Aerocraft Heat Treating Company, Inc.

AB 2588 Public Meeting

South Coast Air Quality Management District

December 1, 2018

Purpose of Meeting

- Notify public of 2016 estimated health risks
- Background about Aerocraft
- About Health Risk Assessments
- Steps taken to reduce the health risks
- Estimated health risks today
- Public input and comments

SCAQMD's Air Toxics Program

Over 25 rules to reduce toxic air contaminants

Community meetings and direct public communication 1-800-CUT SMOG

All new and modified sources are evaluated for toxics during permitting (Rules 1401 and 1401.1)

Requires Health Risk Assessments, Risk Reduction Plans, and Public Notification

Ambient monitoring near facilities and community monitoring

Ensures facilities are complying with SCAQMD rules and regulations

Measures regional toxic air contaminants throughout air basin

Timeline of Key Events

Oct 2016

Ambient monitors measure high levels of hexavalent chromium near Aerocraft

Nov 2016

Samples of sidewalk confirm Aerocraft is a source of hexavalent chromium

Nov 2016: SCAQMD holds Town Hall Meeting to inform public of initial findings of ambient monitoring

Dec 2016: Hearing Board granted a Stipulated Order for Abatement

Dec 2016: Aerocraft designated as a Potentially High Risk Level facility under Rule 1402

March 2017: Aerocraft submits an Early Action Reduction Plan

May 2017: Early Action Reduction Plan conditionally approved

June 2017: Health Risk Assessment and Risk Reduction Plan Submitted

May - Oct 2018: Revised Air Toxics Inventory Report (May) and Revised Health Risk Assessment (Oct) Approved (Revised Risk Reduction Plan pending approval)

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 > 100 in-a-million)
- Determination based on emissions data, source test, or ambient monitoring data
- Very high levels of hexavalent chromium measured at ambient monitors near Aerocraft*

Addresses High Health Risks Early

- Submittal and implementation of Early Action Reduction Plan

Expedited Implementation

- Submit
  - Air Toxics Inventory Report,
  - Health Risk Assessment and
  - Risk Reduction Plan

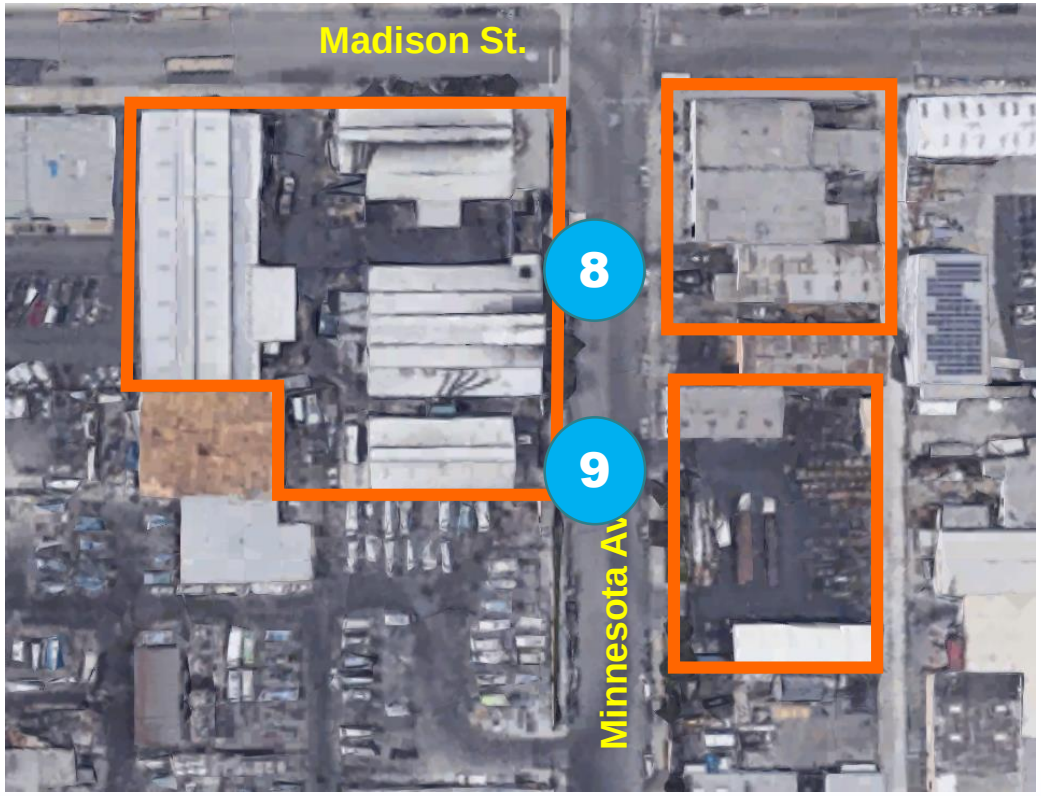
Better Overall Public Health Sooner

- Completes Overall Risk Reduction Sooner than Traditional AB 2588 Program

* http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities

Aerocraft Heat Treating Company

- Located at 15701 Minnesota Avenue in the city of Paramount
- Performs heat treating, cooling, and grinding operations for the aerospace industry
- Business in operation since 1959



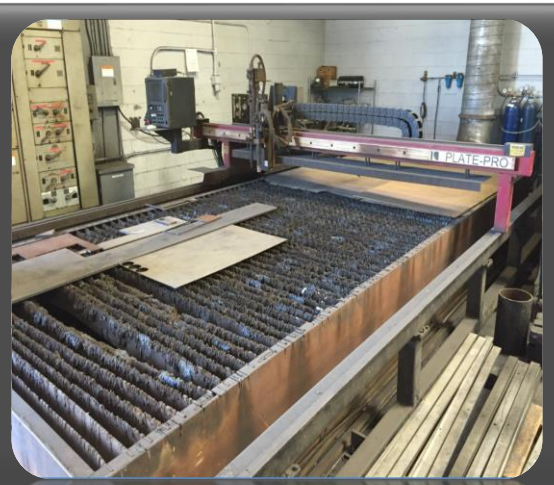
Boundary of Aerocraft Coroporation

SCAQMD ambient monitors near Aerocraft

Operations at Aerocraft

Heat Treating Furnaces

are sources of Hexavalent Chromium & Nickel emissions



Plasma Arc Cutter & Rack Welding

are sources of Hexavalent Chromium emissions

Water Quench tank & Cooling Tower

are sources of Hexavalent Chromium emissions

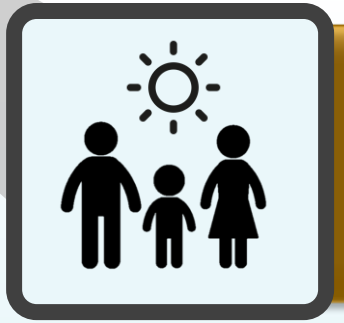
About Health Risk Assessments

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

Snapshot can change if toxic air contaminant emissions are reduced

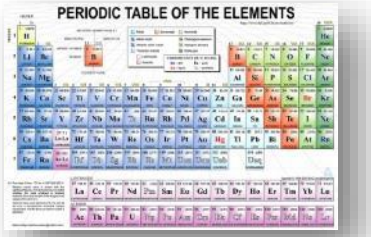
"Snapshot" based on toxic air contaminant emissions from one year of operation

Assumes 2016 emissions levels for 30 years



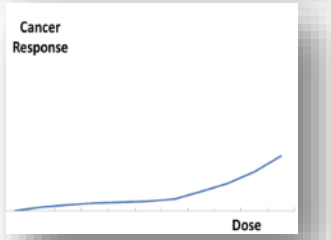
Conservative assumptions - people are outdoors 24 hours, 7 days a week in one location

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 Estimate

3 Key Health Risk Elements of Rule 1402

Cancer Risk

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

Non-Cancer Risk

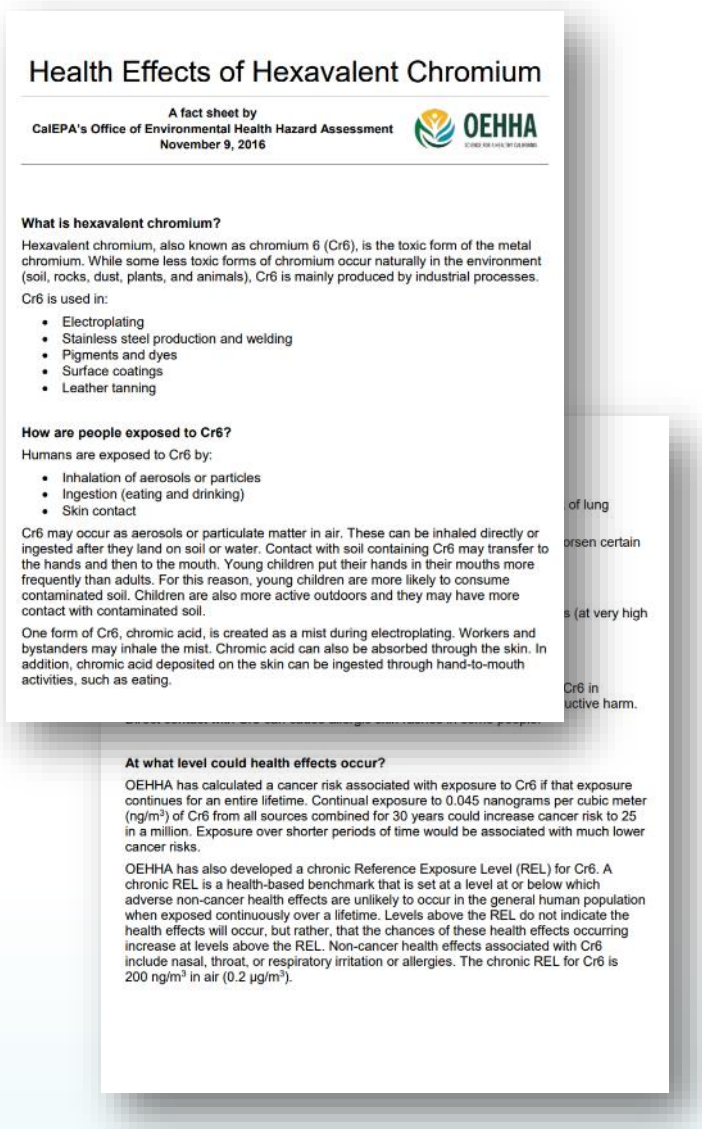
- Estimates non-cancer health effects
- Acute non-cancer effects are from short-term exposure
- Chronic non-cancer effects are from long-term exposure
- Expressed using a Hazard Index (HI)

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
Nickel	Short-term exposure can have harmful non-cancer effects on the human respiratory and immune systems



Health Effects of Hexavalent Chromium

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

OEHHA

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.

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/m^3) 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/m^3 in air (0.2 $\mu g/m^3$).

Rule 1402 Health Risk Thresholds

Cancer Risk Thresholds	Significant Risk	Cancer Risk > 100 in one million
	Risk Reduction	Cancer Risk > 25 in one million
	Public Notification	Cancer Risk > 10 in one million
Non-Cancer Risk Thresholds	Significant Risk	Non-Cancer HI > 5
	Risk Reduction	Non-Cancer HI > 3
	Public Notification	Non-Cancer HI > 1
Cancer Burden Threshold	Risk Reduction	Cancer Burden > 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
- Current health risk estimates “today” represent implementation of Early Action Reduction Plan

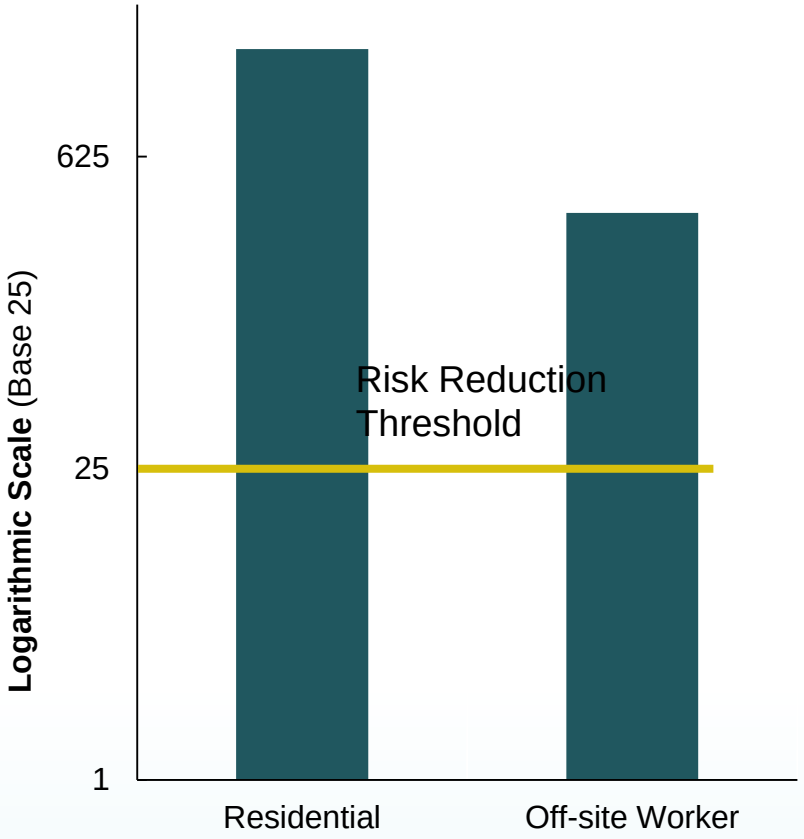
Risk Reduction Plan – Required if Risk > Risk Reduction Threshold

- 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

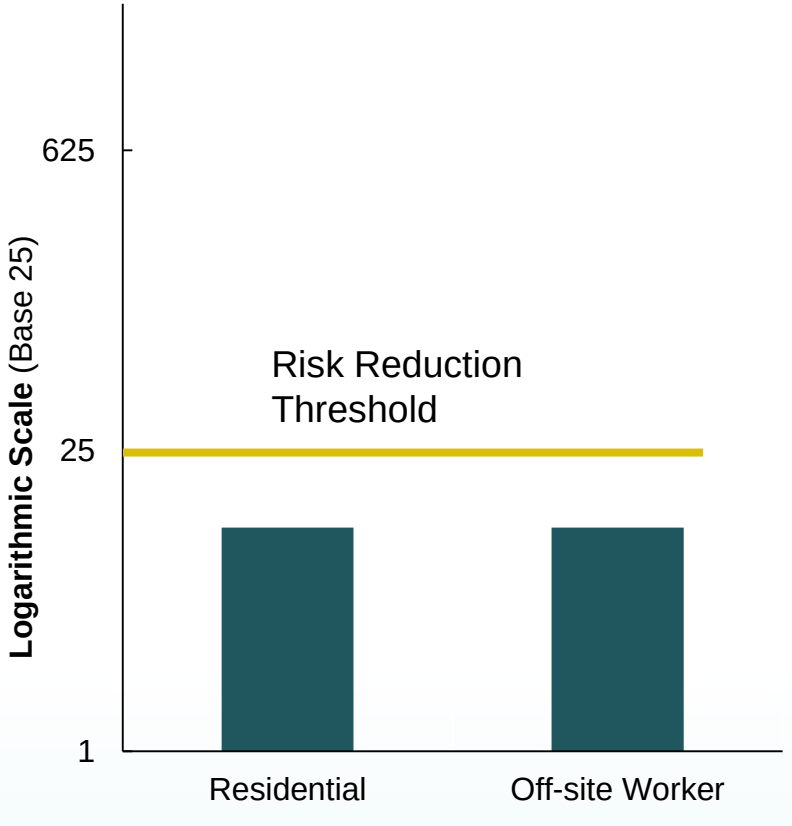
Implementation of Key Early Action Reduction Measures

- Pressure wash & clean the grinding building/area
- Discontinued the use of dry sweeping & began using wet mobile sweeper daily
- Discontinued use of compressed air for non-essential processing activities
- Installed plastic flaps and enclosed the grinding building/area
- Cleaned and HEPA vacuumed the fan cool processing area
- Cleaned and HEPA vacuumed the heat treat storage racks
- HEPA vacuumed all processing Heat Treat furnaces
- Enclose buildings 1 & 2 to create temporary total enclosures & installed baghouse controls on building ventilation exhaust

Estimated Cancer Risk - 2016 and Today



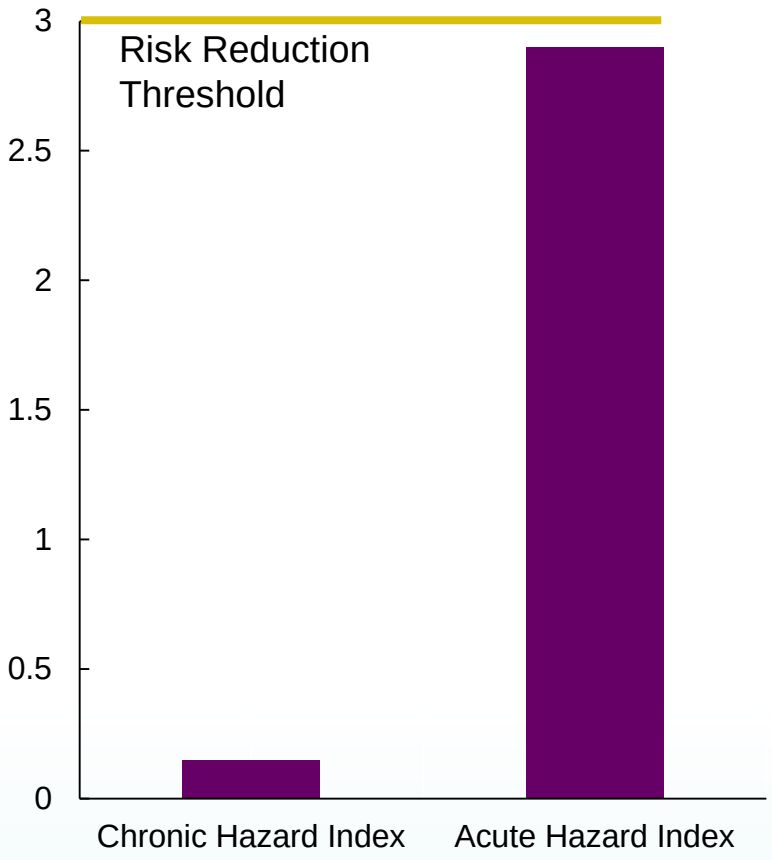
2016 Health Risk Assessment



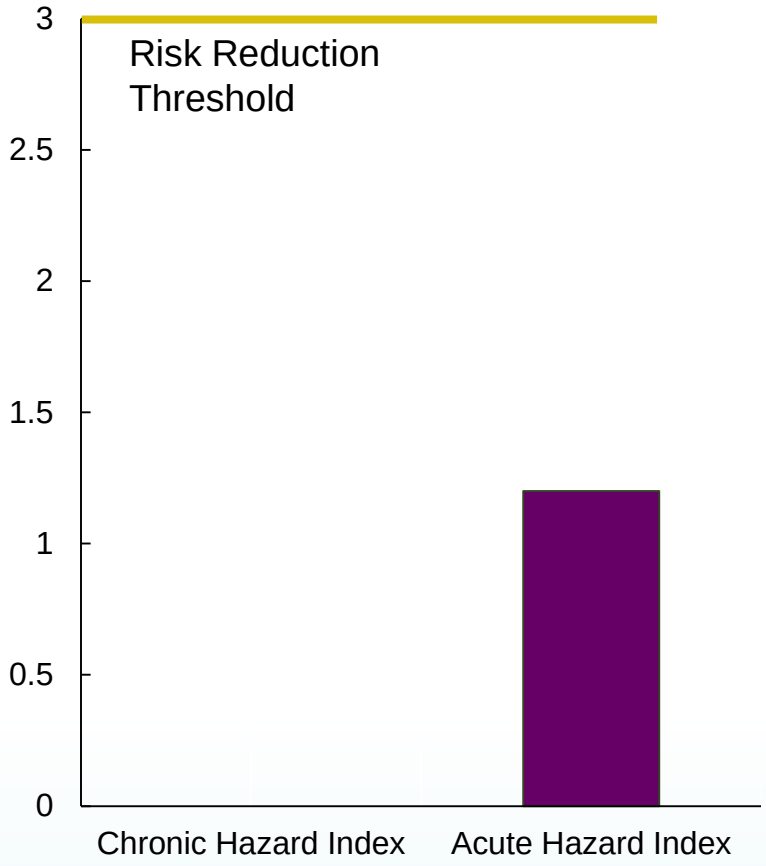
Current Estimated Cancer Risk

- 2016 estimated cancer risk is well above Significant and Risk Reduction Thresholds
  - 2016 hexavalent chromium emissions from heat treating furnaces, rack welding, water quench tank and cooling tower
- Early Action Reduction Plan has reduced cancer risks below Risk Reduction Threshold
- Risk Reduction Plan will further reduce cancer risk

Estimated Non-Cancer Risk



2016 Health Risk Assessment



Current Estimated Non-Cancer Risk

- 2016 chronic health risk is below Risk Reduction Threshold
- 2016 acute health risk is below Significant and Risk Reduction thresholds
- Early Action Reduction Plan has reduced non-cancer risks below Risk Reduction Threshold
- Risk Reduction Plan will further reduce non-cancer risk

Next Steps

- Continue ambient monitoring of hexavalent chromium emissions
- Finalize Risk Reduction Plan
- Health risks are expected to further reduce after implementation of Risk Reduction Plan
- Questions?

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