

Patel, Sharad@DOT

From: Patel, Sharad@DOT
Sent: Friday, July 19, 2013 8:01 AM
To: Casey, Bill S@DOT
Cc: Bill Shedd
Subject: FW: Pier E2 Grounding Connection
Attachments: RGRFI3351R00PB.doc; 04-0120f1_0105R04.pdf; 04-0120f1_0105S01.pdf; 04-0120f1_0165R03.pdf; 04-0120f1_0225R02.pdf; ABF-RFI-001462R01.pdf; ABF-RFI-003351R00.pdf; RGRFI1462R01PB.doc; RGRFI1462R01PBAttachmentRev1.pdf

Bill,
I am forwarding the email from PB engineer for E2 grounding requirement due to shear key issue. Original plans calls for this ground cable be installed in conduit. Because of the shear key issue we have asked to relocate already installed grounding plate. Also we cannot install conduit. During phone conversation with PB it was agreed that temporarily it will be Ok to install without conduit as long as it is clamped to structure. Also attached are the two electrical RFI, plans, responses related to work at E2. I will leave printed copy of attached documents in your office. Any questions call me.

Sharad (Sam) Patel
(510) 714-9829

From: Mohammed, Safiuddin Adil [mailto:mohammeds@pbworld.com]
Sent: Friday, July 19, 2013 2:06 AM
To: Patel, Sharad@DOT
Cc: Thomas, Melinda
Subject: FW: Pier E2 Grounding Connection

Sam,

Please see following correspondence related to E2 grounding requirement per our phone conversation today. Please let me know if you have any questions or comments.

Thanks,
Adil Mohammed

Safiuddin Adil Mohammed, PE, LEED AP
Senior Engineer
Parsons Brinckerhoff
415-813-8403 (cell)

mohammeds@pbworld.com

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From: Garcia, Rocky
Sent: Thursday, June 20, 2013 10:10 AM
To: Mohammed, Safiuddin Adil
Cc: 'Saeed Shahmirzai'; Erlingsson, Jens
Subject: RE: Pier E2 Grounding Connection

Adil,

- 1. Personnel and equipment safety issues are always a concern if an adequate grounding system is not provided. My opinion is that it is NOT necessary to install the Pier E2 grounding conductors*

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for pre-SSO if the main grounding conductors (#500 kcmil) are completely installed from SAS to Skyway at both EB and WB. The only issue is that in the event of a ground fault current within the Skyway or nearby, such fault current will have to pass through the main tower and/or Pier W2 before it can travel down to earth ground and appropriately absorbed. Such distance is hard to predict if there will be a significant safety impact. Standard grounding design practices would be to make the ground fault path as short distance as possible to the earth ground.

- 2. As I indicated in item 1, Pier E2 grounding conductors are NOT required for pre-SSO. However, I still recommend extending the Pier E2 grounding conductors to the main grounding conductor (#500 kcmil) inside OBG even it is for temporary purposes only. This is to minimize potential safety impact in the event a ground fault current occur. Permanent grounding installation may be performed during post-SSO.*

*Regards,
Rocky Garcia*

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From: Mohammed, Safiuddin Adil
Sent: Thursday, June 20, 2013 1:04 AM
To: Garcia, Rocky
Cc: 'Saeed Shahmirzai'
Subject: Pier E2 Grounding Connection

Rocky,

Due to the ongoing Pier E2 retrofit work the contractor is requesting alternatives to meet the SSO without completing the grounding connection. If that is not acceptable, contractor wants to install a grounding conductor without the conduits/pull box installation. Caltrans/PB will be meeting the contractor tomorrow to brainstorm. Can you please respond to the following questions at your earliest convenience?

- 1) Is the grounding connection at Pier E2 necessary for the safety of the electrical system? As the grounding system is already connected at Pier W2 and continues through the SAS into Skyway, can the Pier E2 (and Tower base) grounding connection be made post SSO?
- 2) If the Pier E2 connection is required pre-SSO, can the contractor connect a grounding conductor from the Pier E2 pigtail to the connection point inside the OBG without installing a pull box and conduit under the OBG and on the face of Pier E2. Contractor can install the pull box and conduits post SSO and reroute the grounding wire through them.

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