



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

*Certified Mail and Return Receipt*

November 10, 2015

Mr. Robert Copeland  
Environmental Manager  
The Boeing Company  
5301 Bolsa Ave., Suite MC: H45N-E104  
Huntington Beach, CA 92647

Subject: AB2588 Revised Health Risk Assessment (HRA) Approval  
The Boeing Company-Huntington Beach (SCAQMD No. 16660)

Dear Mr. Copeland:

This letter provides a final approval of the revised HRA submitted by The Boeing Company on May 21, 2015 pursuant to AB2588 and South Coast Air Quality Management District (SCAQMD) Rule 1402, including revisions made by SCAQMD staff. The risks in the revised HRA have been recalculated by SCAQMD staff to reflect the current Office of Environmental Health Hazard Assessment (OEHHA)<sup>1</sup> HRA Guidelines. As noted in the HRA Summary Form attached to this letter, reported risks are below public notification and risk reduction levels specified in SCAQMD Rule 1402.

## **Background**

With the recent addition of the two boilers purchased from Ameresco Huntington Beach, LLC (ID 140499), the facility's HRA of June 2006 was no longer representative of current operations. As a result, on July 31, 2013, a request for your facility to submit an updated HRA was made by SCAQMD staff. Your facility submitted a HRA on February 4, 2014. After review and request for revision by SCAQMD staff, an amended HRA was submitted on September 22, 2014. On April 17, 2015, SCAQMD staff requested that your facility use annual emissions of diesel exhaust particulates (DPM) to represent diesel exhaust emissions for the health risk calculations and not include other speciated toxic air contaminant (TAC) emissions from the diesel engines. After you submitted another revised HRA on May 21, 2015, OEHHA subsequently approved new HRA Guidelines that place greater emphasis on infant's and children's higher susceptibility to carcinogenic compounds. In general, for equivalent emissions, these new Guidelines yield

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<sup>1</sup> Available here: [http://oehha.ca.gov/air/hot\\_spots/riskguidancedraft2014.html](http://oehha.ca.gov/air/hot_spots/riskguidancedraft2014.html)

<sup>2</sup> Available here: <http://www.arb.ca.gov/toxics/harp/harp.htm>

calculated residential cancer risks that are higher by a factor of two to three compared to the previous Guidelines. In conjunction with OEHHA's updated Guidelines, on March 6, 2015 the state Air Resources Board (ARB) approved a new version of its HARP2 software to analyze health risks consistent with the new OEHHA HRA Guidelines. Due to these changes, SCAQMD staff recalculated the risks using the new HARP2 software available from the state ARB<sup>2</sup>.

### Risk Results and Next Steps

Using the recently updated OEHHA Guidelines, your facility poses a maximum cancer risk of 6.39 in a million to a residential receptor. This risk is mainly caused by DPM and hexavalent chromium emissions. The maximum non-cancer acute hazard index is 0.01, mainly from acrolein, ammonia and formaldehyde emissions. The maximum non-cancer chronic hazard index is 0.08, mainly from methylene diphenyl diisocyanate emissions. The maximum 8-hour non-cancer chronic hazard index is  $7.35 \times 10^{-5}$ , mainly from acrolein and formaldehyde emissions. The cancer burden is 0.024.

The revised HRA demonstrates that for the toxic pollutants inventoried and the emission levels reported, your facility does not pose a cancer risk or health hazard that requires notification of the community surrounding your facility. Therefore, you have complied in full with your obligations under AB 2588 Program. Please be aware that your facility is still in the "HRA Tracking" category of the AB 2588 Program and you are required to submit a quadrennial emissions inventory for year 2016. Your facility continues to be subject to an annual fee of \$901.92 (refer to Table I of Rule 307.1) based on the results of your approved HRA. Should your facility have significant changes in activities or operations, please notify SCAQMD promptly.

Thank you for your participation in the AB2588 program. If you have any questions regarding this letter, please contact Wing Ko at (909) 396-3294.

Sincerely,



Jill Whynot  
Assistant Deputy Executive Officer

Attachment: HRA Summary Form

cc: Amir Dejbakhsh, Engineering & Compliance  
Victoria Moaveni, Planning & Rules



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HEALTH RISK ASSESSMENT SUMMARY FORM

(Required in Executive Summary of HRA)

Facility Name : The Boeing Company
Facility Address: 5301 Bolsa Ave.
Huntington Beach, CA 92647
Type of Business: Aerospace
SCAQMD ID No.: 16660

A. Cancer Risk

(One in a million means one chance in a million of getting cancer from being constantly exposed to a certain level of a chemical over a period of time)

- 1. Inventory Reporting Year : 2012
2. Maximum Cancer Risk to Receptors : (Offsite and residence = 30-year exposure, worker = 25-year exposure)
a. Offsite 17.85 in a million Location: Boundary Point 1048 (404217.19 m, 3734925.33 m)
b. Residence 6.39 in a million Location: Point 697 (404400 m, 3735200 m)
c. Worker 1.96 in a million Location: Point 572 (404300 m, 3734800 m)
3. Substances Accounting for 90% of Cancer Risk: Diesel exhaust PM, hexavalent chromium
Processes Accounting for 90% of Cancer Risk: Diesel engines, spray booths
4. Estimated Population Exposed to Specific Risk Levels for a 70-year exposure
a. 1 to <10 in a million 10917
b. 10 to <100 in a million 39
c. >100 in a million 0
d. Total >= 1 in a million 10956
5. Cancer Burden: 0.024
Cancer Burden = (cancer risk) x (no. of people exposed to specific cancer risk)
6. Maximum Distance to Edge of 70-year, 1 x 10^-6 Cancer Risk Isoleth (meters) 2000

B. Hazard Indices

(Long Term Effects (chronic) and Short Term Effects (acute))
(non-carcinogenic impacts are estimated by comparing calculated concentration to identified reference exposure levels, and expressing this comparison in terms of a "Hazard Index")

- 1. Maximum Chronic Hazard Indices:
a. Residence HI: 0.06 Location: 404400 m, 3735200 m toxicological endpoint: RESP
b. Worker HI: 0.08 Location: 404300 m, 3735000 m toxicological endpoint: RESP
2. Substances Accounting for 90% of Chronic Hazard Index: Methylene diphenyl diisocyanate (MDI)
3. Maximum 8-hour Chronic Hazard Index:
8-Hour Chronic HI: 7.35x10^-5 Location: 404200 m, 3735200 m toxicological endpoint: RESP
4. Substances Accounting for 90% of 8-hour Chronic Hazard Index: Acrolein, formaldehyde
5. Maximum Acute Hazard Index:
PMI: 9.94x10^-3 Location: 404150.7 m, 3735177.7 m toxicological endpoint: eye
6. Substances Accounting for 90% of Acute Hazard Index: Acrolein, ammonia, formaldehyde

C. Public Notification and Risk Reduction

- 1. Public Notification Required? No
a. If 'Yes', estimated population exposed to risks > 10 in a million for a 30-year exposure, or an HI > 1
2. Risk Reduction Required? No