/2000 2) 04/26/1999 3) 01/20/1997

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
MCC MCC 19-1	1) Seismic demand exceeds capacity. 2) The welding includes both 19-1 and 19-6 and not well distributed. Welds should be upgraded on the left end unit and the 2 right end units (next to 19-6). 3) Missing some sheet metal screws which attach the MCC unit to the base channel.	1) Develop realistic, median-centered floor spectra. 2) Upgrade weld of MCC to embeds. 3) Install missing mounting screws.	1) Used the MCC seismic test contained in Equipment Qualification (EQ) Binder EQ-24D/Q. 2) Upgrade weld of MCC to embeds. 3) Install missing mounting screws.	1) 06/30/2000 2) 08/19/2002 3) 01/20/1997
MCC MCC 19-4	1) Seismic demand exceeds capacity. 2) The welding for 19-4 is not well distributed. Welds should be upgraded on the left end of 19-4 (next to 19-1-1).	1) Develop realistic, median-centered floor spectra. 2) Upgrade weld of MCC to embed welding.	1) Used the MCC seismic test contained in Equipment Qualification (EQ) Binder EQ-24D/Q. 2) Upgrade weld of MCC to embed welding.	1) 06/30/2000 2) 08/19/2002
Panel 2201-32	1) Seismic demand exceeds capacity. 2) ¼" gapped anchorage on one side of panel.	1) Develop realistic, median-centered floor spectra to potentially reduce seismic demand to an acceptable level. 2) Shim the gap closed since panel contains essential relays.	1) Develop realistic, median-centered floor spectra to potentially reduce seismic demand to an acceptable level. 2) Braced panel to wall.	1) 04/19/2004 2) 03/30/2004 1/25/2002

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Panel 2202-32	Seismic demand exceeds capacity.	Develop realistic, median-centered floor spectra.	Develop realistic, median-centered floor spectra.	1) 04/19/2004 2) 03/30/2004 03/13/2002
Damper 2-9472-32	Damper on small duct line which may disconnect.	Evaluate or modify damper.	Evaluate or modify damper.	02/25/2003
MCC MCC 18-1A-1 MCC 28-1A-1 MCC 18-1A-1 PNL MCC 28-1A MCC 28-1B PNL #1 PNL #2	1) Seismic demand exceeds capacity. 2) MCC or panel is not bolted to adjacent panel.	1) Develop realistic, median-centered floor spectra to potentially reduce seismic demand to an acceptable level. 2) Bolt (or tie) units together since cubicles contain essential relays.	1) Used the MCC seismic test contained in Equipment Qualification (EQ) Binder EQ-24D/Q. 2) Bolt (or tie) units together since cubicles contain essential relays.	1) 06/30/2000 2) 04/18/1998 03/10/1997 03/10/1997 12/22/1997
MCC and Panel MCC 29-1-1 MCC 29-1-1 PNL MCC 29-4	1) Seismic demand exceeds capacity. 2) MCC or Panel is not bolted to adjacent panel (there is only a 3/8"gap).	1) Develop realistic, median-centered floor spectra. 2) Install spacers and bolt MCC to adjacent panel.	1) Used the MCC seismic test contained in Equipment Qualification (EQ) Binder EQ-24D/Q. 2) Install spacers and bolt MCC to adjacent panel.	1) 06/30/2000 2) 02/14/2000

Equipment ID	Description of Condition / *Vulnerability**	IPEEE Report Proposed *Resolution of Condition***	Actual Resolution of Condition	Resolution Date
MCC MCC 18-1B	1) Seismic demand exceeds capacity. 2) MCC 18-1B is right next to (touching) MCC 18-1A-1 but not bolted together. 3) Unit has very deficient welds and welds should be added. 4) Missing two internal ¼" machine screws that attach the unit to the base channel that is bolted to the embedded angle.	1) Develop realistic, median-centered floor spectra. 2) Bolt MCC units together. 3) Upgrade MCC to embed welds. 4) Install missing mounting screws.	1) Used the MCC seismic test contained in Equipment Qualification (EQ) Binder EQ-24D/Q. 2) Bolt MCC units together. 3) Upgrade MCC to embed welds. 4) Install missing mounting screws.	1) 06/30/2000 2) 03/31/1997 3) 05/21/2002 4) 01/20/1997
Bus 125 VDC Bus 1A 125 VDC Bus 1A-1	Panel is ½" away from block way on rear and it is an interaction hazard.	N/A	Install neoprene or like material between wall and panel.	07/07/1997
Bus 125 VDC Bus 1B 125 VDC Bus 1B-1	1) Anchorage demand exceeds capacity based on conservative weight estimate. 2) There are lights above the units with open hooks and it is an interaction hazard.	N/A	1) Evaluate anchorage capacity based on more refined weight value. 2) Close S-hooks on lights above bus.	1) 10/09/1999 2) 01/07/1997
MCC 250VDC MCC 2	1) Welded to embedded angle distributed fairly even but symmetric. Anchorage is unacceptable on North side by SRT inspection. 2) There are lights above the units with open hooks and it is an interaction issue.	N/A	1) Upgrade MCC to embed welds. 2) Close S-hooks on lights above MCC.	1) 11/09/2001 2) 01/07/1997
Panel 2202-70B	Nearby cable tray support is an impact hazard.	N/A	Attach cable tray support to panel to eliminate impact.	03/13/2002

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Panel 2212-32	Adjacent gas bottle with single loose chain is an impact hazard.	Add lower restraint to ensure bottle does not slip out.	Justified acceptability of a single tight chain, as stated in station procedures.	12/28/1998
MCC & Battery Chargers MCC 18-2 1-8300-1A 1-8350 2-8300-1 2-8300-1A 2-8350 1-8300-1	Overhead fluorescent light above hung with an open S-hook	N/A	Repair (close S-hook) on overhead light	01/07/1997 01/07/1997
Cooler 1-5746A 1-5746B 2-5746A 2-5746B 1-5747 2-5747 1-5748A 1-5748B 2-5748A 2-5748B	Cooling water line lacks flexibility and since cooler is rod hung so water line may be in danger of breaking due to displacement potential of rods	N/A	Coolers are rod-hung and thus flexible. Laterally restrain coolers to preclude piping rupture potential or perform a detailed analysis of piping flexibility/loading on cooler or evaluate effects of loss of service water inventory and loss of cooling capability.	05/21/2002 08/29/2002 11/12/2001 10/24/2001 09/18/2002 12/27/2001 09/06/2002 09/06/2002 12/27/2001 12/27/2001

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Cooler 1-5745A 1-5745C 2-5745A 2-5745C 1-5749 ½-5749 2-5749	Information on bolt type is not available. Bolt type and size are assumed to be the same as ones used in Dresden which are ½" Cinch Anchor. Bolt type is not covered by the GIP – Cinch Anchor.	N/A	Capacity of Cinch Anchor is based on "Lead Expansion Anchor Load Capacity in Reactor Building at the Savannah River Site", Westinghouse Savannah River Company, RTR-2661, Aug. 15, 1989 (Ref. 16). The resulting anchorage capacity was shown to exceed the design basis seismic demand loads and outlier is resolved.	02/25/2003 (SQUG outlier closure report date)
Switchgear SWGR 28 SWGR 18 SWGR 19	Overhead trolley hoist is an impact hazard.	N/A	Use a clamp or similar device to prevent the hoist from rolling freely.	03/09/1999
Switchgear SWGR 29	Overhead trolley hoist is an impact hazard and needs to be parked	N/A	Restrain trolley to eliminate impact hazard.	03/09/1999
Switchgear SWGR 13 SWGR 14 SWGR 13-1 SWGR 14-1 SWGR 23-1 SWGR 24-1	1) Could not open units to determine if the units are plug welded at the base. 2) Verify if end two units of SWGR 14-1 are tied to other 10 units. 3) Spare breaker stored near SWGR 24-1 is an impact hazard.	1) Schedule an appropriate time for internal inspection. 2) Schedule an appropriate time for internal inspection. 3) Remove breaker or positively restrain.	1) Switchgear was welded at rear to existing embedments. 2) Remove breaker or positively restrain.	1) 11/11/2002 2) 05/20/2002 05/30/2002 05/21/2002 05/30/2002 11/02/2001 12/26/2001

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Switchgear SWGR 13 SWGR 14 SWGR 23 SWGR 24	1) Could not open units to determine if the units are plug welded at the base. 2) A light with open S-hook above the switchgear is an impact hazard. 3) Spare breaker stored near SWGR 24 is an impact hazard.	1) Schedule an appropriate time for internal inspection. 2) Repair (close S-hooks) overhead light. 3) Remove breaker or positively restrain.	1) Switchgear was welded at rear to existing embedments. 2) Repair (close S-hooks) overhead light. 3) Remove breaker or positively restrain.	1) 11/08/2001 10/30/2001 2) 01/07/1997 01/07/1997 3) 11/11/2002
Panel 901-39	Anchor at corner of panel is loose.	N/A	Tighten/repair loose anchor	01/14/1997
Panel 901-48	Panel has one gapped anchor (loose washer)	N/A	Tighten/repair anchor.	05/06/1997
Panel 2202-70A 901-32 901-46 901-47 901-48 902-39 902-46	Panel is not bolted to adjacent panel	N/A	Connect (bolt) panels together to preclude impact potential.	05/04/1998 11/25/1998 11/25/1998 10/15/1999
Panel 2252-10	Cabinet is too close to a conduit snuggly against the wall which thus poses an impact hazard.	N/A	Insert neoprene or like material between wall and panel, or positively secure panel to wall.	02/12/1998

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Panel 2251-12 2251-98	Tool box (on wheels) located next to panels and the Exciter which thus poses an impact hazard.	N/A	Move tool box and stress seismic housekeeping to plant personnel.	02/25/2003 SQUG closure report date 10/22/2007
Panel 902-33	Adjacent ductwork supported on rod hangers is ¼" away (gap) from top of cabinet and poses an interaction hazard.	Insert neoprene or like material between wall and panel, or positively secure panel to wall.	Trimmed duct angles for clearance.	09/20/1998
Panel 901-27	1) 901-27 not attached to panel 901-46 2)Panel internal PC card racks for which cards falling out of very flexible internal rack is a concern.	Modify internal rack (stiffen it) and restrain PC cards with strap or bar to preclude cards from falling out.	1) Connect panels together 2) Modify internal rack (stiffen it) and restrain PC cards with strap or bar to preclude cards from falling out.	1) 04/13/1999 2) 12/14/1998
Panel 901-33	1) Panel is not bolted to adjacent panel 901-47, thus it is an impact hazard. 2) Adjacent ductwork supported on rod hangers is ¼" away (gap) from top of cabinet and poses an interaction hazard.	1) Connect (bolt) panels together to preclude impact potential. 2) Connect (bolt) panels together to preclude impact potential. Insert neoprene or like material between duct and panel, or positively secure panel to duct.	1) Connect (bolt) panels together to preclude impact potential. 2) Connect (bolt) panels together to preclude impact potential. Ductwork angles trimmed to increase gap-	11/25/1998
Battery Rack 125 VDC BATT 1 250 VDC BATT 1 125 VDC BATT 2	Some Styrofoam spacers on the front or ends of rack are short and can fall loose (that is, through) and a few already have even though there has been no earthquake.	N/A	Insert "full height" Styrofoam spacers, or secure (glue or tie) spacers to rack (or battery cells) so that they cannot slide out.	08/29/1996 08/22/1996

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Battery Rack 250 VDC BATT 2	1) Some Styrofoam spacers on the front or ends of rack are short and can fall loose (that is, through) and a few already have even though there has been no earthquake. 2) Battery age unknown	N/A	1) Insert "full height" Styrofoam spacers, or secure (glue or tie) spacers to rack (or battery cells) so that they cannot slide out. 2) Determine qualified life of cells or replace	1) 08/22/1996 2) 03/31/1998
Valve 1-0220-45 2-0220-45	Valve is located in RWCU room which is inaccessible therefore caveats 7-9 and the review for seismic interaction cannot be resolved. Valve is located on ¾" line which lies outside of the GIP database thus caveats 4 and 5 cannot be resolved.	N/A	Review of photographs shows supports at or near valve (body); thus, the line will not be subjected to large bending forces and is adjudged acceptable. This outlier is considered resolved.	06/19/1996
Rack PE-1	Rack mounted (enclosed in panel) Mercoid switch which is designated as "bad actor"	N/A	Replace it with Mercoid Snap Action (Orange High) mechanical switch or equivalent	06/19/1996
Pressure Switch 1-4641-42A	Missing one of the four screws attaching it to the support.	Repair (replace) missing screw.	Replaced pressure switch.	02/05/1999
RHR Heat Exchanger 1-1003A 1-1003B 2-1003A 2-1003B	Support steel was identified as marginal based on design basis review and A-46 (SQUG) assessments.	Commonwealth Edison evaluated and made modifications to (upgraded) the supports.	Commonwealth Edison evaluated and made modifications to (upgraded) the supports.	5/17/1996 10/23/1996

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Cable Spreading Room LAR 001	An enveloping support in the Unit ½ cable Spreading Room was chosen for limited analytical review. The support is a 3-tier, rod hung trapeze supporting 3 trays. The support has two different types of ceiling anchorages: embedded strut and weldment to building steel. The embedded strut version loads exceed allowables for the vertical capacity check.	N/A	This outlier is resolved by outlier analysis. A limit analysis per Section 8.4.8 was performed and the hanger passed.	12/03/1996
Cable Spreading Room LAR 002	A second enveloping support in the Unit ½ Cable Spreading Room was chosen for limited analytical review. The support is an unbraced floor mounted Unistrut frame with 6 tiers supporting 6 trays. The loads in the bolted post connections to the floor baseplates exceed allowables for the lateral load check.	N/A	HCLPFsse is 0.11g peak ground acceleration (PGA). This hanger requires more detailed analysis to determine if lateral bracing is required to achieve the SSE demand level.	04/20/2001 10/23/2001

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Unit 1&2 Cable Tunnels LAR 004	An enveloping support in Unit 1 Cable Tunnel was chosen for limited analytical review. The support is an eight tier, floor to ceiling, unbraced frame with 3x3 steel angle posts and 2x2 steel angle cross members supporting four trays. The welded floor anchorage is not ductile. The stress in the welds exceeds allowables for the lateral load check. This hanger type is prevalent in the Unit 1 Cable Tunnel. In the Unit 2 Cable Tunnel this hanger type is found only on the east wall at the Unit 1 side.	N/A	HCLPFsse is 0.09 PGA. This hanger type requires further investigation to determine the extent of problem and whether or not lateral bracing will be required to achieve the SSE demand level.	11/20/2002 11/27/2002
Turbine Building Unit ½ LAR 007	An enveloping support in the Turbine Building, El. 639, was chosen for limited analytical review. The support is a two-tier, rod hung trapeze supporting 2 trays. The support loads in welded steel anchorage exceed the allowables for the vertical capacity check. The rod fatigue check was also not met.	N/A	This outlier is resolved by outlier analysis. A limit analysis per Section 8.4.8 was performed and the hanger passed.	12/03/1996

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Turbine Building Unit ½ LAR 008	An enveloping support in the Turbine Building, El. 639, was chosen for limited analytical review. The support is an unbraced, floor mounted, Unistrut frame with two tiers supporting 2 trays and 2, 3" conduit. The left post welded floor anchorage is not ductile. The stress in the welds exceeds allowables for the lateral load check.	HCLPFsse is 0.22 PGA. which meets the SSE demand with no additional margin per the CDFM method NP-6041 Seismic margins Report. A more detailed analysis is needed to determine if more design margin is available or whether or not a design modification will be needed.	HCLPFsse is 0.22 PGA. This hanger type meets SSE demand with no additional margin per the CDFM method NP-6041 Seismic margins Report. A more detailed analysis is needed to determine if more design margin is available or whether or not a design modification will be needed.	04/28/2000
Turbine Building So. End LAR 010	An enveloping support in the Turbine Building, El. 639, was chosen for limited analytical review. The support is an unbraced, floor mounted, Unistrut frame with two tiers supporting 2 trays and 2, 3" conduit. The left post welded floor anchorage is not ductile. The stress in the welds exceeds allowables for the lateral load check.	N/A	This outlier is resolved by outlier analysis. A limit analysis per Section 8.4.8 was performed and the hanger passed.	12/03/1996

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Reactor Building Units ½ LAR 011	An enveloping support in the Reactor Building Units ½, El 595 was chosen for limited analytical review. The support is a 2 bay, 3-tier, rod hung trapeze supporting 6trays. The support has two different type of ceiling anchorages: embedded strut and weldment to building steel. The embedded strut version loads exceed allowables for the vertical capacity check the rod fatigue evaluation criteria due to short hanger rods interspersed among longer rod hangers. This general problem of mixed long and short hangers existed in the Turbine Building, as well.	HCLPFsse is 0.16 PGA peak ground acceleration (PGA). This hanger may require lateral bracing. Additional walkdowns to identify this hanger type may be required in the Reactor and Turbine Buildings.	1)HCLPFsse is 0.16 PGA peak ground acceleration (PGA). This hanger may require lateral bracing. Additional walkdowns to identify this hanger type may be required in the Reactor and Turbine Buildings. 2) Also, reduced load limits based on calculation have been provided to SLICE.	12/06/1995 01/16/2003
Reactor Building Units 1/2 LAR 012	A floor-mounted HCU cable duct support in the Reactor Building Units ½, El. 595, was chosen as an enveloping support for limited analytical review. The support consists of a 3" pipe column, 9-1/2 ft tall supporting a 8"x24" cable duct containing the equivalent of fifteen (15) 3" conduit. The anchorage loads exceed the allowables for the lateral load check.	N/A	HCLPFsse is 0.10g peak ground acceleration (PGA). This hanger may require lateral bracing.	04/08/2002 11/11/2002 02/21/2002

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
Contact 52X-SWGR 18; SWGR 19; SWGR 28: SWGR 29	No GERS (Generic Equipment Ruggedness Spectra)	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	05/06/2000
Contact 52Y-SWGR 18; SWGR 19; SWGR 28: SWGR 29	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	05/06/2000
Contact 52/Y-SWGR 18; SWGR 19; SWGR 28: SWGR 29	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	05/06/2000
Contact 52Z-SWGR 18; SWGR 19; SWGR 28: SWGR 29; SWGR 23-1	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	05/06/2000
Contact CR-MCC 28-1A	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	05/06/2000
Contact CR/a-MCC 28-1a	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	05/06/2000
ABB ITE27-2251-86; 2251-87; 2252-86; 2252-87	Demand exceeds capacity	N/A	Refine amplification factors / evaluate circuit. As required, replace relay.	01/14/1999

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
ABB ITE81- MCC 18/19-5; MCC28/29-5	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	01/23/1999
AGASTAT EGPD- SWGR 19; SWGR 29	Capacity exceeded	N/A	Refine amplification factors / evaluate circuit. As required, replace relay.	08/25/2000
AGASTAT EGPD- 2201-32; 2251-86; 2251-87; SWGR 13-1; 2202-32; 2252-86; 2252-87; SWGR 23-1	Capacity exceeded	N/A	Panel mounting improvement (Relay Report Att. G). Refine amplification factors / evaluate circuit. As required, replace relay.	11/25/2002 09/05/2000
AGASTAT ETR 2212-127; 2251-86; 2251-87; 2252-86; 2252-87	Capacity exceeded	N/A	Refine amplification factors / evaluate circuit. As required, replace relay.	09/07/2000
ALLIS-CHALMERS 298-A- 2251-12; 2252-12	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	05/06/2000
AMF R10-E2-Y2- V15.OK- 125VDC CHGR 2A	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	08/23/2000
AUTOTRANSFER SWITCH- 2212-46	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	05/28/2002 02/22/2002 10/25/2002

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
AUTOTRANSFER SWITCH- 901-49; 901-50; 902-49; 902-50	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	02/22/2002 12/17/2002 11/25/2002 03/28/2002 03/13/2002
BARTON 288- 2201-7; 2201-8; 2202-7; 2202-8	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	07/11/2000
181-CFF- 2251-10; 2212-45; 2252-10	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	05/28/2002 04/07/2002 03/05/2002 10/25/2002
GE CR120KT- 901-46; 901-33; 902-32	Demand exceeds capacity	N/A	Refine amplification factors / evaluate circuit. As required, replace relay.	06/05/2000
GE CR120KT- 901-46; 901-47; 902-46; 902-47	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	05/22/2000

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
GE HEA61B- SWGR 13; SWGR 13-1; SWGR 14; SWGR 14-1; SWGR 23; SWGR 23-1; SWGR 24; SWGR 24-1;	Demand exceeds capacity	N/A	Used switchgear and relay seismic test lab test data to accept.	07/08/1999
GE HFA151- 2201-32; 2212-127; 2212-45; 2251-10; 901-32; 901-33; 901-8; MCC 18/19-5; SWGR 13; SWGR 14; SWGR 14-1; 2202-32; 2252-10; 902-33; 902-8; MCC 28/29-5; SWGR 23; SWGR 23-1; SWGR 24; SWGR 24-1;	Demand exceeds capacity	N/A	Refine amplification factors / evaluate circuit. As required, replace relay.	08/22/2000

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
GE HFA151- SWGR 13-1; 127B13-1X4	More than 3 NC contacts	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay. Replaced with qualified relay.	04/26/2003
GE HFA151- SWGR 18 (182A) 227-B18-X1 227-B18-X2 227-B18-X3	Demand exceeds capacity	N/A	Refine amplification factors / evaluate circuit. As required, replace relay.	08/22/2000
GE HGA11- 2201-32; 2202-32; SWGR 14-1; SWGR 24-1	Demand exceeds capacity, contact configuration not specified	N/A	Reduced Amplification Factor AF), due to panel bracing. Used switchgear and relay seismic test lab test data to accept.	10/31/2000 01/29/2001 07/08/1999
GE HGA11- 2212-50; 0-5203-127 FO	Contact configuration not specified	N/A	Resolved via additional evaluation.	04/12/2000
GE HGA11- SWGR 13-1	Demand exceeds capacity, contact configuration not specified	N/A	Refine amplification factors / evaluate circuit. As required, replace relay.	03/10/2000
GE HGA111- 2201-32	Capacity exceeded	N/A	Panel mounting improvement (Relay Report Att. G).	10/31/2000
GE HMA111- 1426 JB	Capacity exceeded	N/A	Refine amplification factors / evaluate circuit. As required, replace relay.	01/12/1999

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
GE IAC51A- SWGR 13; SWGR 13-1; SWGR 14; SWGR 14-1; SWGR 23; SWGR 23-1; SWGR 24; SWGR 24-1	Capacity exceeded	N/A	Used switchgear and relay seismic test lab test data to accept.	07/08/1999
GE-IAC51A- SWGR 13-1; SWGR 14-1; SWGR 23-1; SWGR 24-1	Capacity exceeded	N/A	Refine amplification factors / evaluate circuit. As required, replace relay.	07/08/1999
GE IAV51D- 2212-45; 2252-10	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	10/30/2000
GE IAV69A- SWGR 18; 227-1-B18 227-2-B18	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	03/15/2003
GE IAV69A- SWGR 13; SWGR 13-1; SWGR 14; SWGR 14-1; SWGR 23; SWGR 23-1; SWGR 24; SWGR 24-1	Capacity exceeded	N/A	Used switchgear and relay seismic test lab test data to accept.	07/08/1999
GE-ICW- 2212-45; 2252-10; 2251-10;	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	05/22/2000

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
GE IJD53C- SWGR 13; SWGR 14; SWGR 23; SWGR 24	No "Hi-G" marking on relay	N/A	Refine amplification factors / evaluate circuit. As required, replace relay.	06/01/2000
GE PJC11- SWGR 13-1; SWGR 14-1; SWGR 23-1; SWGR 24-1	Capacity exceeded	N/A	Used switchgear and seismic test data, 1.5 x realistic, median-centered spectra and contact state to accept.	10/09/1999
1(2)(0)-6601-SDR- 2251-12; 2212-46; 2252-12	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	04/07/2002 03/05/2002 10/25/2002 05/28/2002
HACR-IV 2212-123; 2251-112; 2252-112	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	04/13/2000
K2-YT-115V-9 125VDC CHGR 1, 1A	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	08/23/2000
LS 1-5241-3 1-5202 Day Tank LS ½-5241-5 0-5202 Day Tank LS 2-5241-3 2-5202 Day Tank	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	08/31/2002 03/15/2003 06/29/2002
OHMITE 57029- 2212-46; 2251-12; 2252-12	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	03/31/2000

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
PCP E15450, A2331A1, LR6436,CP30078, 1 2-WAV-125VDC CHGR 2, 125VDC CHGR 2A	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	08/23/2000
SIGMA 70RE22-110DC 125VDC CHGR 1A 125VDC CHGR 2 250VDC CHGR 1 250VDC CHGR 1/2 250VDC CHGR 2	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	08/23/2000
ER and FSR – 2251-12; 2212-46; 2252-12	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	04/07/2002 03/05/2002 10/25/2002 05/28/2002
SQUARE D 8504 – 2212-46; 2251-12; 2252-12	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	03/31/2000 03/31/2000
W A211K5-2251-98; 2252-98	NEMA 5	N/A	Any available test data will be pursued (Relay Report Att. G).	10/09/1999
W GCA-2251-100	NEMA 5	N/A	Any available test data will be pursued (Relay Report Att. G).	10/09/1999
W SA-1-SWGR13-1; SWGR14-1; SWGR 24-1	NEMA 5	N/A	Any available test data will be pursued (Relay Report Att. G).	11/18/2000

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
1920-0203-3A/B/C/D/E-PC 2201-5; 2202-5	NEMA 5	N/A	Any available test data will be pursued (Relay Report Att. G).	06/19/2003 06/29/2002
YARWAY 4418C- 2201-5; 2202-5; 2201-6; 2202-6;	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	03/10/2000
ZENITH TIMER- 125VDC CHGR 1; 125VDC CHGR 1A; 250VDC CHGR 1; 250VDC CHGR ½ ; 250VDC CHGR 2;	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	08/23/2003
GE CEH	BAD ACTOR	N/A	Evaluate circuit. As required, replace relay.	05/22/2000
GE HGA11	BAD ACTOR	N/A	Evaluate circuit. As required, replace relay.	03/10/2000
WESTINGHOUSE SG	BAD ACTOR	N/A	Evaluate circuit. As required, replace relay.	03/10/2000
WESTINGHOUSE SV DG-FFCO+ FSR	BAD ACTOR	N/A	Evaluate circuit. As required, replace relay.	05/28/2002 04/07/2002 03/05/2002 10/25/2002

* IPEEE "Vulnerability" = Vulnerability, Outlier, Anomaly, Enhancement, Finding, etc...
** If this is different than the original planned, else N/A

Equipment ID	Description of Condition / Vulnerability*	IPEEE Report Proposed Resolution of Condition**	Actual Resolution of Condition	Resolution Date
1920-0203-3A/B/C/D/E-PC 2201-5; 2202-5	NEMA 5	N/A	Any available test data will be pursued (Relay Report Att. G).	06/19/2003 06/29/2002
YARWAY 4418C- 2201-5; 2202-5; 2201-6; 2202-6;	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	03/10/2000
ZENITH TIMER- 125VDC CHGR 1; 125VDC CHGR 1A; 250VDC CHGR 1; 250VDC CHGR ½ ; 250VDC CHGR 2;	No GERS	N/A	Evaluate circuit. Any available test data will also be pursued. As required, replace relay.	08/23/2003
GE CEH	BAD ACTOR	N/A	Evaluate circuit. As required, replace relay.	05/22/2000
GE HGA11	BAD ACTOR	N/A	Evaluate circuit. As required, replace relay.	03/10/2000
WESTINGHOUSE SG	BAD ACTOR	N/A	Evaluate circuit. As required, replace relay.	03/10/2000
WESTINGHOUSE SV DG-FFCO+ FSR	BAD ACTOR	N/A	Evaluate circuit. As required, replace relay.	05/28/2002 04/07/2002 03/05/2002 10/25/2002

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** If this is different than the original planned, else N/A