

A large white storage tank with a yellow spiral staircase winding around it. The Suncor logo is painted on the tank's surface. A semi-transparent orange banner is overlaid across the middle of the image.

Commerce City Government City Council Study Session

October 26, 2020



Topics for discussion

- Introductions
- Our business at-a-glance
- Commerce City refinery (CCR) environmental goals and metrics for improvement
- Corrective actions and preventative measures completed in response to recent air emissions
- Air emissions: limits and reporting
- Community air monitoring
- Sand Creek recent work
- How we maintain refinery integrity: reliable operations and turnarounds
- Refinery capital investment plan to drive environmental performance
- CDPHE settlement agreement progress:
 - Third party root cause investigation: uncovering opportunities for continuous improvement
 - Community consultation process and survey

Commerce City Refinery: our business at-a-glance



Colorado's **only fuels refinery** boosting economy by ~\$2.5 billion per year

Supports **local communities**

More than
\$1.3 Billion
in refinery improvement investments since 2005

Supports ~**500 direct** and ~**5000 indirect jobs**

Local producer/supplier of:

Gasoline
Diesel
Propane
Jet fuel for DIA
Asphalt for Colorado's roads
Fuel for Western Slope



Access **local crude**, Colorado's DJ Basin

Supply **Colorado's fuel needs** through:



Truck



Pipeline



Rail

Suncor wants to continue to be a part of Colorado's energy future, while making sound investments and driving environmental improvements.



CCR environmental goals and metrics for improvement

2020 air emissions performance

Suncor's 2020 air emissions targets were established to meet our best historical year of environmental performance (in the past 5 years), which was 2018, and to re-establish our prior progression of reducing exceedances.

Currently we are tracking well against this metric, but it will require a strong finish to the year.

- 2020 performance is significantly improved over last year:
 - 2020 (through September) – 111 exceedance periods
 - 2019 (through September) – 396 exceedance periods



*Plant 2 FCC start-up team,
Jan. 8, 2020*

Corrective actions and preventative measures completed in response to recent air emissions exceedances

Incidents below were thoroughly investigated to identify root causes, with actions taken to prevent recurrence.

- March 17: Plant 2 FCC - Main air blower shut down
- May 17: Plant 1 temporary power loss and subsequent shut down
- June 19: Tail gas unit (TGU) sour water leak repair
- Aug. 13: Plant 1 boiler trip

Corrective actions included:

- Equipment repairs
- Inspection / testing of similar equipment to prevent similar failure
- Design improvements
- Procedure and preventative maintenance upgrades



Air emissions: limits and reporting

- Multiple reporting requirements regarding air emissions, depending upon the specific rule, regulation, or permit limit.
- Reporting is required whenever a permit limit is exceeded, or whenever a rule requires notification to a regulatory authority, e.g., exceeding a reportable quantity in 24hrs
- Some notifications are right away; others are typically next business day.
- Some permit limits have very short-term parameters, such as a 6-minute average, and some could be more long-term, such as an annual emissions limit.
- There are times we notify CDPHE as a courtesy, even when limits are not exceeded (e.g., flaring, smoke or other visible activity)



COLORADO
Department of Public
Health & Environment



Community air monitoring

- Suncor personnel use a calibrated Industrial Scientific MX6 iBrid 6gas monitor capable of detecting oxygen (O₂), carbon monoxide (CO), hydrogen sulfide (H₂S), sulfur dioxide, flammable/combustible vapors (LEL), and volatile organic compounds (VOCs).
- Data is compared to national standards from:
 - Occupational Safety & Health Administration (OSHA)
 - American Industrial Hygiene Association (AIHA)
 - American Conference of Government Industrial Hygienists (ACGIH)
- Suncor also monitors the CDPHE community air monitoring station results that are open to all at <https://www.colorado.gov/airquality/report.aspx>
- If air monitoring data exceeds applicable standards, Suncor will activate our Emergency Operations Command (EOC) and coordinate with local fire and police departments.



Sand Creek



Sheen observed on May 7, 2020 was intermittent and difficult to spot at times. Investigation indicates material is an aged diesel fuel (or fuel oil) caught in the creek bed 20+ years ago, before Suncor owned the refinery.



Restored Area, August 27, 2020.

Extensive inspection and investigation confirmed that current refinery barriers and defenses continue to be effective.

Maintaining refinery integrity

In addition to the aforementioned EPA regulations, our industry is regulated by the Occupational Health and Safety Administration (OSHA) with respect to personal safety and process safety.

Process Safety Management (PSM), a required OSHA standard, emphasizes the management of hazards associated with certain chemicals and establishes a comprehensive management program that integrates technologies, procedures and management practices.

CCR has a demonstrated/audited track record for process safety compliance, including but not limited to:

- Lessons Learned
- Mechanical Integrity and Quality Assurance Program (MIQA)
- Inspection Programs
- Reliability Improvement Plan (RIP)
- Process Hazard Analysis (PHAs)
- Turnarounds

In our most recent PSM compliance audit (2019) CCR was commended for our mechanical integrity program, process hazard analysis tools, operating procedures, contractor training programs and employee participation in PSM programs.



Refinery capital investments

- Since purchasing the refinery, Suncor has invested more than \$1.3 billion in improvements.
- Capital investments have been driven to increase environmental quality of our fuels, including significantly reducing the amount of benzene and sulfur in our gasoline and enabling the refinery to produce ultra-low sulfur diesel fuel.
- We plan to continue investing hundreds of millions of dollars over the next few years, so we can continue providing Colorado with essential fuels that help transport critical supplies to frontline workers, mobilize emergency services vehicles, keep grocery store shelves stocked, supply asphalt for road repairs, and much more.
- Our continued investments are focused on making the refinery better, *not* bigger.



Plants 1 & 3, started in 1931 in
"Commerce Town"



Plant 2, originally built in 1937



Suncor Commerce City Refinery today

CDPHE settlement agreement overview

As part of the settlement agreement reached with CDPHE in March 2020, Suncor agreed to:

- Pay ~**\$1.4 million** in penalties (which have been paid)
- Direct ~**\$2.6 million** to community projects (SEPs)
- Spend up to **\$5 million** on improvement projects following third party root cause investigation

Suncor also committed to complete several key projects to improve performance and how we communicate with the community:

- Engage an independent **third party root cause investigation** to identify refinery improvement opportunities
- Provide **funding for HCN monitoring** in the surrounding community, which will be conducted by the CDPHE
- In consultation with stakeholders and neighbors, **develop a communications process** to communicate with, and make data available to, the community and CDPHE

CDPHE settlement agreement progress

Third party root cause investigation

Per the settlement agreement, Suncor selected global management consulting firm Kearney to conduct the investigation. Kearney has more than 3,600 people working in more than 40 countries, and advises more than 75% of Fortune Global 500, influential governmental and non-profit organizations.

The objectives of Kearney's independent assessment include:

- Determine causes of emissions exceedances; and
- Make recommendations to improve or change plant design, operations, and/or maintenance practices

Progress to date includes:

- Kearney initiated its work in late July 2020. This included interviews with Suncor personnel, detailed review of Suncor processes and procedures, operational data, historic emissions exceedances, and observation of operations, including start-up of our Plant 2 FCC unit.
- Suncor expects Kearney's work to be completed by end of year, well prior to CDPHE's deadline of March 31, 2021.
- Suncor will develop an action plan to address any recommendations from Kearney.

CDPHE settlement agreement progress

Community consultation process and survey

- August through October, completed many one-on-one communications with public officials, community leaders, other stakeholders
- September 9 we launched online and telephone surveys in English and Spanish
 - 600 telephone surveys completed
 - Online survey remains open through November 1
- Held eight community focus groups, completed employee focus groups
- Survey feedback will be used to improve or add tools, systems to notify, communicate and share data with the community
- Since April, parallel work underway to research best practices and technologies for notification/communication (e.g., Everbridge, emergency notification system such as Reverse 911)
- **Next steps:** compile survey results, include in report to Colorado Department of Public Health & Environment (CDPHE) and take action



CDPHE settlement agreement progress

Community consultation process and survey: deadlines

| Deadline | Compliance Order Requirement |
|--------------------|---|
| December 15, 2020 | <ul style="list-style-type: none">• CDPHE's submission deadline for Suncor's proposal of short- and long-term measures to notify, communicate and share data with the community.• Required completion date for the community and stakeholder consultation process. |
| January 2, 2021 | <ul style="list-style-type: none">• HB 20-1265 (reverse 911) requirements take effect. |
| March 30, 2021 | <ul style="list-style-type: none">• Implementation date for the agreed-upon short-term measures from Suncor's proposal. |
| September 30, 2021 | <ul style="list-style-type: none">• Implementation date for the agreed-upon long-term measures from Suncor's proposal. |