South Coast Air Quality Management District (SCAQMD)

- Local air pollution control agency for Southern California (Orange County and portions of LA, Riverside & San Bernardino Counties)
- Population of 16.4 million (about half the population of the State of California)
- Regulates 27,000 facilities in the 10,743 mi² area
- Among the worst air quality in the U.S. (Ozone & PM 2.5)
Key SCAQMD Activities

- Develops and adopts:
  - Air Quality Management Plan, the blueprint for achieving compliance with federal and state clean air standards
  - Air quality rules and regulations designed to reduce emissions from various sources

- Issues permits to many businesses and industries to ensure compliance with air quality rules

- Conducts periodic inspections to ensure compliance with air quality requirements

- Responds to air quality complaints from the public

- Conducts ambient air quality monitoring including special studies
Presentation Overview

2014 Town Hall Meeting

Initial Efforts
Air quality related events that lead up to the 2014 Town Hall Meeting

Activities After 2014 Town Hall Meeting
Update on follow-up activities identified in 2014 Town Hall Meeting

Next Steps
Additional air quality activities underway to address findings

2016 Town Hall Meeting
SCAQMD Initial Efforts in the Paramount Area

Beginning 2012, SCAQMD began receiving a series of burnt metallic odor complaints – a number of complaints focused on Carlton Forge Works (CFW).

May 2013 - Glass plate sampling at and near CFW confirmed fugitive metal particulate emissions.

August 2013 – SCAQMD begins ambient air monitoring near CFW.

September 2013 - CFW began voluntarily implementing measures to reduce fugitive emissions from their grinding operations.

January 2014 – SCAQMD hosts a town hall meeting to report initial monitoring results.
Follow-up Activities from 2014 Town Hall Meeting

2014 Town Hall Meeting committed to three follow-up activities:

1. Continue ambient air monitoring to assess long-term exposure
2. Continue air quality complaint response and observe CFW operations
3. Pursue rule development activities of fugitive emissions from metal processing operations

[Image]

- Continuing to collect ambient air samples at two nearby locations to assess long-term exposure levels in the community
- Continuing to respond to air quality complaints and observe CFW operations during inspections and investigations
- Focusing rule development activities on reduction of fugitive emissions from metal processing operations
Status Update on Follow-Up Activity #1: Continue Ambient Air Monitoring to Assess Long-Term Exposure
Summary of Recent Ambient Air Monitoring Results

• Continued ambient air monitoring at two sites in Paramount community since August 2013
  – Site #2 (Vermont Ave.)
  – Site #3 (California Ave.)

• Initial monitoring identified Nickel and Hexavalent Chromium as two key toxic metals of concern
  – Nickel (primary health effects non-cancer)
  – Hexavalent Chromium (primary health effects cancer)

• Monitoring results for the two metals were compared to:
  – Background levels from the Multiple Air Toxics Exposure Study (MATES IV)
  – Other health thresholds (discussed in next slides)
Continued Ambient Air Monitoring – Sampling Locations

- **Site #1 (Jefferson St.)**
  - Discontinued
  - Duration of monitoring: 8/8/2013 - Ongoing
  - Sampling Schedule: 1-in-3 days

- **Site #2 (Vermont Ave.)**
  - Duration of monitoring: 8/8/2013 - Ongoing
  - Sampling Schedule: 1-in-3 days

- **Site #3 (California Ave.)**
  - Duration of monitoring: 10/31/2013 - Ongoing
  - Sampling Schedule: 1-in-6 days
How are Health Risks Measured?

- **Cancer Risk**
  - Cancer risks are a measure of the *chance* or *odds* that a person will get cancer
  - Represented as number of chances in one million of getting cancer
  - “Background” cancer risk from MATES IV from all sources of emissions: Basin average: 900 in one million; Local area: 1,120 in one million

- **Non-Cancer Risk**
  - Air concentrations compared to a Reference Exposure Level (REL)
  - Pollutant levels below the REL are not expected to cause a non-cancer health effect
  - Pollutant levels above the REL do not necessarily yield a health effect, but do increase the likelihood that a health effect will occur
Results of Nickel Ambient Air Monitoring (Concentration)*

**Site #2 (Vermont Ave.)**

Nickel well over expected background levels. Beginning 2014 near REL

**Site #3 (California Ave.)**

Nickel near expected background levels and well under REL

* 2013 and 2016 data are partial years
Results of Hexavalent Chromium Ambient Air Monitoring (Concentration)*

**Site #2 (Vermont Ave.)**

Hexavalent Chromium well over expected background levels

Year | Hexavalent Chromium Concentration (ng/m$^3$)
--- | ---
2013 | 0.24
2014 | 0.28
2015 | 0.27
2016 | 0.42

* 2013 and 2016 data are partial years

**Site #3 (California Ave.)**

Hexavalent Chromium near expected background levels

Year | Hexavalent Chromium Concentration (ng/m$^3$)
--- | ---
2013 | 0.24
2014 | 0.12
2015 | 0.11
2016 | 0.16

* 2013 and 2016 data are partial years
Potential Health Risks Based on Monitoring Data

• Potential **cancer risk** from long-term exposure to Nickel and Hexavalent Chromium:
  – Site #2 (Vermont Ave.): 176 in-one-million
  – Site #3 (California Ave.): 74 in-one-million
  – Hexavalent Chromium ~95% of cancer risk

• Potential **non-cancer risk** from long-term exposure to Nickel:
  – Site #2 (Vermont Ave.): levels have dropped since 2013, but still above REL
  – Site #3 (California Ave.): levels well below REL
  – Hexavalent Chromium non-cancer risks well below thresholds
Summary of Monitoring Results

- **Site #2 (Vermont Ave.)**
  - 2014 Nickel reductions consistent with CFW 2013 actions
  - Beginning 2014 Nickel levels near REL
  - Hexavalent Chromium emissions levels up to 4 times higher than expected background levels
  - Estimated cancer risk is of concern (Hexavalent Chromium contributes to 95% of cancer risk)
  - Additional sampling needed to identify the Hexavalent Chromium source(s) (Next Steps)

- **Site #3 (California Ave.)** - Nickel and Hexavalent Chromium near expected background levels in 2014 and 2015, but higher in 2016
Status Update on Follow-Up Activity #2: Continue Air Quality Complaint Response and Observe CFW Operations
Update on Air Quality Complaints

- Continued inspections of CFW and response to air quality complaints received from Paramount community

Complaints Reported to SCAQMD Alleging Air Quality Problems in the City of Paramount
January 2014 - August 2016

~90% of complaints are odors

CFW  Other Sources
Actions Implemented at CFW

- **September 2013**: Increased baghouse airflow by 35% for improved collection efficiency.
- **October 2013**: Installed plastic strip curtains on all building overhead doors.
- **October 2013**: Placed grind shop work tables closer to baghouse exhaust intakes.
- **November 2013**: Sealed grind shop roof to provide a Permanent Total Enclosure.
- **December 2013**: Enhanced housekeeping measures such as routine sweeping.
- **Spring 2015**: Installed HEPA filters on baghouse.
Health Risk Assessment for CFW

- In October 2014, under SCAQMD’s Rule 1402, CFW submitted a Health Risk Assessment to estimate the cancer and non-cancer risk
  - Anticipate approval within next several weeks
  - Once approved, HRA will be made available on SCAQMD website
- If risks exceed SCAQMD thresholds, a public meeting will be held to discuss HRA results and next steps
Status Update on Follow-Up Activity #3: Pursue Rule Development Activities of Fugitive Emissions from Metal Processing Operations
Metal Processing Rules Under Development

- **Metal Grinding at Forging Facilities**
  - Rule 1430

- **Metal Plating and Finishing**
  - Rule 1469
  - Rule 1426

- **Metal Melting and Foundries**
  - Rule 1420
  - Rule 1420.1
  - Rule 1420.2
  - Rule 1407

- **Other Metal Working and Treating**
  - TBD

*Proposed Rule - under development*
Key Metal Working Rules Affecting Paramount Industries

• Grinding at metal forging (Proposed Rule 1430)
  – Purpose: Address fugitive toxic metal emissions from grinding and possibly other operations at metal forging facilities
  – Initiated Stakeholder Working Group Meeting in 2015
  – Schedule: Spring 2017 adoption

• Metal plating and finishing (Proposed Amended Rules 1469 and 1426)
  – Purpose: Further control fugitive toxic metal emissions from metal plating operations
  – Conducting site visits and data gathering
  – Schedule: Summer 2017 adoption

• Other metal working and treating
  – Purpose: Further control fugitive toxic metal emissions from metal cutting, working, and heat treating facilities
  – Beginning to conduct site visits and data gathering
  – Schedule: Winter 2017 adoption
Next Steps

• Continue investigation and air monitoring, with an expanded focus on identifying and controlling the source(s) of Hexavalent Chromium
• City of Paramount and CFW cooperating for additional Hexavalent Chromium monitoring
Next Steps (Continued)

- Continue monitoring toxic metals at Site #2 (Vermont Ave) and Site #3 (California Ave)
- Finalize approval of CFW’s AB2588 Health Risk Assessment
- Continue rule development for Proposed Rule 1430 (grinding at forging facilities) and other toxic metal rules
  - Next Working Group Meeting in September 2016
  - Commitment to hold multiple working group meetings in Paramount