

REVIEW OF GENERAL DYNAMICS NASSCO AB2588 HEALTH RISK ASSESSMENT (HRA)

September 27, 2024

Emissions Inventory Facility ID: 19

Toxics Emissions Inventory Year: 2021

Review Conducted by: Peter Ossowski, SDAPCD

As required by the California Health and Safety (H&S) code, section 44360, the San Diego County Air Pollution Control District (District) requested a Health Risk Assessment (HRA) from General Dynamics NASSCO on April 26, 2023, for the shipyard at 2798 East Harbor Drive in San Diego based on emissions that occurred in calendar year 2021. General Dynamics NASSCO submitted an HRA to the District on October 23, 2023. The District provided our comments on the HRA along with comments provided from the Office of Environmental Health Hazard Assessment (OEHHA) to General Dynamics NASSCO on April 11, 2024. General Dynamics NASSCO submitted a revised HRA to the District on June 10, 2024 and again on August 16, 2024 (Revised HRA).

The following are the results of the Revised HRA.

Summary of Revised Risk Assessment Results:

Point of Maximum Impact (PMI) Cancer Risk	99.5 in a million
Maximum Exposed Individual Resident (MEIR) Cancer Risk	28.4 in a million
Maximum Exposed Individual Worker (MEIW) Cancer Risk	4.96 in a million
Chronic Non-Cancer Health Hazard Index (PMI)	1.73
Chronic Non-Cancer Health Hazard Index (MEIR)	0.70
Chronic Non-Cancer Health Hazard Index (MEIW)	1.07
8-hour Chronic Non-Cancer Health Hazard Index (MEIW)	0.23
Acute Non-Cancer Health Hazard Index (PMI)	1.72
Acute Non-Cancer Health Hazard Index (MEIR)	1.19
Acute Non-Cancer Health Hazard Index (MEIW)	1.41
Population Excess Cancer Burden	0.48
Sub-Chronic Lead Exposure Risk	<0.12 µg/m3

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The facility's sources include:

- Metal Cutting
- Welding
- Abrasive Blasting
- Coating Operations
- Engines

Summary of Health Impacts by Pollutant:

Cancer risk at the MEIR is mainly due to hexavalent chromium (42%), nickel (19%), ethylbenzene (18%), diesel particulate matter (16%), arsenic (3%), and naphthalene (1%)

Chronic risk at the MEIW is mainly due to nickel (90%), arsenic (8%), 2,6-toluene diisocyanate (1%), xylenes (0.4%), and diesel particulate matter (0.1%).

Acute risk at the MEIR and MEIW is mainly due to nickel (99%) and benzene (1%).

The Revised HRA concludes that residential cancer risk exceeds the significant risk thresholds specified in District Rule 1210.

Location of Receptors at Maximum Exposure Points:

Universal Transverse Mercator (UTM)	X (m)	Y (m)
Cancer Risk at the (PMI)	487485	3616705
Cancer Risk at the (MEIR)	487210	3617263
Cancer Risk at (MEIW)	487589	3616597
Chronic Non-Cancer Health Hazard Index (PMI)	487458	3616705
Chronic Non-Cancer Health Hazard Index (MEIR)	487210	3617263
Chronic Non-Cancer Health Hazard Index (MEIW)	487149	3617187
8-hour Chronic Non-Cancer Health Hazard Index (MEIW)	487149	3617187
Acute Non-Cancer Health Hazard Index (PMI)	487112	3617142
Acute Non-Cancer Health Hazard Index (MEIR)	487210	3617263
Acute Non-Cancer Health Hazard Index (MEIW)	487149	3617187

UTM was used for the geographic coordinate system with the North American Datum of 1983 (NAD83).

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Notification-Triggering Isopleths

Residential Cancer 10 in a million Isopleth



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Worker Chronic HHI of 1 Isopleth



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Acute HHI of 1 Isopleth

