

Lubeco, Inc.

AB 2588 Public Meeting

South Coast Air Quality Management District
February 5, 2020



Purpose of Meeting



Who we are

- **South Coast AQMD is the regional agency responsible for air quality for areas in Los Angeles, Orange, Riverside and San Bernardino Counties**
 - Largest of the 35 local air agencies in CA
 - Work with CARB and EPA to meet state and federal standards
- **Responsibilities**
 - Control emissions from stationary sources (e.g., power plants)
 - Work to achieve federal air quality standards
 - Permit and inspect 28,400 affected businesses
 - Administer \$100 million of incentive funding annually



SCAQMD's Air Toxics Program



The Air Toxics “Hot Spots” Information & Assessment Act (AB 2588)

- State law enacted in 1987 (Connelly)
- Public **Right-to-Know** Program
- Purpose
 - Collect emissions data with updates every 4 years
 - Identify facilities having localized impacts
 - Evaluate potential health risks through Health Risk Assessments
 - Notify residents of those potential health risks
 - Reduce health risks below certain thresholds
- Rule 1402
 - Implements requirements of AB 2588
 - More stringent requirements for reducing health risk

Why are we discussing Lubeco?



- April 2017: Source tests on a heated sodium dichromate seal tank confirmed Lubeco is a source of hexavalent chromium
- May 2017: Ambient monitors measured high levels of hexavalent chromium near Lubeco
- September 2017: Designated the facility as a potentially high-risk facility under Rule 1402
- September 2019: Modeled risks were above thresholds requiring that Lubeco take steps to reduce risks and notify the public

Potentially High Risk Level Facilities

What is a Potentially High Risk Level Facility

- Facilities that are expected to or have exceeded the Significant Risk Level (Cancer Risk \geq 100 in-a-million)
- Determination based on emissions data, source test, or ambient monitoring data
- High levels of hexavalent chromium measured at ambient monitors near Lubeco*

Addresses High Health Risks Early

- Submittal and implementation of Early Action Reduction Plan

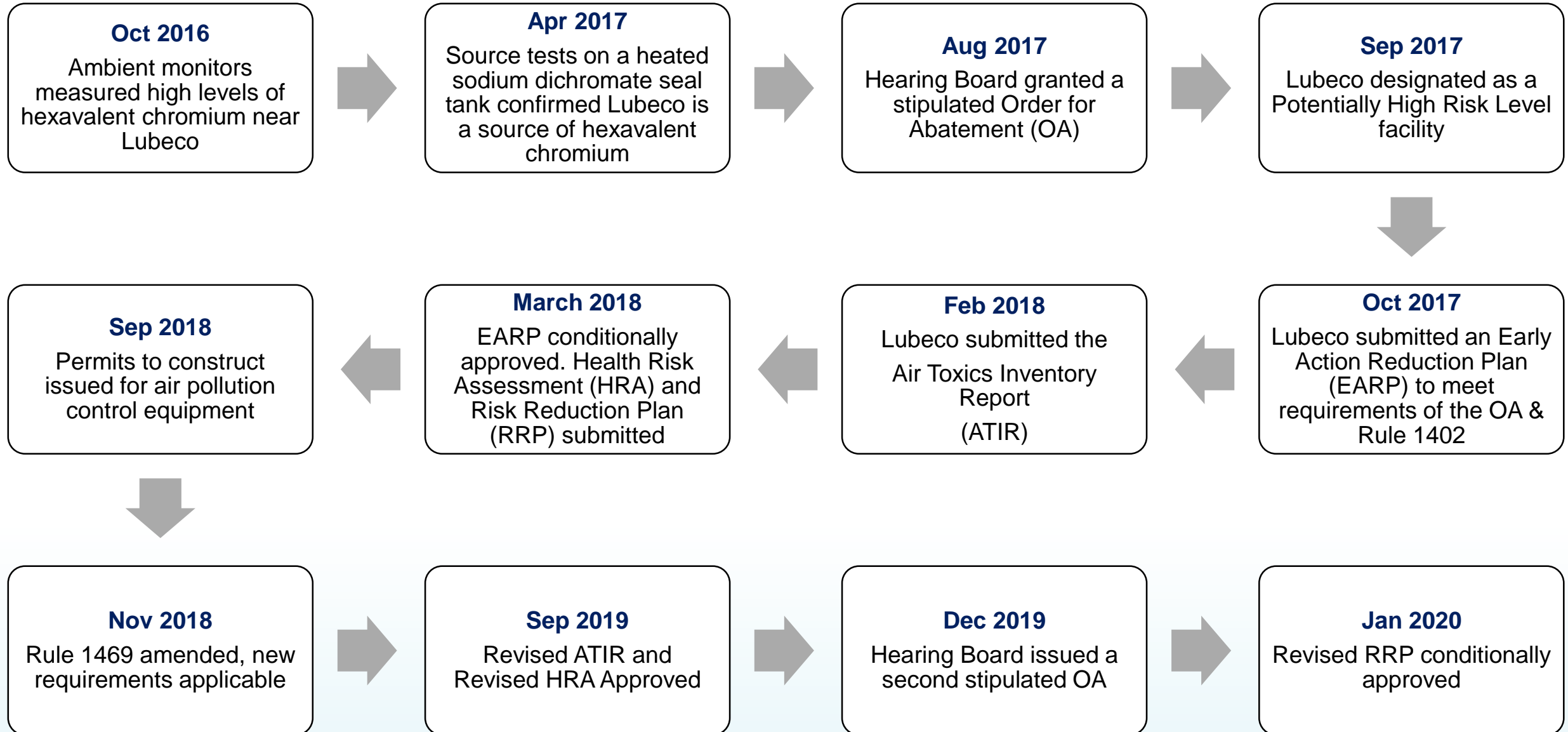
Expedited Implementation

- Submittal of:
Air Toxics Inventory Report,
Health Risk Assessment,
Risk Reduction Plan

Better Overall Public Health Sooner

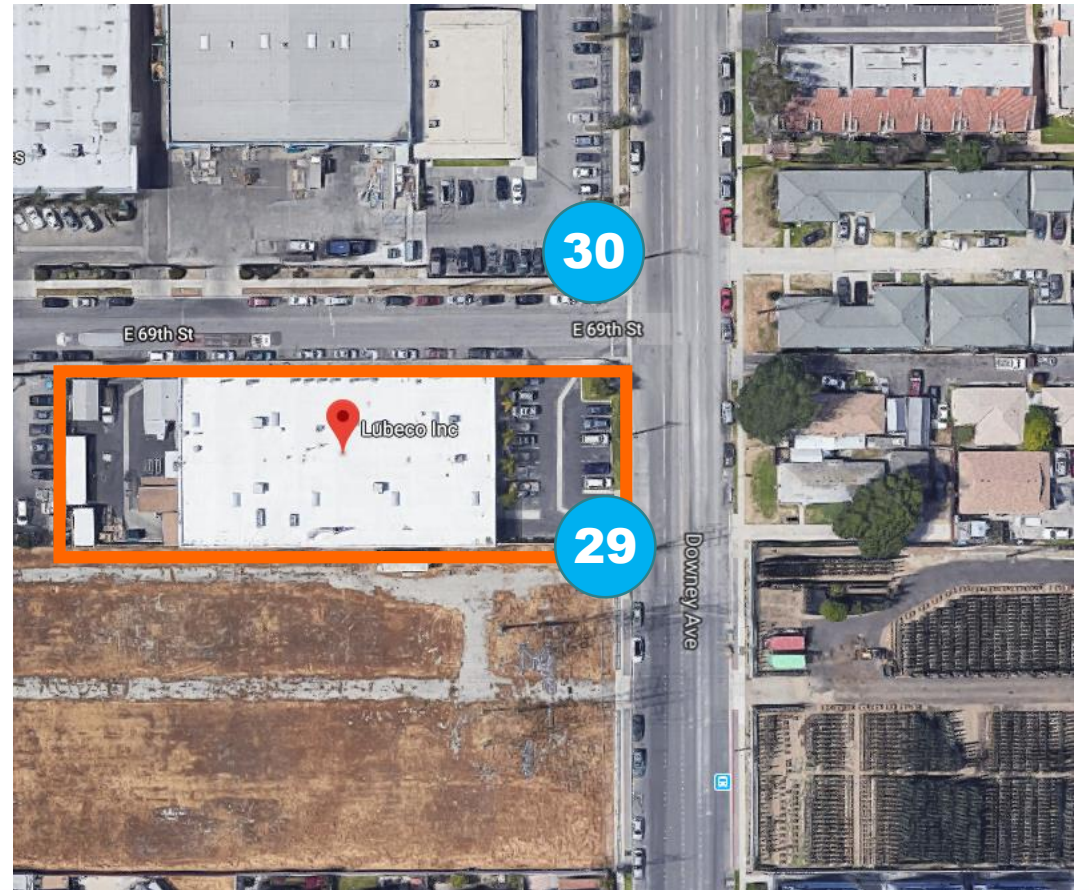
- Completes overall Risk Reduction sooner than traditional AB 2588 Program

Timeline of Key Events



Lubeco, Inc.

- Located at 6859 Downey Avenue in the city of Long Beach
- Job-shop metal finishing facility
- Operations include: spray coating, anodizing, sealing, and coloring of metal parts for the aerospace industry



Boundary of Lubeco, Inc.



South Coast AQMD ambient monitors near Lubeco

Emission Sources at Lubeco



Hexavalent Chromium Tanks

Anodizing, heated, and/or air sparged tanks are sources of hexavalent chromium emissions.

Coating Operations (Spray Booth)

Spray coating of chromate based primers is a source of hexavalent chromium emissions.

*Pictures are for illustration purposes only and are not actual photos of processes at Lubeco, Inc.

About Health Risk Assessments

Estimates the chance that a person may experience a health effect from toxic air contaminant emissions

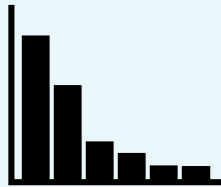


“Snapshot” based on toxic air contaminant emissions from one year of operation

Assumes 2015 emissions levels for 30 years



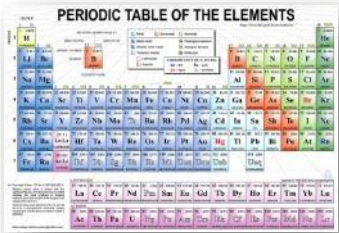
Snapshot can change if toxic air contaminant emissions are reduced



Conservative assumptions - people are outdoors 24 hours, 7 days a week in one location

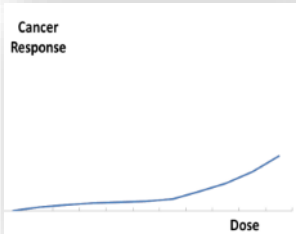


Health Risk Assessment Process



Hazard Identification

Identifies health problems and potency of toxic air contaminants.



Dose-Response

Accounts for the increased chances of having health effects when pollutant levels are higher.



Exposure

Estimates the amount of time a person could be exposed to toxic air contaminants. Residential exposure is 30 years, and off-site worker exposure is 25 years.



Sensitivity

Accounts for children being more sensitive to the health effects of air toxics.



Health Risk Assessment



Potential Health Risk Estimate¹

¹ Uses methodology established by the California Office of Environmental Health Hazard Assessment

3 Key Health Risk Elements of Rule 1402

Cancer Risk

- Estimates the probability of excess cancer cases
- Expressed in “Chances in a million”

Non-Cancer Risk

- Estimates non-cancer health effects
- Acute non-cancer effects are from short-term exposure
- Chronic non-cancer effects are from long-term exposure
- Expressed using a Hazard Index (HI)

Cancer Burden

- Estimates the increase in the occurrence of cancer cases in a population subject to a cancer risk of 1 in a million or greater
- Cancer burden ≥ 0.5 requires risk reduction

Health Effects of Key Toxic Air Pollutants

Toxic Air Pollutant	Health Effect
Hexavalent Chromium	Long-term inhalation (years to decades) can increase the chance or probability of developing cancer (e.g., lung cancer)

Health Effects of Hexavalent Chromium

A fact sheet by
CalEPA's Office of Environmental Health Hazard Assessment
November 9, 2016

What is hexavalent chromium?
Hexavalent chromium, also known as chromium 6 (Cr6), is the toxic form of the metal chromium. While some less toxic forms of chromium occur naturally in the environment (soil, rocks, dust, plants, and animals), Cr6 is mainly produced by industrial processes. Cr6 is used in:

- Electroplating
- Stainless steel production and welding
- Pigments and dyes
- Surface coatings
- Leather tanning

How are people exposed to Cr6?
Humans are exposed to Cr6 by:

- Inhalation of aerosols or particles
- Ingestion (eating and drinking)
- Skin contact

Cr6 may occur as aerosols or particulate matter in air. These can be inhaled directly or ingested after they land on soil or water. Contact with soil containing Cr6 may transfer to the hands and then to the mouth. Young children put their hands in their mouths more frequently than adults. For this reason, young children are more likely to consume contaminated soil. Children are also more active outdoors and they may have more contact with contaminated soil.

One form of Cr6, chromic acid, is created as a mist during electroplating. Workers and bystanders may inhale the mist. Chromic acid can also be absorbed through the skin. In addition, chromic acid deposited on the skin can be ingested through hand-to-mouth activities, such as eating.

What are the health effects from eating, drinking, or touching Cr6?
Eating or drinking Cr6 may also be harmful to humans. Studies show that Cr6 in drinking water may cause an increased risk of stomach cancer and reproductive harm. Direct contact with Cr6 can cause allergic skin rashes in some people.

At what level could health effects occur?
OEHHA has calculated a cancer risk associated with exposure to Cr6 if that exposure continues for an entire lifetime. Continual exposure to 0.045 nanograms per cubic meter (ng/m³) of Cr6 from all sources combined for 30 years could increase cancer risk to 25 in a million. Exposure over shorter periods of time would be associated with much lower cancer risks.

OEHHA has also developed a chronic Reference Exposure Level (REL) for Cr6. A chronic REL is a health-based benchmark that is set at a level at or below which adverse non-cancer health effects are unlikely to occur in the general human population when exposed continuously over a lifetime. Levels above the REL do not indicate the health effects will occur, but rather, that the chances of these health effects occurring increase at levels above the REL. Non-cancer health effects associated with Cr6 include nasal, throat, or respiratory irritation or allergies. The chronic REL for Cr6 is 200 ng/m³ in air (0.2 µg/m³).

Rule 1402 Health Risk Thresholds

Cancer Risk Thresholds

Significant Risk

Cancer Risk \geq 100 in one million

Risk Reduction

Cancer Risk \geq 25 in one million

Public Notification

Cancer Risk \geq 10 in one million

Non-Cancer Risk Thresholds

Significant Risk

Non-Cancer Hazard Index \geq 5

Risk Reduction

Non-Cancer Hazard Index \geq 3

Public Notification

Non-Cancer Hazard Index \geq 1

Cancer Burden Threshold

Risk Reduction

Cancer Burden \geq 0.5

Rule 1402 Risk Reduction Plans

Early Action Reduction Plan – Required if Risk > Significant Risk Level

- Measures that can be implemented immediately to reduce the facility-wide health risk below 100 in one million

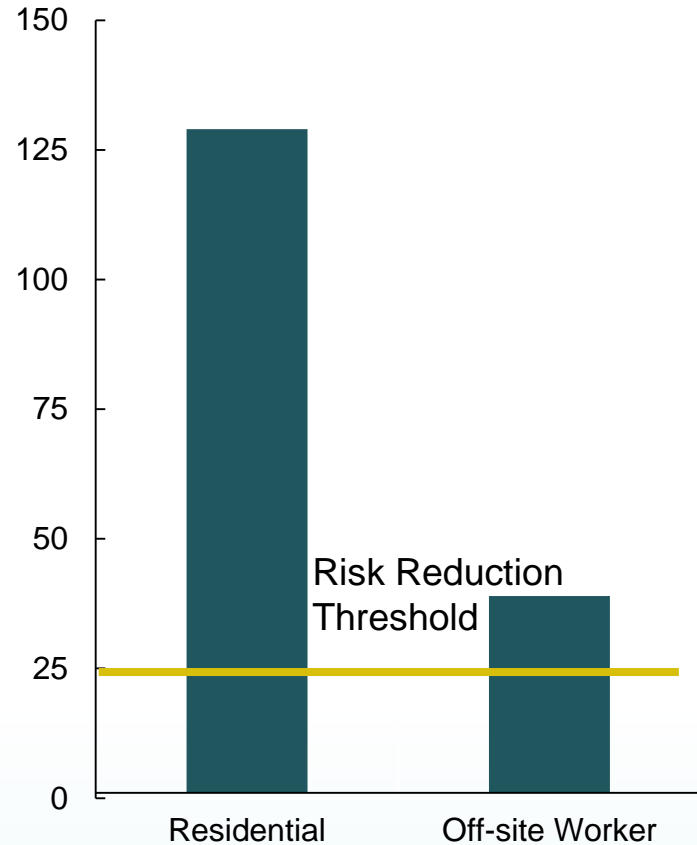
Risk Reduction Plan – Required if Risk > Risk Reduction Threshold

- Permanent, verifiable and enforceable risk reduction measures
- Must be implemented within 2 years from the approval of plan or sooner
- Must reduce the facility-wide health risk below 25 in-a-million for cancer risk and a Hazard Index of 3 for non-cancer health effects

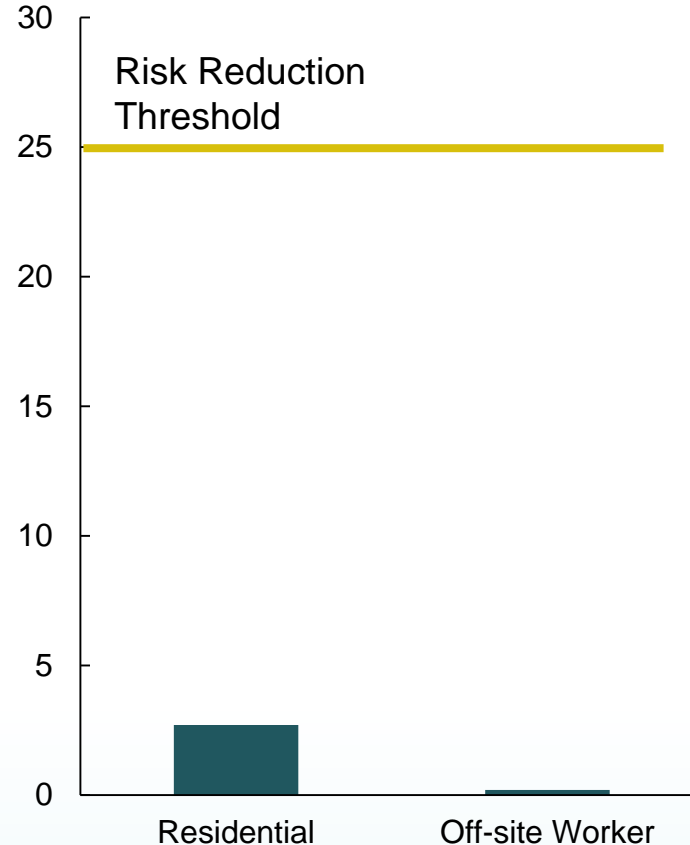
Implementation of Key Early Action Reduction Measures at Lubeco

- Installed plastic curtains in the open process tank area to reduce potential cross drafts
- Implemented the following measures for open process tanks containing hexavalent chromium:
 - Eliminated air sparging
 - Covered tanks
 - Limited heating of tanks when not in use
 - Eliminated certain tanks
- Enclosed demasking operations
- Enclosed storage of paint trays
- Enhanced housekeeping: Vacuum with HEPA, no brooms

Estimated Cancer Risk - 2015 and Post-RRP



2015 Health Risk Assessment



Estimated Cancer Risk Post-RRP

- 2015 estimated cancer risk is above Significant and Risk Reduction Thresholds
 - 2015 hexavalent chromium emissions from spray booths and process tanks represent 99% of the cancer risk
- Implementation of Risk Reduction Plan will significantly reduce cancer risk below both Action Risk Level and Notification Risk Level

Next Steps

- Monitor progress of Risk Reduction Plan
- Conduct source tests and facility inspections to verify compliance with all applicable rules and requirements
- Finalize implementation of Risk Reduction Plan
 - Implementation of Risk Reduction Plan is expected to significantly reduce health risks

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