Carlton Forge Works AB2588 Health Risk Assessment Public Meeting

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

NOVEMBER 10, 2016

Purpose of Meeting

- Background
- AB 2588 Requirements
- AB 2588 Health Risk Assessment Process
- Carlton Forge Health Risk Assessment Results
- Air Monitoring Results
- Next Steps

SCAQMD

- Multi-County Air Pollution Control Agency
  - Governed by 13-member Board of local elected and appointed officials
    - 16+ million people
      - ~28,000 permitted sources

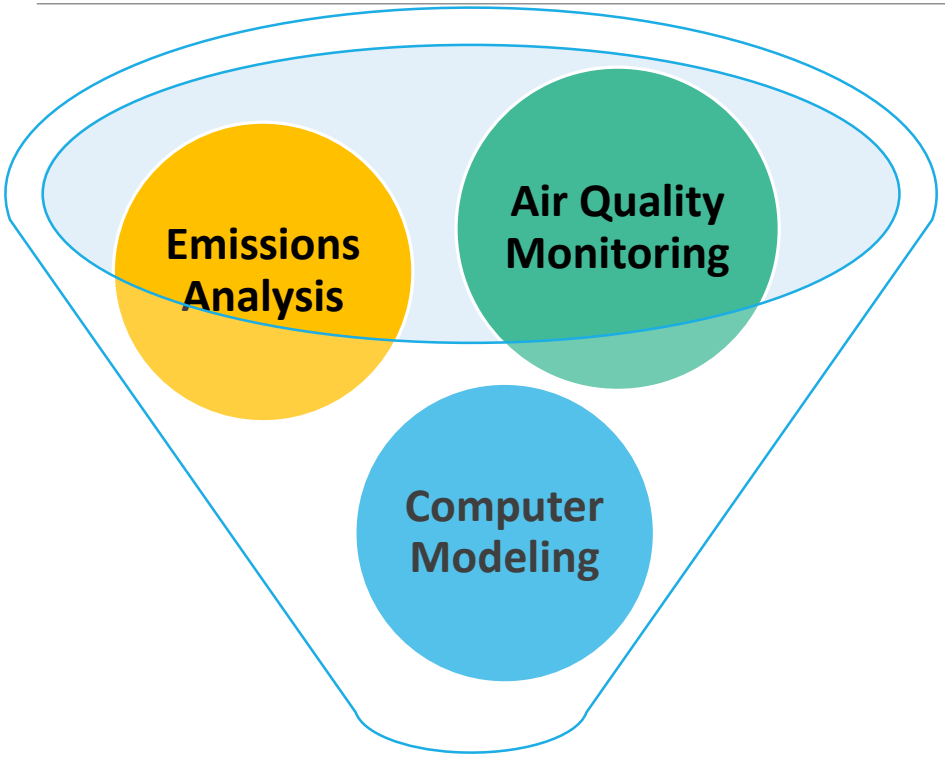
Key SCAQMD Activities

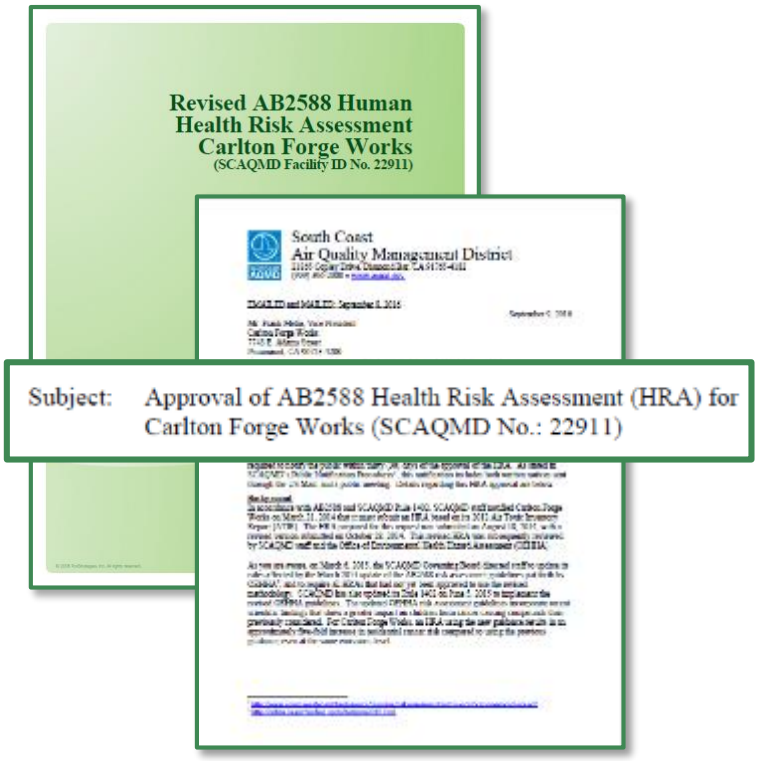
- Develops the **Air Quality Management Plan**, the blueprint for achieving compliance with federal and state clean air standards
- Monitors and evaluates toxic emissions throughout the Basin through the **Multiple Air Toxics Exposure Study**
- Adopts air quality **rules and regulations** designed to reduce emissions
- Implements the AB 2588 **Toxics Hot Spots** program and our more stringent Rule 1402 to require certain businesses to prepare Health Risk Assessments and Risk Reduction Plans if needed
- Issues **permits** to many businesses to ensure compliance with air quality rules
- Conducts **inspections** to ensure compliance with air quality requirements
- Responds to **air quality complaints** from the public
- Conducts special **air monitoring** studies for communities

AB 2588

- The AB2588 Toxic “Hot Spots” law requires facilities to:
  - Report toxic emissions every four years
  - Prepare a detailed Air Toxics Inventory Report if screening assessment of emissions above thresholds
  - Prepare Health Risk Assessment if screening assessment of Air Toxics Inventory Report above thresholds
  - Notify public and reduce emissions if risks from Health Risk Assessment above thresholds
- Carlton Forge required to prepare an Air Toxics Inventory Report, Health Risk Assessment, and conduct public notification

Key Components of the Carlton Forge Works Health Risk Assessment



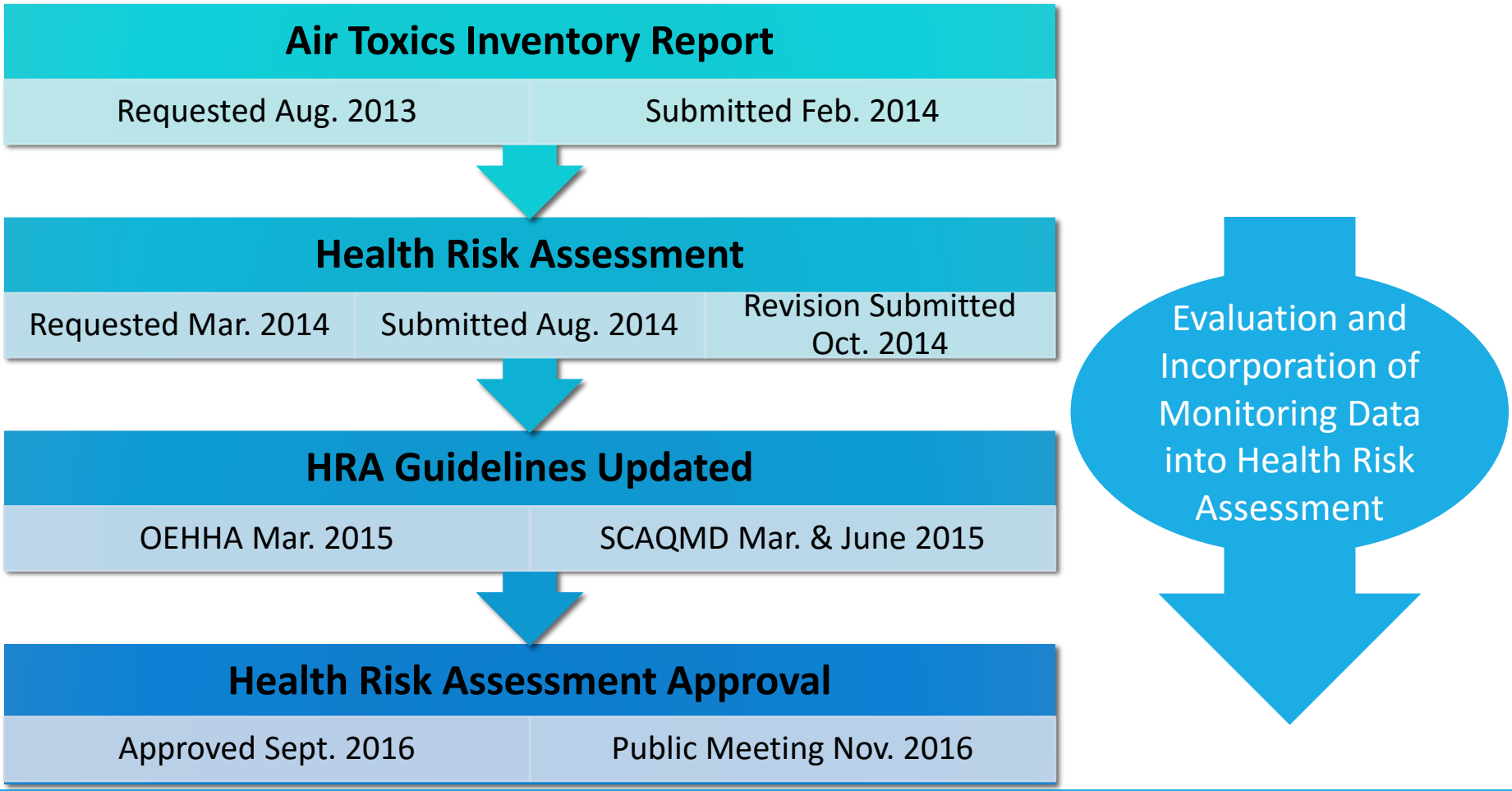


Health Risk Assessment

Air Monitoring

- Air monitoring data is useful to provide information about actual concentrations of specific air toxics
- Monitoring records emissions from all sources
  - Air monitoring captures emissions from point sources (stack) and fugitive emissions
  - Fugitive emissions are those pollutants that may escape the building enclosure or not captured through the point source
- Air monitors can capture emissions from other sources – one of the challenges is to identify emissions that are attributed to the facility & those that are attributed to other sources

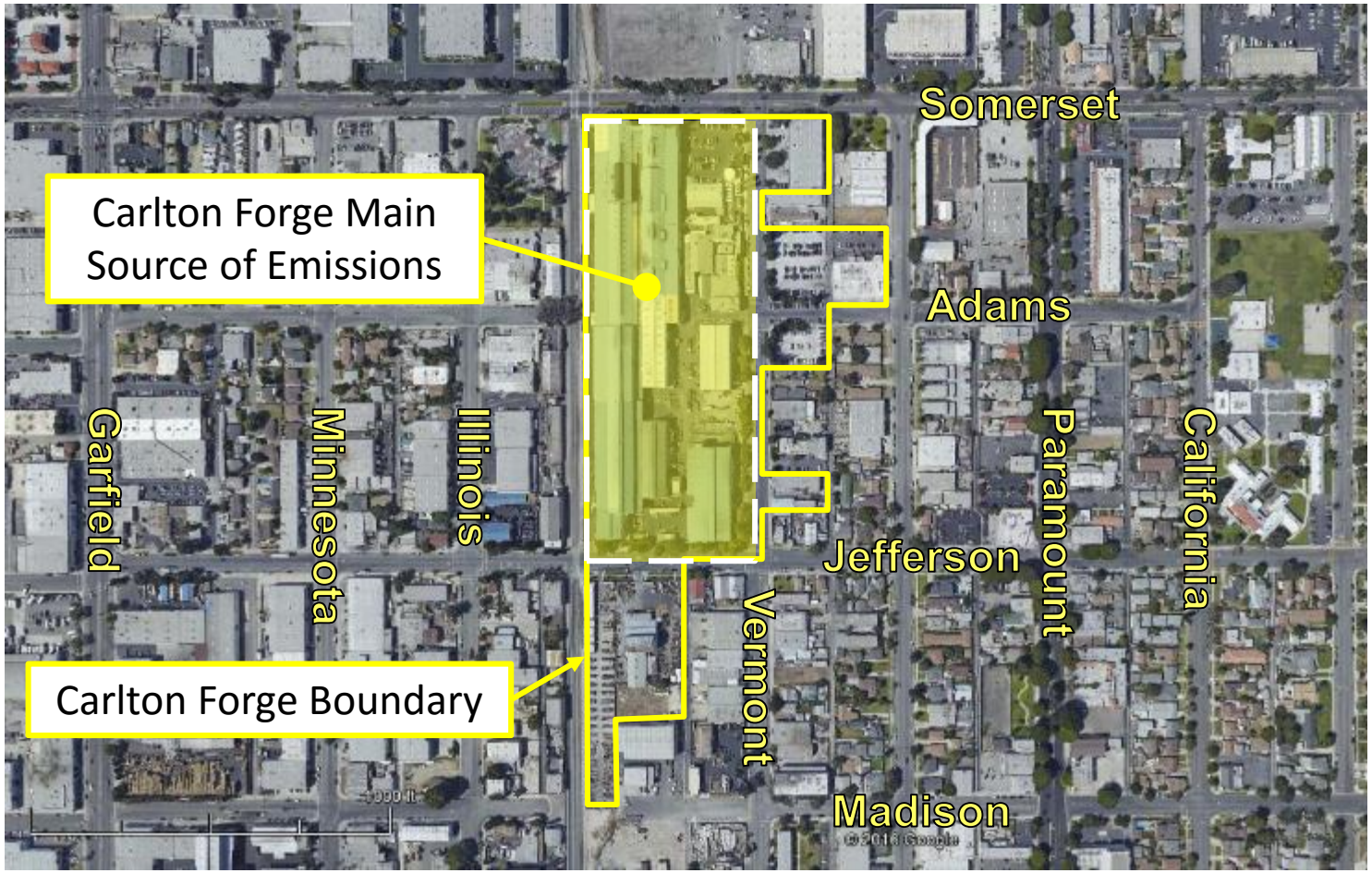
Key AB 2588 Activities for Carlton Forge



Carlton Forge Works

- Located at 7743 E. Adams Street, Paramount
- Produces seamless rolled rings and open die forgings for aerospace, gas turbine, and other industries
- Key activities include forging and grinding
- Can operate up to 24 hrs/day, 7 days/week

Carlton Forge Works



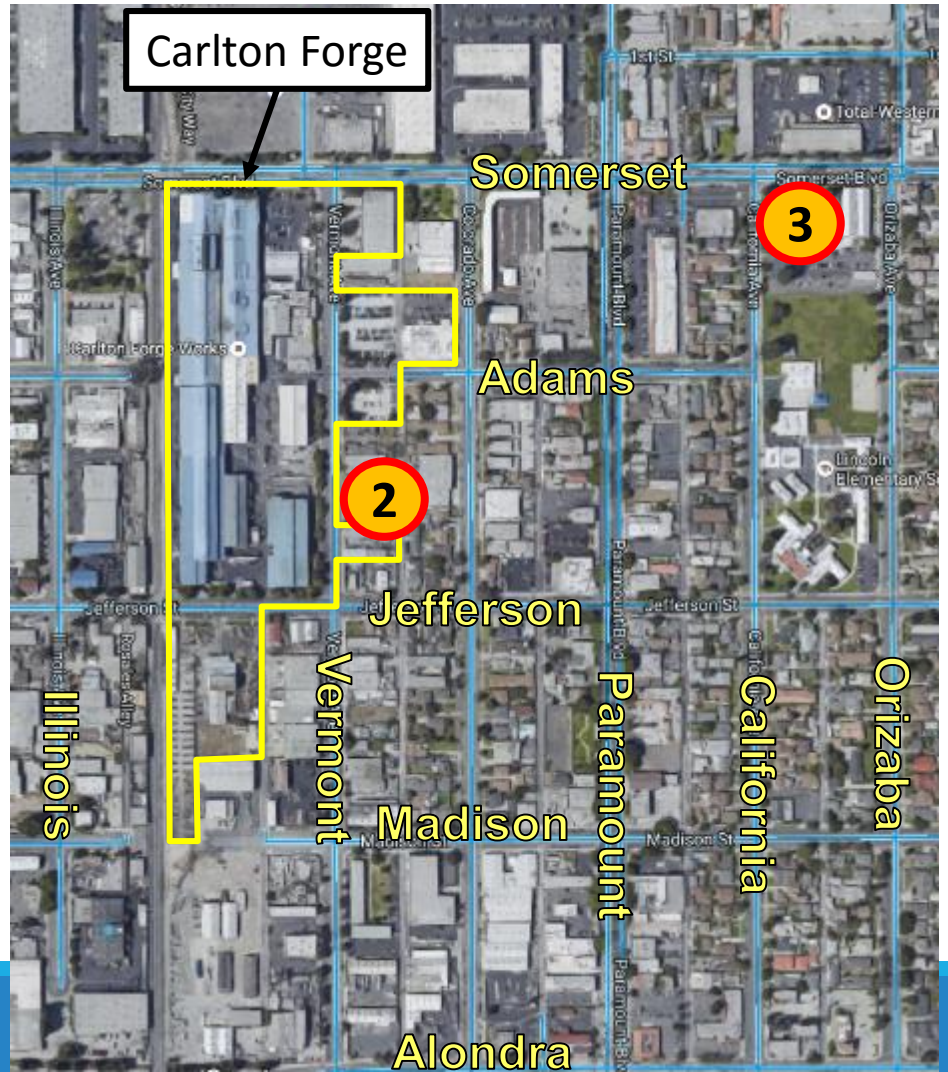
Carlton Forge Works Emission Sources

- CFW subject to SCAQMD Rules and permit conditions to control emissions
- Key Emission Release Points
  - Stacks of Air Pollution Control Systems
    - Baghouse vents (grinding room)
    - HEPA (new)
  - Roof vents (forging)
  - Fugitive emissions
- Key air pollutants
  - Nickel, arsenic, hexavalent chromium
  - All toxics evaluated

Carlton Forge Works Emission Sources

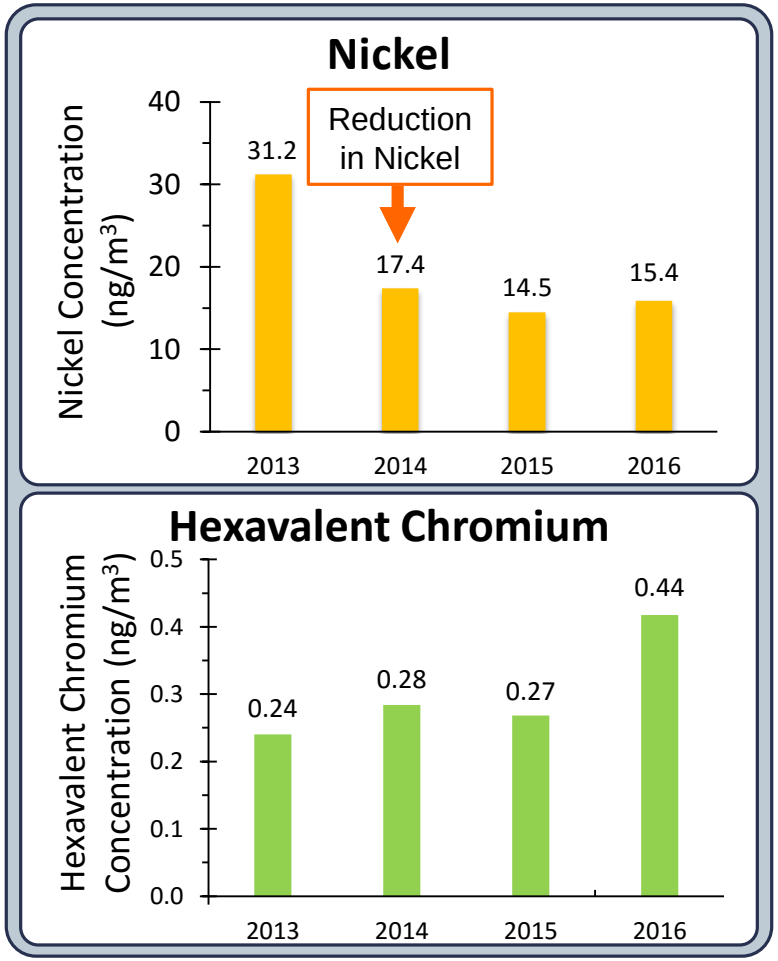
Overview of Long-Term Monitoring Efforts

- Monitored multiple toxic metals
  - Two metals of concern
    - Nickel
    - Hexavalent chromium
- Site #2: Vermont Ave.
  - August 2013 - Present
- Site #3: California Ave.
  - October 2013 - Present



Key Findings from Long-Term Monitoring Efforts

- Nickel levels decreased as CFW implemented pollution controls
- Hexavalent chromium at Site #2
  - Did not decrease after pollution controls implemented, which signaled another source of hexavalent chromium
  - Levels increased in 2016
- Hexavalent chromium discussed at Town Hall November 9, 2016
  - www.aqmd.gov/home/regulations/compliance/air-monitoring-activities



Modeling Analysis

- Emissions data from Air Toxics Inventory Report input into computer model
  - Software developed by state and federal EPA (HARP2 + AERMOD)
  - Model accounts for source characteristics (e.g., stack height), local meteorological data (e.g., winds), terrain, etc.
  - Model predicts concentrations of pollutants in community
- Modeling results calibrated using air quality monitoring data from 2013 & 2014
- Modeled pollutant concentrations used to calculate potential health risk using state guidance

Health Risk Definitions

- *Cancer Risk* is the probability of developing cancer, usually stated as chances per million. Typically caused by long-term exposures.
  - Residential – 30 years
  - Offsite Worker – 25 years
- *Non-Cancer Risks* are calculated for both short-term (1-hour) and long-term (years) exposures.
  - Expressed using a Hazard Index
  - Hazard Index <1.0 indicates no health effects expected
  - Hazard Index >1.0 increases the odds that a non-cancer health effect may occur

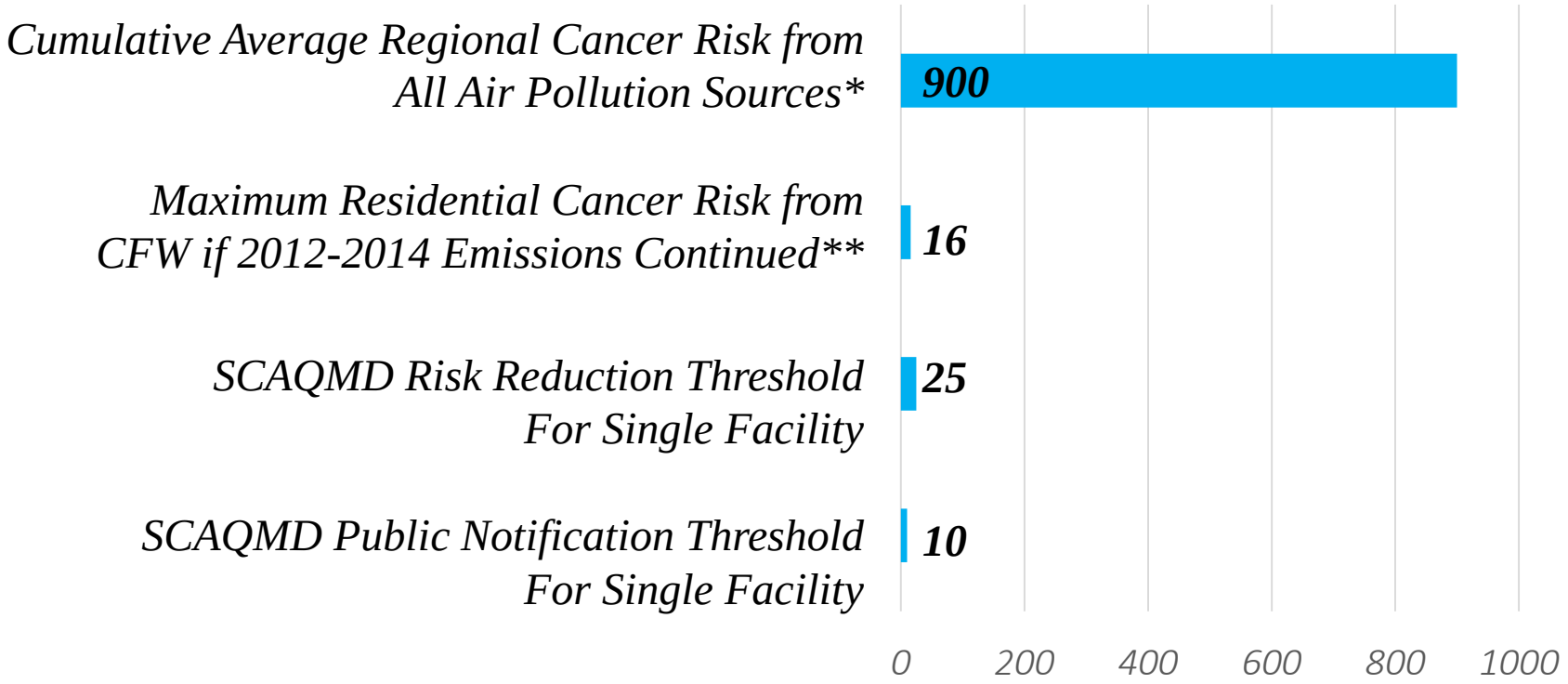
SCAQMD Rule 1402 Thresholds

- Public Notification
  - Cancer Risk > 10 chances per million
  - Non-Cancer Hazard Index > 1.0
- Risk Reduction
  - Cancer Risk > 25 chances per million
  - Non-Cancer Hazard Index > 3.0
- Significant Risk Levels
  - Cancer Risk > 100 chances per million
  - Non-Cancer Hazard Index > 5.0

CFW AB2588 HRA Results

- SCAQMD Rule 1402 requires Public Notification if:
  - *Cancer Risk* > 10 chances per million, or
  - *Non-Cancer HI > 1.0*
- Key Results from Carlton Forge Works Health Risk Assessment
  - Maximum residential cancer risk up to **15.4** chances per million
  - Maximum residential non-cancer long-term HI up to **1.04**
  - Maximum non-cancer short-term HI up to **1.76**

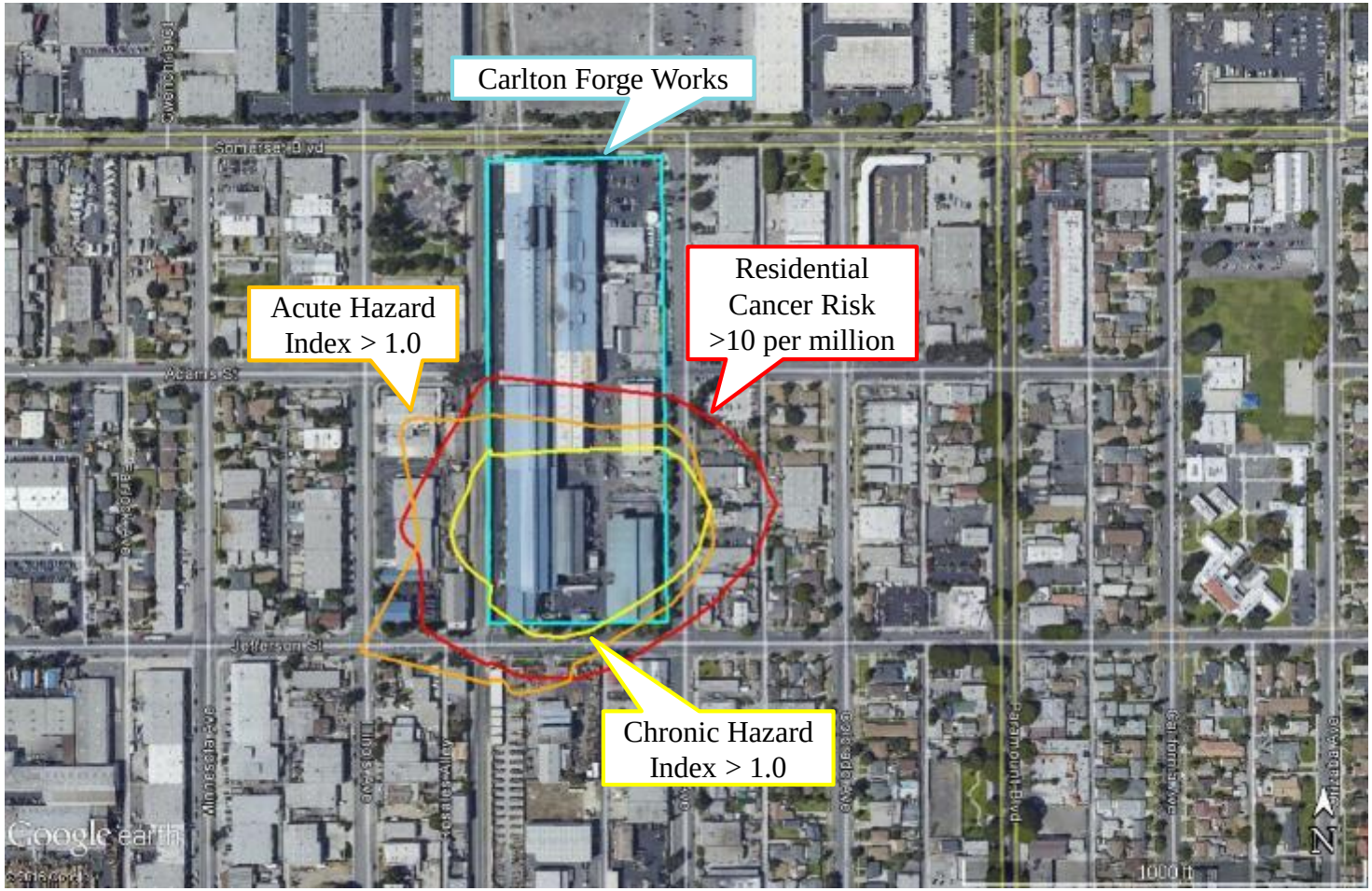
Cancer Risk Comparisons



* *Based on MATES IV study (2012-2013 emissions)*

** *Future emissions will be reduced by Rules 1402 & 1430*

AB2588 Public Notification Area



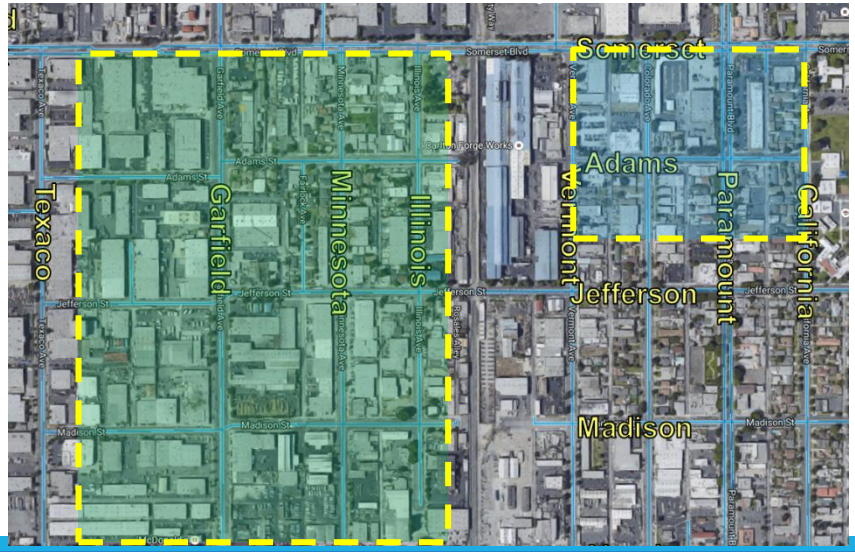
Background – Expanded Monitoring

January 23, 2014 Town Hall Meeting

- SCAQMD received odor complaints in 2012
- Began air monitoring on Vermont and California in 2013 for multiple toxic metals
- Nickel and hexavalent chromium were metals of concern
- Carlton Forge Works voluntarily implemented controls - Monitored levels of nickel decreased

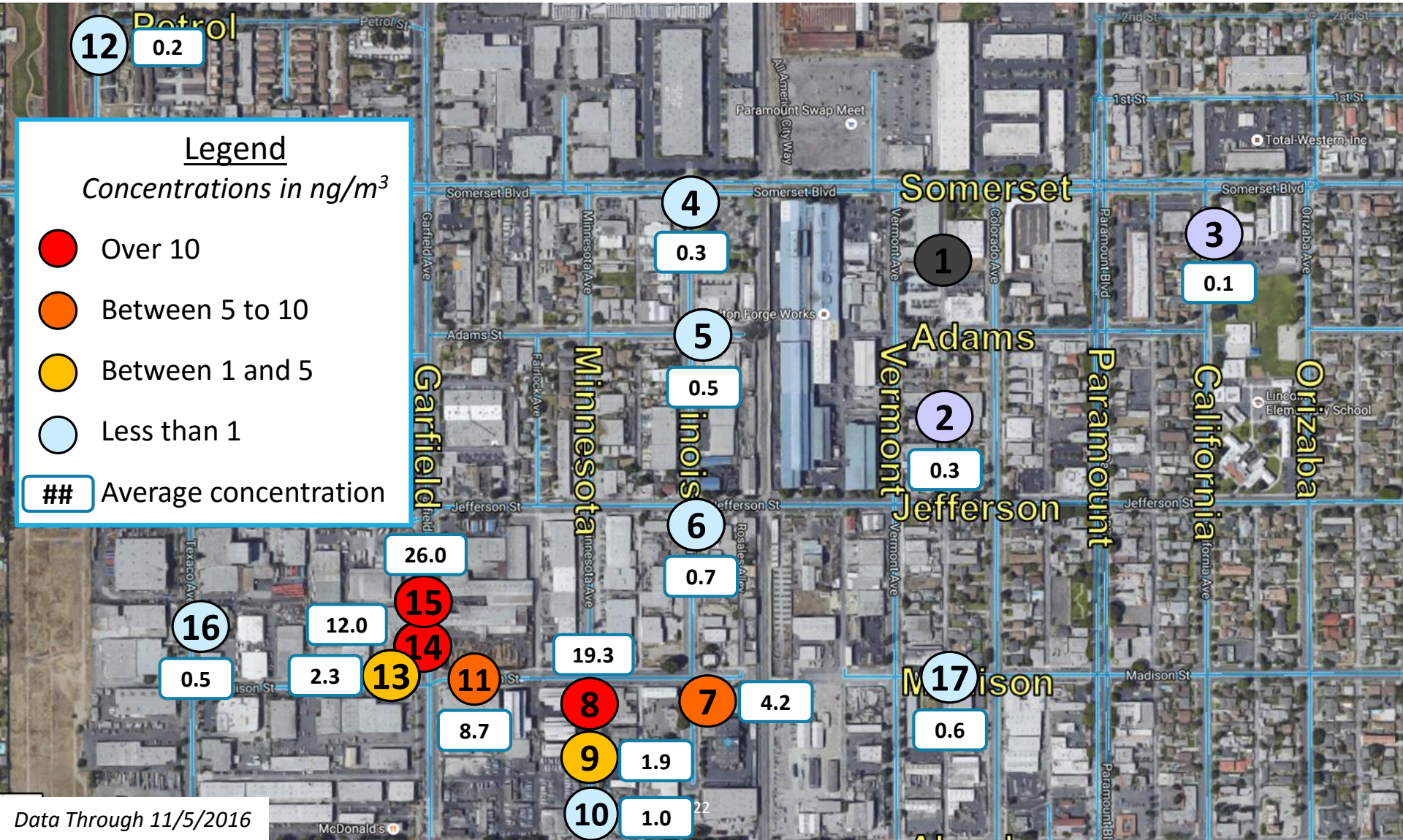
August 16, 2016 Town Hall Meeting

- Monitored levels of hexavalent chromium increased in 2016
- Source of hexavalent chromium was uncertain
- SCAQMD staff committed to expanded monitoring to identify the source(s) of hexavalent chromium in Paramount



November 9, 2016 Town Hall Meeting (next slide)

Summary of Hexavalent Chromium Expanded Monitoring Results



Expanded Monitoring Results

- Monitors near Carlton Forge are less than 1 ng/m^3, but higher than background levels – Additional monitoring & investigation needed near Carlton Forge to understand these level of hexavalent chromium
- Higher hexavalent chromium monitoring results near Madison and Minnesota/Garfield likely due to sources besides Carlton Forge
  - SCAQMD is investigating potential sources in this area
- The contribution of the potential sources near Madison and Minnesota/Garfield to the higher levels found at other monitors is still being evaluated

AB2588 Public Notification Process

- Letter sent to ~34 addresses + flyers to interested stakeholders
- Public meeting (tonight)
- Website: http://www.aqmd.gov/home/regulations/compliance/toxic-hot-spots-ab-2588/carlton-forge-works

Next Steps

- Proposed Rule 1430
  - Purpose: Address fugitive toxic metal emissions from grinding and possibly other operations at metal forging facilities
  - Three Stakeholder Working Groups in 2015 & 2016
  - Schedule: Spring 2017 - Bring Proposed Rule to SCAQMD Governing Board
- Continue Expanded Monitoring in Paramount and investigation of sources of hexavalent chromium
  - Identify actions to reduce emissions
- Website will be updated as new data becomes available

Contact

AB2588

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Expanded Monitoring

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