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**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION**

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07/08/2013

**US-APWR Design Certification**

**Mitsubishi Heavy Industries**

**Docket No. 52-021**

**RAI NO.:** NO. 658-5130 REVISION 1  
**SRP SECTION:** 03.08.04 – Other Seismic Category I Structure  
**APPLICATION SECTION:** 3.8.4  
**DATE OF RAI ISSUE:** 11/15/2010

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**QUESTION NO. 03.08.04-48:**

In the response to question 03.08.04-40, MHI states that boundary elements are not used because the aspect ratio of the wall is less than 2 as permitted by ACI 349-06 Section 21.7.6.1. The staff reviewed the ACI 349-06 Section 21.7.6.1 and concurs with the Applicant. However, MHI is requested to provide additional data to support their statement. Specifically, the Applicant is requested to provide a table that lists the aspect ratio,  $h_w/l_w$  defined in ACI 349-06 Section 21.7.6.1, for all of the shear walls.

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**ANSWER:**

This response replaces the previous response submitted via MHI letter UAP-HF-10352, dated December 28, 2010 (ML110040155).

Attachment 1 contains a table and wall identification maps for both the East Power Source Building (PS/B) and West PS/B. The table shows all the wall height to length ratios ( $h/L$ ) of the East PS/B and West PS/B. Please note that there are four wall elements (WPE\_4, WPE\_54, WPE\_72, and WPW\_26) that have  $h/L$  ratios greater than 2.0. These four wall elements will not use boundary elements because they are all short walls in length that are adjacent to doorways. They are not considered shear walls nor do they provide any structural strength to the lateral force resisting system.

**Impact on DCD**

There is no impact on the DCD.

**Impact on R-COLA**

There is no impact on the R-COLA.

**Impact on PRA**

There is no impact on the PRA.

**Impact on Technical/Topical Report**

There is no impact on the Technical/Topical Report.

[illegible]

Table 1. Mean height to length ratio for the East FZ and West FZ (95%)	
Age	Height to length ratio
1	0.0000
2	0.0000
3	0.0000
4	0.0000
5	0.0000
6	0.0000
7	0.0000
8	0.0000
9	0.0000
10	0.0000
11	0.0000
12	0.0000
13	0.0000
14	0.0000
15	0.0000
16	0.0000
17	0.0000
18	0.0000
19	0.0000
20	0.0000
21	0.0000
22	0.0000
23	0.0000
24	0.0000
25	0.0000
26	0.0000
27	0.0000
28	0.0000
29	0.0000
30	0.0000
31	0.0000
32	0.0000
33	0.0000
34	0.0000
35	0.0000
36	0.0000
37	0.0000
38	0.0000
39	0.0000
40	0.0000
41	0.0000
42	0.0000
43	0.0000
44	0.0000
45	0.0000
46	0.0000
47	0.0000
48	0.0000
49	0.0000
50	0.0000
51	0.0000
52	0.0000
53	0.0000
54	0.0000
55	0.0000
56	0.0000
57	0.0000
58	0.0000
59	0.0000
60	0.0000
61	0.0000
62	0.0000
63	0.0000
64	0.0000
65	0.0000
66	0.0000
67	0.0000
68	0.0000
69	0.0000
70	0.0000
71	0.0000
72	0.0000
73	0.0000
74	0.0000
75	0.0000
76	0.0000
77	0.0000
78	0.0000
79	0.0000
80	0.0000
81	0.0000
82	0.0000
83	0.0000
84	0.0000
85	0.0000
86	0.0000
87	0.0000
88	0.0000
89	0.0000
90	0.0000
91	0.0000
92	0.0000
93	0.0000
94	0.0000
95	0.0000
96	0.0000
97	0.0000
98	0.0000
99	0.0000
100	0.0000



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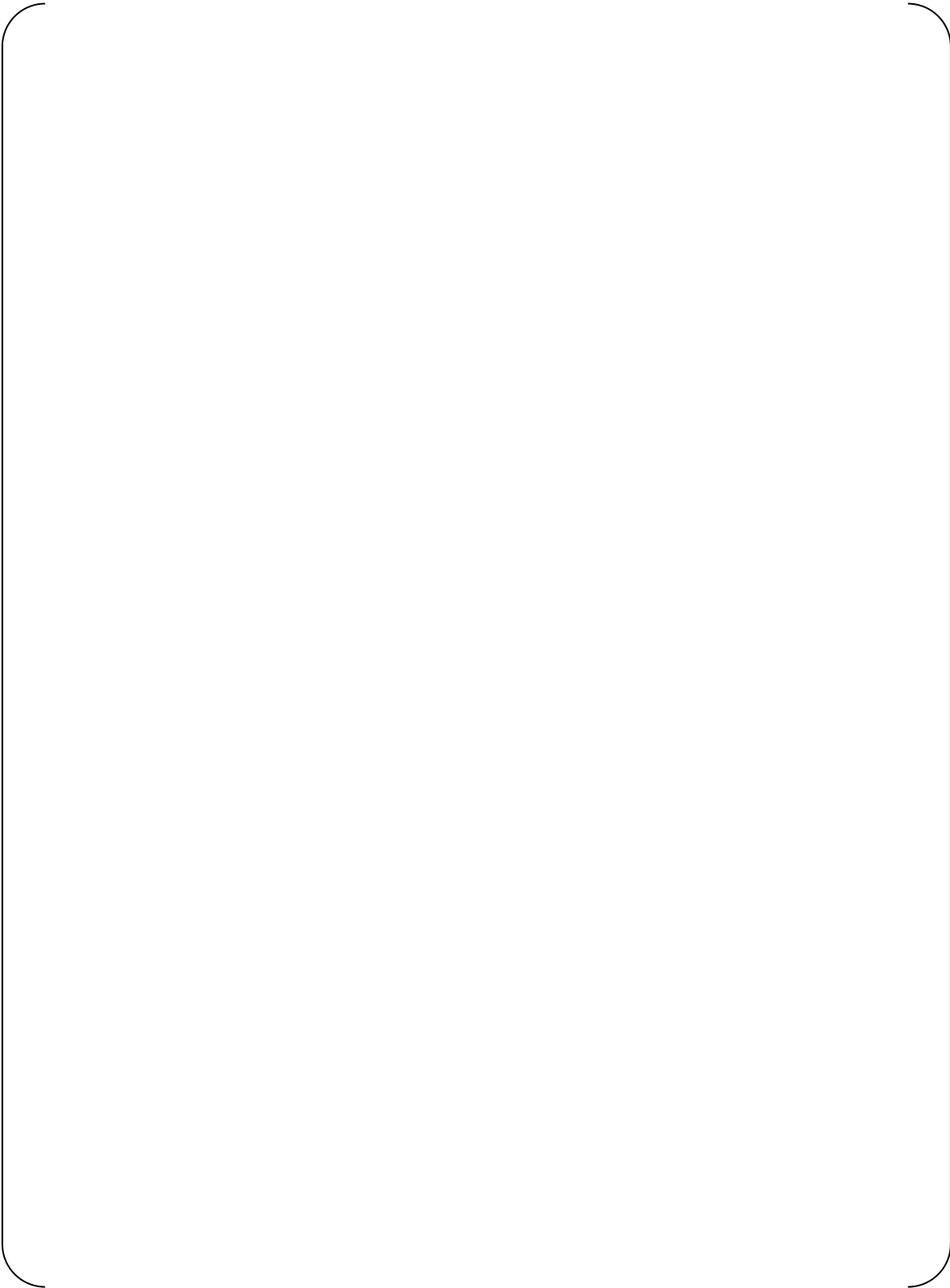


Figure 1: East PS/B Elev -26'-4"

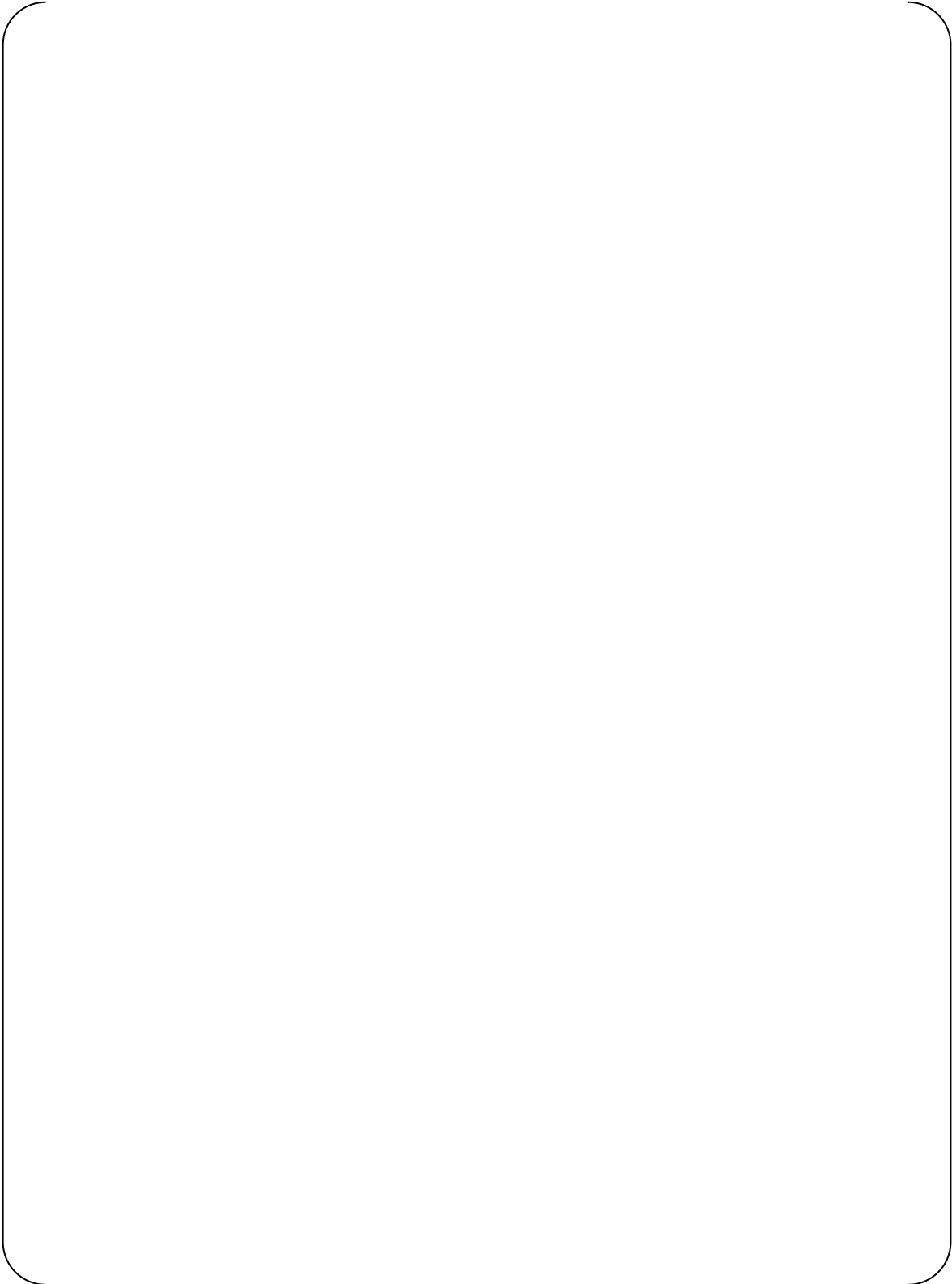


Figure 2: East PS/B Elev -14'-2"

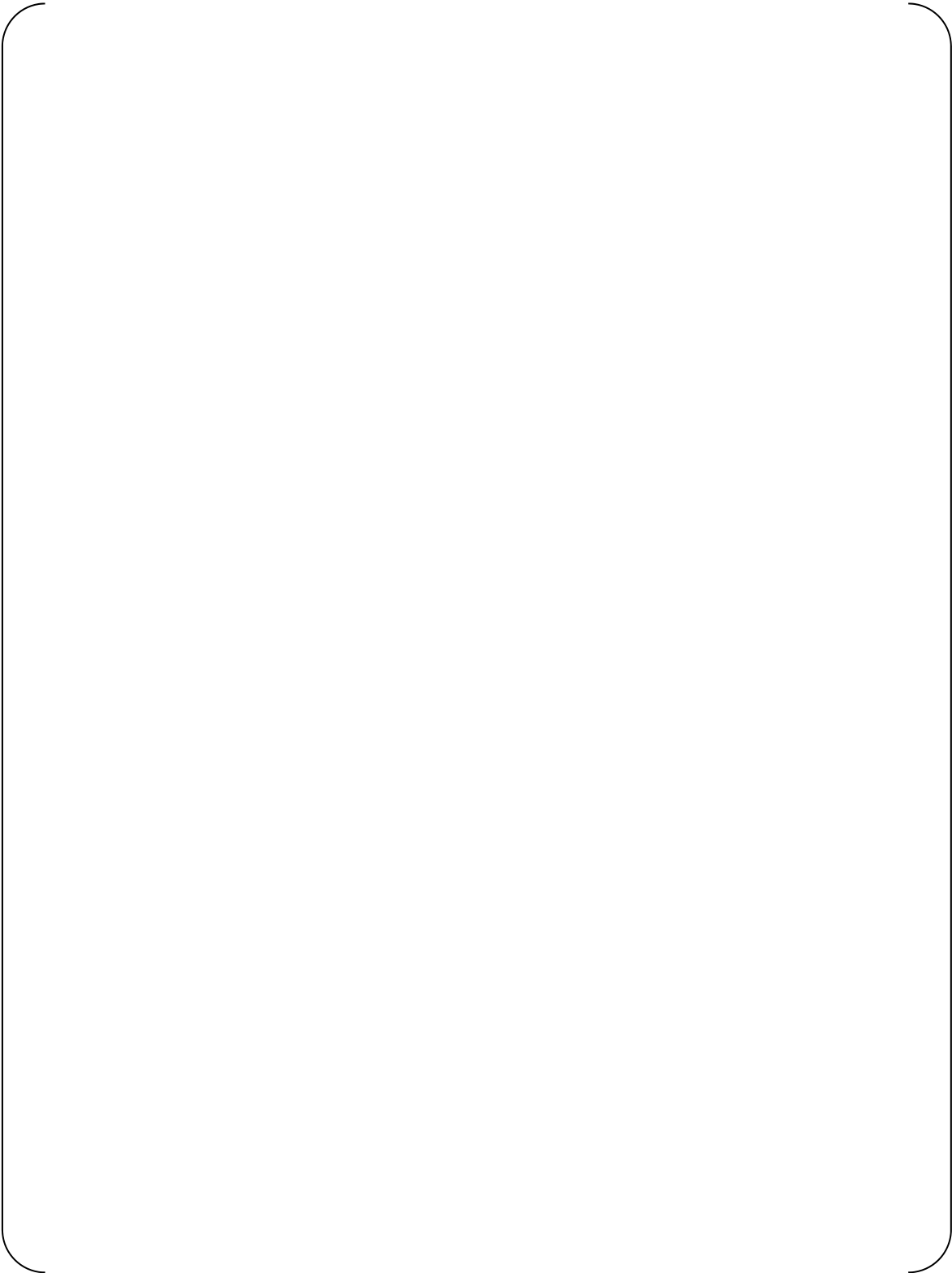


Figure 3: East PS/B Elev 3'-7"



Figure 4: East PS/B Elev 26'-11"

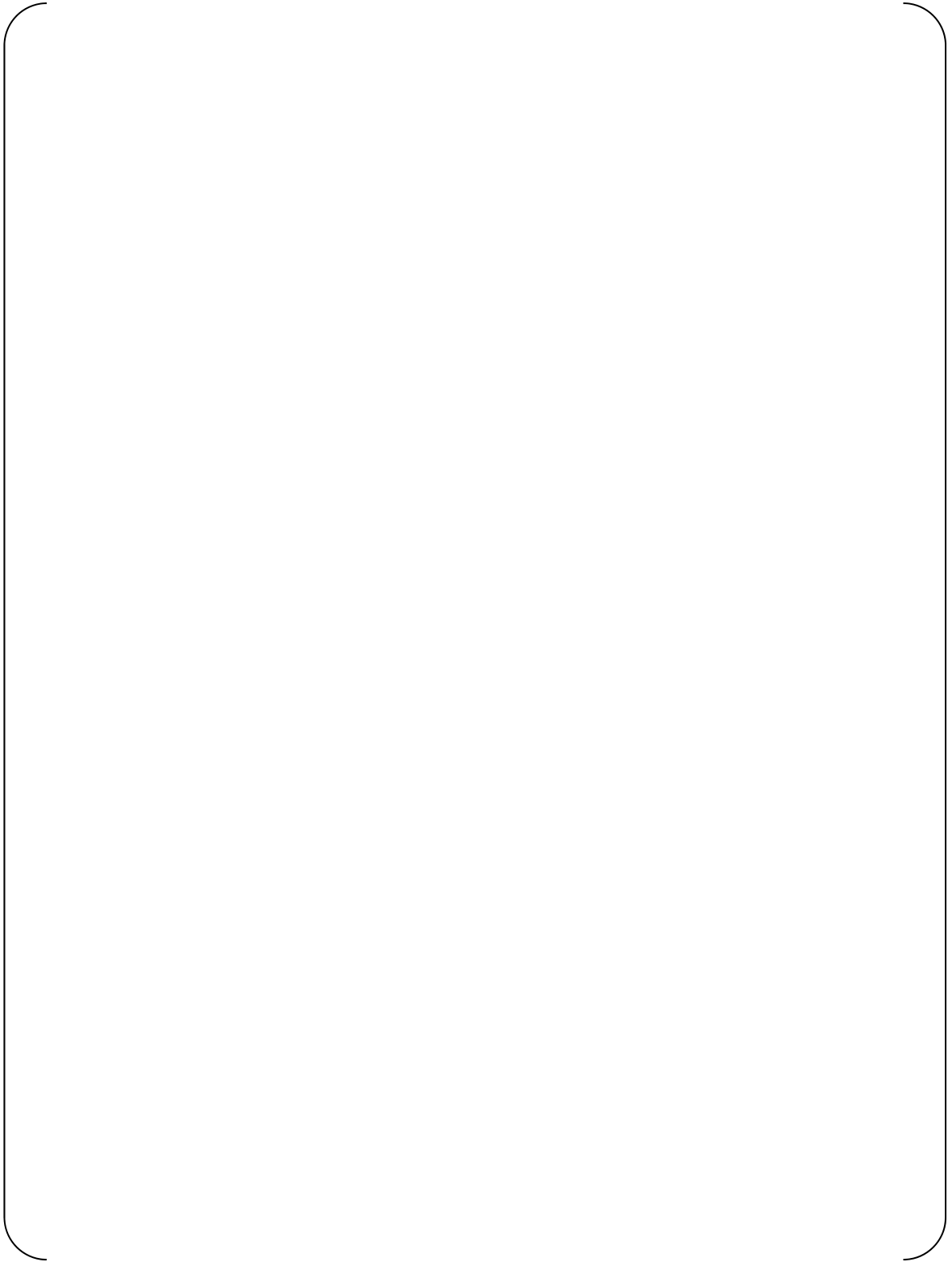


Figure 5: East PS/B Elev 39'-6"

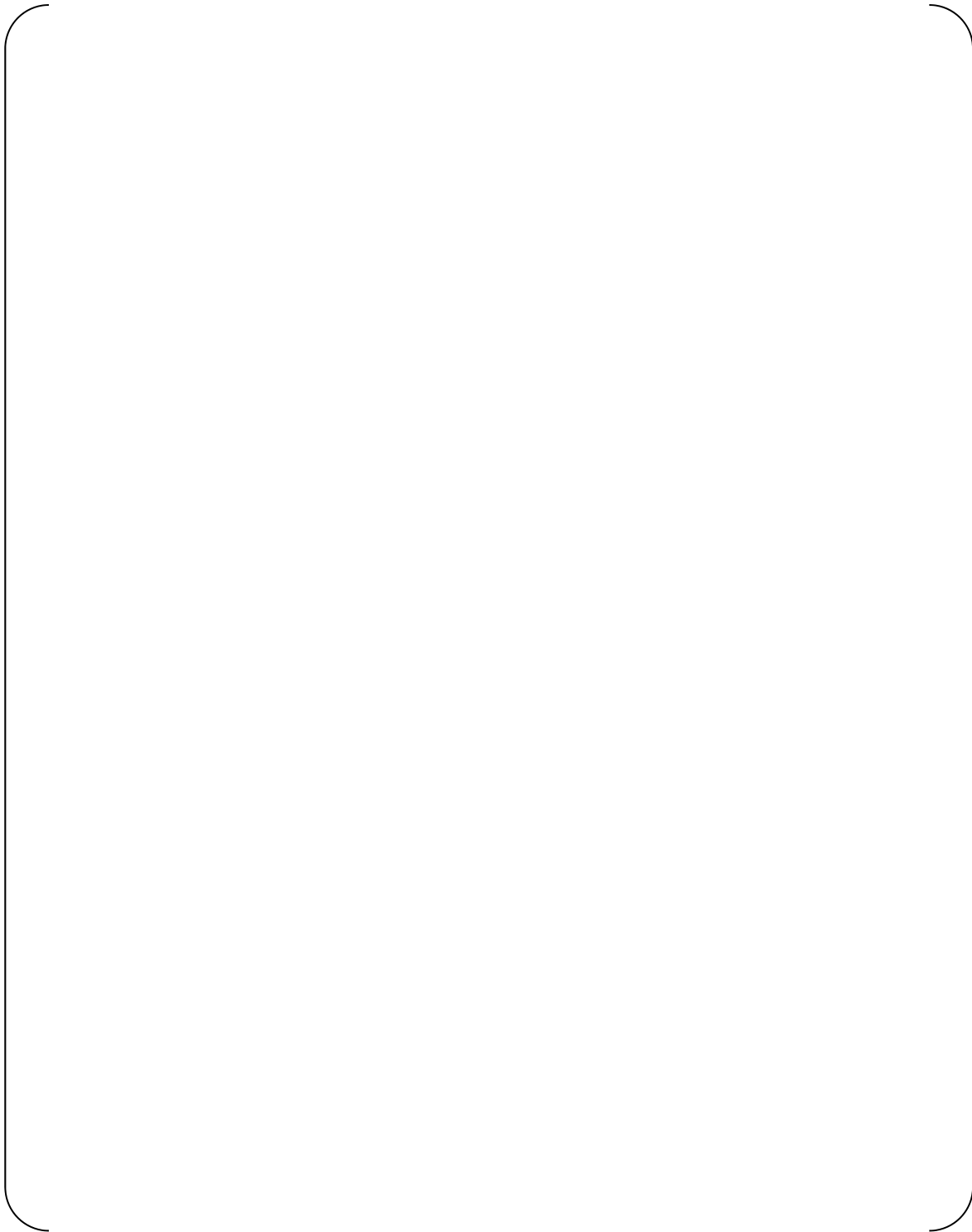


Figure 6: West PS/B Elev -26'-4"



Figure 7: West PS/B Elev -14'-2"

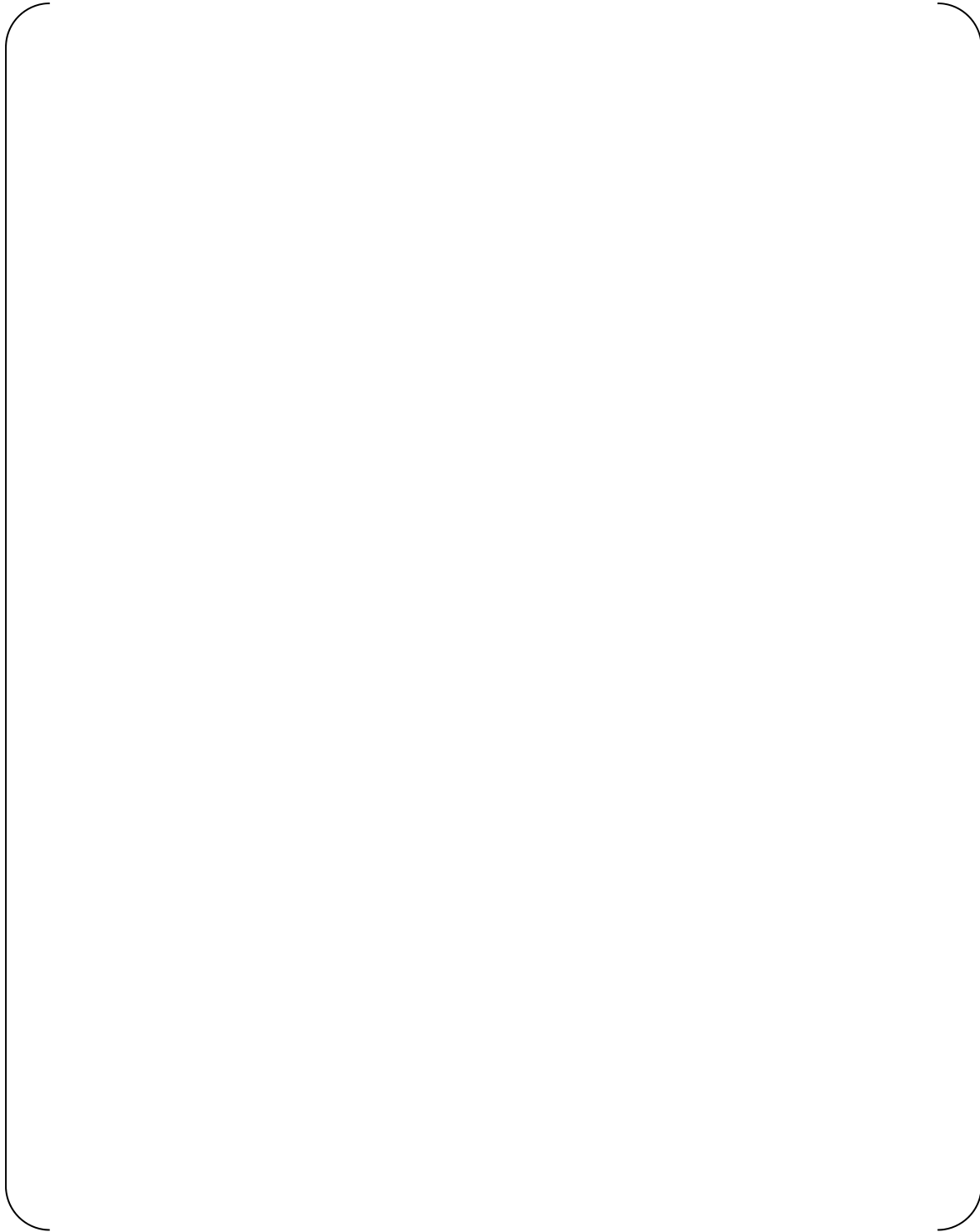


Figure 8: West PS/B Elev 3'-7" and Elev 24'-2"



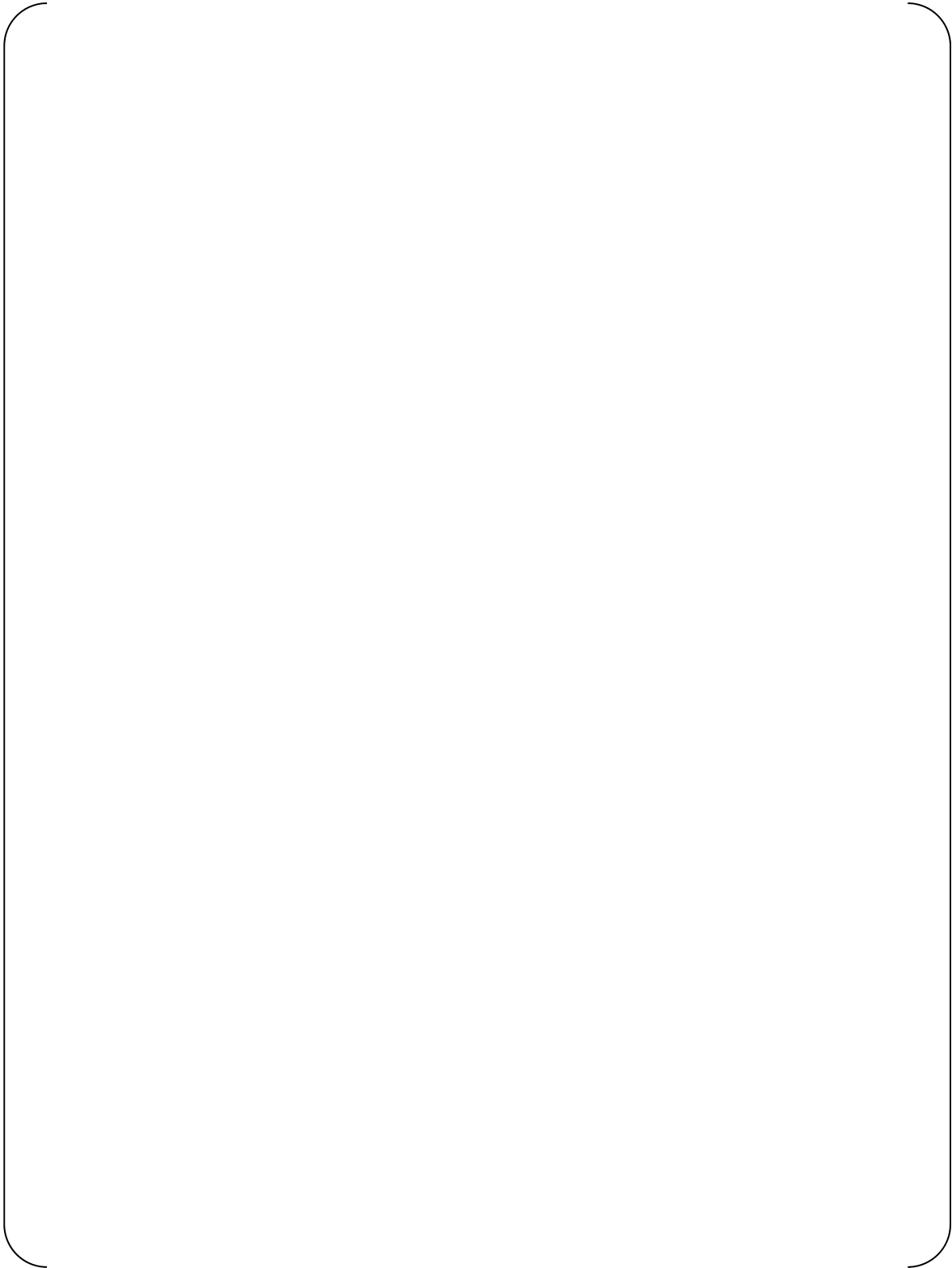


Figure 9: West PS/B Elev 39'-6"

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This completes MHI's response to the NRC's question.