



# Commerce City Government City Council Presentation

March 2, 2020



# Agenda

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- December 11, 2019 incident
- Regulatory authority & Suncor
- CCR performance improvements



## Dec. 11, 2019, Plant 2 FCC incident

### *Incident overview:*

While attempting to start up the fluidized catalytic cracking unit or FCC (a unit that makes gasoline), catalyst was emitted in quantities that resulted in visible emissions from the stack and visible catalyst dust on nearby surfaces. This event caused significant alarm within the community and resulted in local schools being placed on lockdown.

### *Investigation findings:*

Following the incident, we brought in experts from other areas of Suncor's operations to lead a thorough investigation. Root causes identified included:

- Excessive torch oil was added to the unit – a situation that was not covered in our procedures
- We should have stopped the start-up process when we observed the initial emissions
- Inadequate communications and lack of clarity of roles and responsibilities

*Key community learning:* Suncor is actively working with stakeholders to evaluate best practices for more timely, bi-lingual communications with our neighbors.





## Dec. 11, 2019, Plant 2 FCC incident and re-start

As a result of the investigation findings, Commerce City Refinery personnel, along with our corporate experts, worked diligently through the balance of December to develop and implement the recommendations from the investigation:

- Updated FCC start-up procedures
- Met face-to-face with teams to ensure understanding of updated procedures, “hold” points and roles

### *Re-start activities and learnings:*

- When we initially began re-start activities on Dec. 20, 2019, we did not like what we saw. As a result, we stopped re-start activity, fully shut down the FCC unit, and took the following additional actions:
  - Opened, cleaned and inspected certain process vessels
  - Completed mechanical repairs and added instrumentation
- Following this activity, between Jan. 5-7, 2020, we successfully re-started the Plant 2 FCC in a slow and controlled manner, with significant improvement compared to previous re-starts.



## Suncor Regulators – EPA, DOT, Federal Railroad Administration (FRA)

### Key laws

- Clean Air Act (CAA)
- Clean Water Act (CWA)
- Resource Conservation & Recovery Act (RCRA)
- Emergency Planning & Community Right to Know Action (EPCRA)
- Toxic Substance Control Act (TSCA)
- DOT Regulations
- National Fuel Standards

### Self-reporting

- Tier II (Annual)
- Toxic Release Inventory (Annual)
- Green House Gases (Annual)
- Release Reporting above threshold quantities not in permits – (Immediately)
- Colorado State Emergency Response Commission (SERC), Adams County LEPC, National Response Center (NRC)

### Enforcement

- EPA
- Audits and investigations
- Consent Decrees
- Federal Railroad Administration (FRA)

# Suncor Regulators - CDPHE

## Key requirements

- Colorado Air Pollution Prevention and Control Act
- Colorado Water Control Act
- Air Quality Control Commission (AQCC)
- Air Pollution Control Division (APCD)
- Water Quality Control Commission (WQCC)
- Water Quality Control Division (WQCD)
- Title V Operating Permits (Air)
- Waste Water Discharge Permit
- Colorado Waste Regulations/Rules
- Consent Decrees (EPA based)

## Self-reporting

- Permit Limit Exceedance
  - Courtesy call same day
  - Formal notification next business day
- Spills
  - Courtesy call same day
  - Formal notification next business day
- Quarterly Excess Emissions
- Semi-Annual Title V Reports
- Monthly Water Discharge Reports

## Enforcement

- Annual inspections (Air)
- Periodic inspections (Waste & Water)
- Inspection Report -> Compliance Advisory -> Compliance Order

# Air improvements

- Recent Historical
  - Low Sulfur Diesel (reduced from 500ppm down to 15ppm)
  - Low Sulfur Gasoline (reduced from 30ppm to 10ppm)
  - Gasoline Benzene Reduction (reduced from 4.9% to 0.62% in gasoline pool)
  - Renewable Fuels (10% Ethanol and 3-5% Biodiesel in most fuels sold)
  - Low and UltraLow NOx Burners on Boilers and Heaters (2006+)
  - Flare Instrumentation & Controls (ensure flare combustion efficiency)
  - Refinery Sector Rule (RSR): more atmospheric emissions now routed to flares
- Benzene
  - Fence line monitoring began in 2018; data available to public starting in 2019
  - Data gathered and submitted thus far shows no issues
- Ozone
  - Submitted data for Colorado's State Implementation Plan (SIP) to the EPA
  - A single boiler remains to be upgraded in 2020, delivering ~90% NOx reduction
  - Actively engaged in Regional Air Quality Council (RAQC) work to address ozone
  - Denver Metro/North Front Range nonattainment reclassified to "Serious" in 2019; all new, significant emissions required to be net-neutral moving forward
- Regional haze
  - Active participant in Colorado's State Implementation Plan (SIP) and RAQC work
  - Willing and active partner in CDPHE's work/processes to address the issue

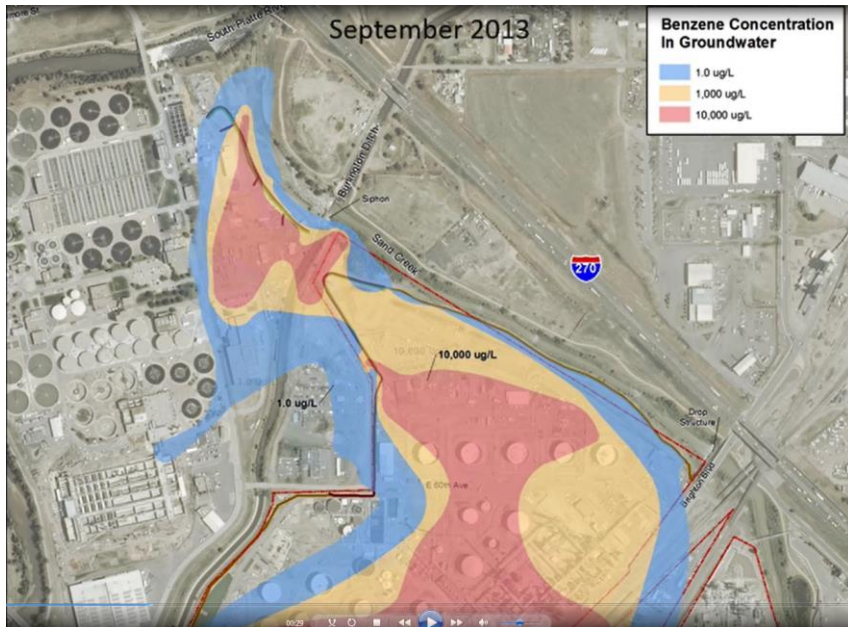
# Water improvements

- Recent Historical
  - Onsite water treatment plant capacity expansion
  - Additional groundwater recovery processed through Suncor's wastewater treatment plant (~25% Increase)
  - Mercury reduction (from no previous limit down to 26ppt)
  - Arsenic reduction (from 116ppb down to 10ppb)
  - Selenium reduction (from 60ppb, targeting 24ppb in October 2020)
- Future
  - Exploring additional technology for Selenium treatment
  - Exploring PFOA/PFOS treatment options
    - Legacy firefighting foam use
    - Detected in groundwater and outfall
    - Purchased new foam that does not have PFOA/PFOS

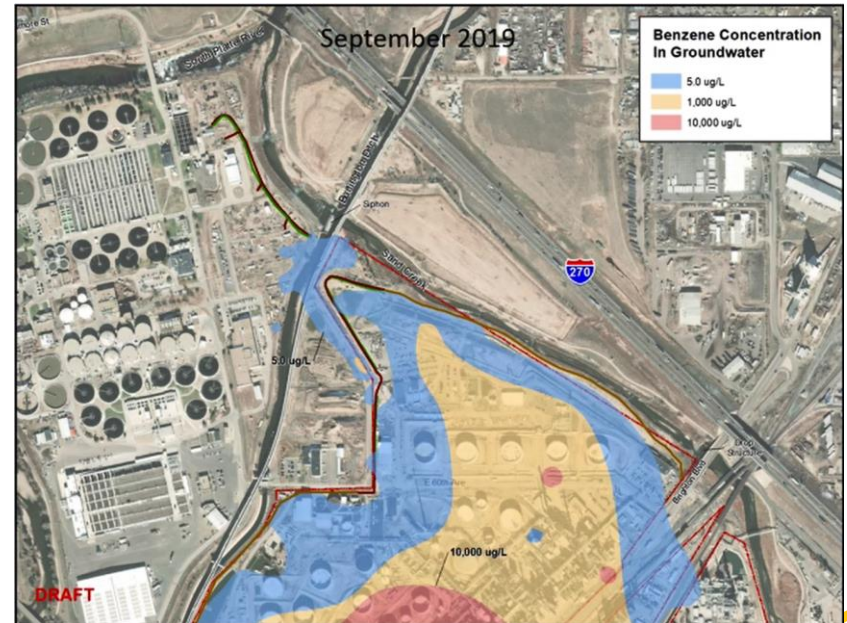


# Sand Creek Update

- Release occurred in 2011
- Immediate response from site Emergency Response Team personnel to contain in Sand Creek
- Several onsite and offsite remediation activities commenced
  - Included installation / management of more than 1,000 wells
  - Significant reduction in plume past property boundaries
- Improved perimeter defenses (barrier and hanging walls, groundwater recovery, monitoring/recovery wells)
- Continue to progress remediation



September 2013



September 2019