Phillips 66 Los Angeles Refinery
Wilmington Plant
AB 2588 Public Meeting

South Coast Air Quality Management District
October 1, 2020
Purpose of Meeting

- Notify public of estimated health risks in 2015
- Background about Phillips 66
- About Health Risk Assessments
- Steps taken to reduce the health risks
- Estimated health risks today
- Public input and comments
Who We Are

• The South Coast AQMD is the regional agency responsible for air quality for areas in LA, Orange, Riverside and SB 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)
  • Comply with U.S. government air quality standards
  • Permit and inspect 28,400 affected businesses
  • Administer $100 million of incentive funding annually
South Coast AQMD’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 Toxic Rules
- Measures regional toxic air contaminants throughout air basin

- South Coast AQMD Toxics Rules
- Community Meetings and 1-800-CUT-SMOG
- Permitting
- Multiple Air Toxics Exposure Study
- Rule 1402 and Toxics Hot Spots Program
- Ambient Air Monitoring and AB 617
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
Phillips 66 Wilmington

- Oil Refinery in operation since 1919 that converts intermediate oil stock into final product
- Located at 1660 West Anaheim St. in Wilmington, CA.
- HRA required based on 2015 emissions
Operations at Phillips 66 Wilmington

• Primary sources of risk are from portable diesel-fired internal combustion engines, welding, and operation of refinery itself
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
3 Key Health Risk Elements of Rule 1402

Cancer Risk
- Estimates the increased probability for cancer
- 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

<table>
<thead>
<tr>
<th>Toxic Air Pollutant</th>
<th>Health Effect</th>
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<tbody>
<tr>
<td></td>
<td><strong>Exposure</strong></td>
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<tr>
<td>Diesel Particulate Matter</td>
<td>Long-term</td>
</tr>
<tr>
<td>Benzene</td>
<td>Short-term and Long-term</td>
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<tr>
<td>PAH*</td>
<td>Long-term</td>
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<tr>
<td>Hexavalent Chromium</td>
<td>Long-Term</td>
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*Napthalene is one component of PAH that also has chronic health effects*
### Rule 1402 Health Risk Thresholds

#### Cancer Risk Thresholds
- **Risk Reduction**: Cancer Risk $\geq 25$ in one million
- **Public Notification**: Cancer Risk $\geq 10$ in one million

#### Non-Cancer Risk Thresholds
- **Risk Reduction**: Non-Cancer HI $\geq 3$
- **Public Notification**: Non-Cancer HI $\geq 1$

#### Cancer Burden Threshold
- **Risk Reduction**: Cancer Burden $\geq 0.5$
Cancer Risk Evaluations

Residential Receptor
- Continuous exposure for 30 years
- All age groups evaluated

Offsite Worker Receptor
- Exposure for 8 hours per day, 5 days per week for 25 years
- Adult age groups evaluated
Rule 1402 Risk Reduction Plans

Risk Reduction Plan – Required if Risk ≥ Risk Reduction Threshold

• Permanent, verifiable, and enforceable risk reduction measures
• Must be implemented within 2½ 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
Residential Cancer Risk – 2015 Emissions
Residential Cancer Risk – 2015 Emissions
Cancer Risk Context

South Coast AQMD Public Notification Threshold

South Coast AQMD Risk Reduction Threshold

Maximum Residential Cancer Risk from Phillips 66 Wilmington if 2015 Emissions Continued

Regional Average Cancer Risk from All Sources*

Mostly due to diesel particulate matter

* Based on MATES IV study
Public Notification Process

• AB 2588 Notification
  • Letter sent to ~800 addresses
  • Public meeting: Online
Next Steps

Phillips 66 submits a Risk Reduction Plan

South Coast AQMD reviews & approves the Risk Reduction Plan

Risk Reduction Plan will be implemented as soon as feasible but no later than 2 ½ years
More Information on the AB 2588 Program

• South Coast AQMD AB 2588 Website
  • http://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588

• Link to the 2015 Approved HRA

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