From: Harvey Liss [mailto:harveybronx@cox.net]
Sent: Wednesday, January 29, 2014 4:53 PM
To: 'Sullivan, James B CIV NAVFACHQ, BRAC PMO'
Subject: Earthquakes and required monitoring

Dear Jim:

Immediately below the heavy horizontal line is the listing of the key attributes of the magnitude 4.4 earthquake that occurred on Wednesday, January 15, near Fontana, about 40 miles from IRP Site 3. According to several DON reports, an inspection is required to have been made within 24 hours, or if that is not feasible (although I don't understand why it wouldn't be feasible) it must be done within 7 days.

>>>I'd greatly appreciate it if you could forward me the report of the inspection that was performed after the above mentioned earthquake, with some proof that it was actually performed on the day reported.

Below that listing are extracts from three DON reports, that describe, highlighted in red, the major or significant events that trigger non-routine inspections (various terms are used). From the first report, dated November 2013, is its description of the triggering events for inspections, then claiming that there were no significant earthquakes as specified during the time period of the report. Listed immediately below are 9 such earthquakes that did, indeed, occur within the timeframe specified! What did I do wrong, or how do I interpret this?

Sincerely,
Harvey

Harvey H. Liss, P.E., Ph.D.
Planning Commissioner
The City of Irvine
c949-836-2225

The following earthquake occurred last week, Wed., Jan 15, about 40 miles from IRP Site 3, magnitude 4.4:

M4.4 - 5km N of Fontana, California (BETA)

Time 2014-01-15 01:35:18 UTC-08:00
Location 34.143 N 117.442 W
Depth 3.5km

COMMENT: I received a report a couple weeks later that was dated one day before my email requesting the report, and indicated that the inspection was made on the 7th day after the earthquake. Below is a time period during which candidate earthquakes occurred, but inspections were not reported.

November 2013 Final Operations & Maintenance Long Term Monitoring Report (Aug 2011-Dec2012) IRP Sites 3 & 5 MCAS El Toro

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2.2 Non-Routine Maintenance [color and emphasis added]

According to the Final O&M/LTM Plan, the landfill cover components and items listed in Sections 2.1.1 through 2.1.7 will be inspected visually following significant events such as earthquakes (defined as greater than Richter magnitude of 4.0 within 100 miles of the site), wildfires, and major storms (defined as rainfall exceeding 2 inches per 24 hours). If feasible, these non-routine inspections are to be conducted within 24 hours and not later than one week following the event.

No significant rainfall events occurred in the August 2011 through December 2012 period. The most significant rainfall experienced during this period was 1.60 inches of rain at nearby Santa Ana on April 13, 2012 (NOAA 2013). Wildfires did

not occur at or near the two sites. **Earthquakes greater than magnitude 4.0 Richter did not occur near the sites during this period**.

Because no significant events occurred and no O&M was required at the sites, no non-routine maintenance was required or conducted.

COMMENT: However, there were, indeed, 9 significant earthquakes during that time period, within 100 miles, as follows:

From the Southern California Earthquake Data Center (SCEDC) at CalTech:
http://www.data.scec.org/cgi-bin/catalog/catalog_search.pl

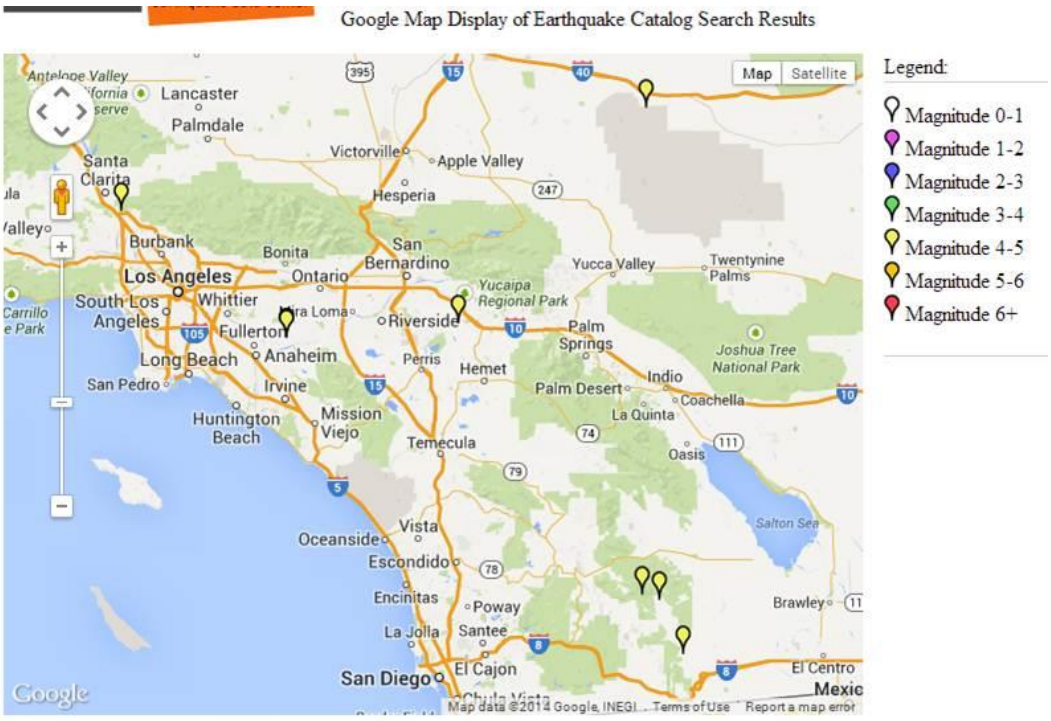
Center of IRP Site 3 for Proposed HIGH SCHOOL NO. 5 IUSD

33.676911 LATITUDE or 33deg 40' 36.879"
-117.716143 LONGITUDE or -117deg 42' 58.1148"

100 miles = 160.9344 km
Contrary to the report, above, below are the earthquake events >4.0 within 100 miles of IRP Site 3 between Aug 2011 and Dec 2012!!!

#YYY/MM/DD	HH:mm:SS.ss	ET	MAG	M	LAT	LON	DEPTH	Q	EVID	NPH	NGRM
2011/09/01	20:47:07.95	le	4.24	l	34.339	-118.475	7.3	A	11001205	209	2213
2011/09/14	14:44:51.02	le	4.14	l	33.953	-117.076	16.9	A	11006189	167	2211
2011/10/17	20:05:57.82	le	4.01	l	34.694	-116.293	1.1	A	15064556	148	2250
2012/08/08	06:23:34.16	le	4.46	l	33.905	-117.792	10.1	A	15189073	345	2435
2012/08/08	16:33:22.05	le	4.45	l	33.904	-117.791	10.4	A	15189281	246	2445
2012/08/29	20:31:00.35	le	4.13	l	33.906	-117.788	9.2	A	15207433	200	2519
2012/10/02	08:28:14.96	le	4.13	w	32.805	-116.144	10.5	A	15223417	287	2444
2012/10/08	00:39:08.34	le	4.16	l	33.012	-116.311	11.4	A	15226257	177	2456
2012/12/22	21:37:45.14	le	4.02	l	32.997	-116.239	7.8	A	15267105	169	2404

 # Number of events: 9



Search Parameters: magnitude between 4.0 and 9.0
date/time between 2011/08/01 00:00:00 and 2012/12/31 00:00:00
Number of events on map: 9

COMMENT: During the following time period, there were significant events, and the landfill cap was inspected. Thus, inspection appears to be hit or miss.

January 2013, FINAL 1ST Year LTM Report August 2010—July 2011 O & M, Operable Unit 2C, IRP Sites 3 & 5, Former MCAS El Toro

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2.1.10 Major Events

According to the Final O&M/LTM Plan (Shaw, 2010), the landfill cover components and items listed in Sections 2.1.1 through 2.1.8 will be inspected visually following significant events such as earthquakes (greater than magnitude of 4.0), wild fires, and major storms; and if feasible, these inspections will be conducted within 24 hours and not later than a week from the occurrence of the event.

During the reporting period (August 2010 to July 2011), a significant rainfall event was recorded (2 or more inches of rainfall over a 24-hour period) over an eight-day period in the later part of December 2010. From December 16 to December 23, 2010, approximately 10.25 inches of rain was recorded at the field trailer rain gauge. A non-routine inspection was conducted on December 20, 2010, following significant rainfall from December 16 to 20, 2010, and the second quarterly inspection was conducted on December 27, 2010, following the end of the rainfall period. Sections 2.1.3 and 2.1.4 summarize the results from those inspections and corrective action performed.

There were 22 earthquakes in the Southern California area during the reporting period (August 2010 to July 2011) with a magnitude of 4.0 or greater. These earthquakes ranged in magnitude from 4.01 to 5.07. The epicenter of one of these earthquakes was near Owens Lake in Inyo, California (approximately 200 miles north of IRP Sites 3 and 5), and the remaining earthquakes centered around Mexicali, Mexico (approximately 190 miles south of IRP Sites 3 and 5). Given the distance of the epicenter from the site and the low magnitude, the landfill components were visually inspected during the normal quarterly inspection period and found to be in good condition. On October 21, 2010, a 6.7 magnitude earthquake occurred approximately 800 miles south of IRP Sites 3 and 5 within the Gulf of California. Even though this earthquake was a significant distance away from the site, the landfill cover components were visually inspected by Shaw Environmental, Inc.

ConcTP-G:\129894 O&M_LTM RPT_Year\1st Y\D\OM_LTM 1st Year Report_d.doc 2-6 due to the high magnitude of the earthquake and found to be in good condition. A formal inspection checklist was not completed for this event

November 2010, Final O&M LTM Plan, IRP Sites 3&5 Former MCAS, El Toro

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3.9 Major Events Contingency Plan

The landfill cover components and items listed in Sections 3.1 through 3.8 will be inspected following significant events such as earthquakes (greater than magnitude of 4), wildfires, and major storms. If feasible, these inspections will be conducted within 24 hours and not later than a week from the occurrence of the event. The cover inspection checklist is presented in Appendix A**. The FFA [Federal Facility Agreement] signatories will be notified of the inspection results and any damage.** If any repair is required, it will be conducted in accordance with the procedures described in Sections 3.1 through 3.8.