



## **Suncor Energy (U.S.A.) Inc. Commerce City Refinery**

Commerce City Council Study Session Pre-Read

October 26, 2020 (submitted 10/19/2020)

### **Introduction**

We are looking forward to this study session as an opportunity for continued dialogue and information sharing with respect to topics we understand to be of concern to City Council and the community. Our plan is to address the following items, which we identified based on questions and comments submitted by Council to Suncor at the Aug. 17, 2020 City Council meeting:

- Commerce City refinery (CCR) environmental goals and metrics for improvement
- Corrective actions and preventative measures completed in response to recent air emissions exceedances
- Air emissions: how limits are established and how Suncor reports
- 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
  - Building trust / increasing transparency through enhanced notifications, communications and data-sharing with the public

### **Commerce City refinery: our business at-a-glance**

Suncor's purpose is to provide trusted energy that enhances people's lives, while caring for each other and the earth. Suncor is working to improve trust with the community and looking at new and different ways to demonstrate how we care for the environment and our neighbors. Tonight, you'll hear about what we're doing in these areas.

We also want to take this opportunity to share high-level facts about our operations and the products we supply, many of which we all use every day.

Current Commerce City refinery product supply data:

- We supply about one-third of Colorado's gasoline, and between 40-50% of the state's diesel
- We are the largest supplier of paving-grade asphalt used on Colorado roads
- We supply much of the jet fuel used by planes departing from Denver International Airport

The majority of crude oil used to make these products – about 75-80% on any given day – comes from local suppliers.

We are a local refiner, processing locally sourced crudes, providing essential products to the local market.



## **Commerce City refinery (CCR) environmental goals and metrics for improvement**

### September Environmental Performance Data

During the month of September, the Commerce City refinery experienced a single event that resulted in one environmental exceedance requiring us to notify Colorado Department of Public Health & Environment (CDPHE) or the U.S. Environmental Protection Agency (EPA). It was an exceedance of hydrogen sulfide (H<sub>2</sub>S) to the flare (where it is converted into sulphur dioxide, or SO<sub>2</sub>) for a single three-hour period.

CCR environmental performance through September this year vs. last year:

- 2020 (through September) – 111 exceedance periods
- 2019 (through September) – 396 exceedance periods

### Goals and metrics for improvement

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. Our 2020 goal – which was also our 2018 goal – is to have no more than 124 exceedances in the year. Given we are currently at 111 exceedance periods, we believe with a strong finish to the year, this is achievable.

- 2020 Environmental Performance thru September 30, 2020 (opacity, excess SO<sub>2</sub>, H<sub>2</sub>S)
  - Number of permit limit exceedances
    - 78% decrease vs. 2019
    - 18% increase vs. 2018
  - Duration of permit limit exceedances (how long to stabilize/stop the emissions)
    - 60% decrease vs. 2019
    - 11% increase vs. 2018
  - Tons of SO<sub>2</sub> emissions
    - 54% decrease vs. 2019
    - 13% decrease vs. 2018
- 45% of air emission exceedances in 2020 are a result of four events:
  - March 17: Plant 2 fluidized catalytic cracker (FCC) unit - Main air blower shut down (4 exceedances)
  - May 17: Plant 1 temporary power loss and subsequent shut down (36 exceedances)
  - June 19: Tail gas unit (TGU) sour water leak repair (3 exceedances)
  - Aug 13: Plant 1 boiler trips (7 exceedances)



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

For each of the four events listed above, Suncor completed a thorough investigation to identify root causes, and assigned corrective actions to prevent recurrence. These preventative measures and corrective actions are detailed below.

- Major actions taken:
  - March 17: Plant 2 FCC - Main air blower shut down
    - DCS emergency shutdown installation & control upgrades
    - Completed air blower electrical repairs
    - Performed additional inspection and testing on electrical relays to identify any additional equipment concerns
      - Substation transformer and grounding systems repairs
      - Shutdown and start-up procedures were updated to cover specific situations
      - Conducted enhanced training to improve response to events
      - Updated inspection procedures to clarify acceptance criteria
  - May 17: Plant 1 temporary power loss and subsequent shut down
    - Performed thorough testing and inspection on electrical substation as part of troubleshooting
    - Restored insulating gas pressure on circuit switcher
    - Preventative maintenance activities and inspection procedures were updated
    - Additional alarms added to proactively monitor and address issues prior to failure
    - Updated operations procedures and conducted enhanced training
  - June 19: Tail gas unit (TGU) sour water leak repair
    - Damaged piping section and control valve replaced
    - Piping segments will be upgraded in 2021 turnaround
    - Added further safeguards to our preventative maintenance and inspection programs
  - Aug 13: Plant 1 boiler trips
    - Extensive troubleshooting resulted in the discovery of excessive voltage drop on the control power feed
    - Reduced load on the control power feed and installed segregated additional control power feed
    - Installed diagnostic transmitter for on-going monitoring

## **Air emissions: limits and reporting**

Suncor has multiple reporting requirements regarding air emissions. Depending upon the specific rule, regulation or permit limit, Suncor may be required to notify CDPHE, EPA, National Response Center (NRC), Local Emergency Planning Committee (LEPC), or the State Emergency Response Commission (SERC).

Reporting is required whenever a permit limit is exceeded, or whenever a rule requires notification to a certain agency, such as exceeding a reportable quantity in 24 hours:



- CDPHE must be notified for air operating permit limit exceedances;
- SERC, LEPC and CDPHE must be notified for events that are over 500 pounds of SO<sub>2</sub>;
- for certain types of flaring events, we would also notify the EPA.

Some notifications are made right away, such as required notifications to the NRC, LEPC and SERC. Others are typically reported the following 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.

Examples of our most common air reporting requirements are:

- Opacity exceedances from our FCC Stacks (over 20% opacity in a 6-minute period)
- Smoke from our flares (5 minutes total in a 2-hour period)
- Carbon monoxide limits (unit or equipment specific limits)
- Nitrogen oxides limits (annual tons per year per individual unit or equipment)
- Hydrogen sulfide in our flare/fuel gas header (162 ppm average in a 3-hour period)
- Excess sulfur dioxide emissions above permit limits (500 pounds in a 24-hour period)

In addition to these required notifications, there are times that we notify the CDPHE as a courtesy, even when no limits are exceeded. An example would be flaring, smoke or some other visible activity that did not actually exceed a permit limit.

### **Community air monitoring**

To conduct community monitoring, Suncor personnel use a calibrated Industrial Scientific MX6 iBrid 6gas monitor capable of detecting oxygen (O<sub>2</sub>), carbon monoxide (CO), hydrogen sulfide (H<sub>2</sub>S), sulfur dioxide, flammable/combustible vapors (LEL), and volatile organic compounds (VOCs).

Monitoring is based on wind speed and direction, and is conducted by Suncor personnel who drive through the community and stop periodically to take readings and assess conditions. Priority is given to schools, parks, medical buildings and event centers.

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 its Emergency Operations Center (EOC) and coordinate with local fire and police.



Air monitoring standards and thresholds

Material	OSHA PEL	ACGIH TLV	AIHA ERPG-1	Suncor Action Limits
Hydrogen Sulfide (H <sub>2</sub> S)	20 ppm	1 ppm	0.1 ppm	Any detectable odor or sustained reading of 0.1 ppm or greater
Sulfur Dioxide (SO <sub>2</sub> )	5 ppm	2 ppm	0.3 ppm	Any detectable odor or sustained reading of 0.3 ppm or greater
Photoionization Detector (PID) – detects hydrocarbon vapors	NE*	NE*	NE*	Sustained reading of 5 ppm or greater
Carbon Monoxide (CO)	50 ppm	25 ppm	200 ppm	Sustained reading of 25 ppm or greater
Benzene	1 ppm	0.5 ppm	50 ppm	Sustained reading of 0.5 ppm or greater

\*NE = not established

- OSHA PEL (Occupational Safety and Health Administration Permissible Exposure Limit): An OSHA PEL is the maximum time weighted average (TWA) concentration an employee may be exposed to in an 8-hour work shift, for a 40-hour work week.
- ACGIH TLV (American Conference of Government Industrial Hygienists Threshold Limit Value): Similar to an OSHA PEL, this is the maximum time weighted average (TWA) concentration that the ACGIH recommends a worker be exposed to when working 8 hours per day and for a 40-hour work week.
- AIHA ERPG-1 (American Industrial Hygiene Association Emergency Response Planning Guidelines-1): The maximum airborne concentration below which nearly all individuals could be exposed for up to 1 hour without experiencing more than mild, transient adverse health effects or without perceiving a clearly defined objectionable odor.



Suncor community monitoring data sample – post 8/13/20 event (Plant 1 boiler trips)

Date	Time	Equip. Serial #	Location	SO2 (ppm)	H2S (ppm)	CO (ppm)	PID / BZ (ppm)	Description of Odor (if applicable)	Comments
8/13/20	3:38:00 PM	110358B-001	5950 York St	0.0	-2.3	-15.0	0.0	None	Initial zero of monitor
8/13/20	3:39:00 PM	110358B-001	Zero'd Monitor						
8/13/20	3:41:00 PM	110358B-001	6555 York St	0.0	0.0	0.0	0.0	None	
8/13/20	3:45:00 PM	110358B-001	74th & Platte River	0.0	0.0	0.0	0.0	None	
8/13/20	3:50:00 PM	110358B-001	6290 Colorado Blvd	0.0	0.5	-0.5	0.0	None	
8/13/20	3:51:00 PM	110358B-001	Zero'd Monitor						Monitor (Serial # 110358B-001) was not responding correctly and was drifting
8/13/20	3:55:00 PM	110358B-001	RBC Parking Lot	0.0	0.5	0.0	0.0	None	
8/13/20	3:57:00 PM	110358B-001	Zero'd Monitor						
8/13/20	4:21:00 PM	1306406-001	Changed Monitor						
8/13/20	4:24:00 PM	1306406-001	5950 York St	0.0	0.0	0.0	0.0	None	
8/13/20	4:27:00 PM	1306406-001	6555 York St	0.0	0.0	0.0	0.0	None	
8/13/20	4:31:00 PM	1306406-001	74th & Platte River	0.0	0.0	0.0	0.0	None	
8/13/20	4:36:00 PM	1306406-001	6290 Colorado Blvd	0.0	0.0	0.0	-0.3	None	
8/13/20	4:42:00 PM	1306406-001	RBC Parking Lot	0.0	0.0	0.0	0.0	None	
8/14/20	12:06:00 AM	0803038-002	RBC Parking Lot	0.0	0.0	0.0	0.0	None	
8/14/20	12:13:00 AM	0803038-002	Visitors Center	0.0	0.0	0.0	0.0	None	
8/14/20	12:17:00 AM	0803038-002	3975 Sand Creek	0.0	0.0	0.0	0.0	None	
8/14/20	12:26:00 AM	0803038-002	Walmart @ Vaquez & 60th	0.0	0.0	0.0	0.0	None	
8/14/20	12:34:00 AM	0803038-002	60th & Brighton	0.0	0.0	0.0	0.0	None	
8/14/20	1:14:00 AM	0803038-002	Adams Heights Park	0.0	0.0	0.0	0.0	None	
8/14/20	1:18:00 AM	0803038-002	South Adams Fire Station @ US-85 & Dexter	0.0	0.0	0.0	0.0	None	
8/14/20	1:23:00 AM	0803038-002	74th & Vaquez	0.0	0.0	0.0	0.0	None	
8/14/20	1:28:00 AM	0803038-002	72nd & Ivy	0.0	0.0	0.0	0.0	None	
8/14/20	1:33:00 AM	0803038-002	73rd & Hwy 2	0.0	0.0	0.0	0.0	None	
8/14/20	1:40:00 AM	0803038-002	Adams County Fire Station	0.0	0.0	0.0	0.0	None	
8/14/20	3:07:00 AM	0803038-002	Hwy 85 & 69th	0.0	0.0	0.0	0.0	None	
8/14/20	3:11:00 AM	0803038-002	77th & Brighton	0.0	0.0	0.0	0.0	None	
8/14/20	3:14:00 AM	0803038-002	77th & Dahlia	0.0	0.0	0.0	0.0	None	
8/14/20	3:16:00 AM	0803038-002	74th & Carnation	0.0	0.0	0.0	0.0	None	
8/14/20	3:19:00 AM	0803038-002	73rd & Birch	0.0	0.0	0.0	0.0	None	
8/14/20	3:21:00 AM	0803038-002	72nd & Birch	0.0	0.0	0.0	0.0	None	
8/14/20	3:25:00 AM	0803038-002	72nd & Colorado	0.0	0.0	0.0	0.0	None	
8/14/20	3:27:00 AM	0803038-002	70th & Birch	0.0	0.0	0.0	0.0	None	

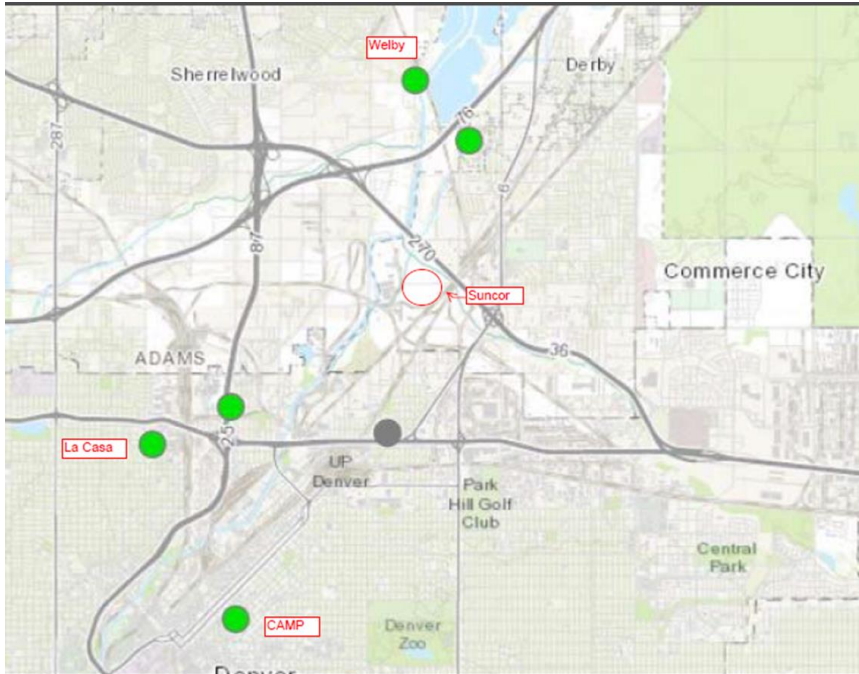
Rows 5 through 9 above indicate a situation in which the monitor was not functioning correctly. In this case personnel returned to Suncor to change out the monitor and begin the process over again.

As you can see, the monitoring results from this event provide that air quality in the neighborhoods surrounding the refinery was well within acceptable levels.



CDPHE community monitoring data – 8/13/20 event (Plant 1 boiler trips)

CDPHE air monitoring station locations



Data from CDPHE website

Hour	CAMP			LA CASA			WELBY		
	SO2 (ppb)	CO (ppm)	PM10 (µg/m3)	SO2 (ppb)	CO (ppm)	PM10 (µg/m3)	SO2 (ppb)	CO (ppm)	PM10 (µg/m3)
12:00 PM	0	0.2	46	0	0.1	22	0	0.1	11
1:00 PM	0	0.2	33	0	0.1	19	0	0.1	10
2:00 PM	0	0.2	31	0	0.1	17	0	0.1	15
3:00 PM	0	0.2	23	0	0.1	19	0	0.1	13
4:00 PM	0	0.1	10		0.1	19	0	0.1	23
5:00 PM	0	0.1	10	0	0.1	21	0	0.2	26
6:00 PM	0	0.2	13	0	0.1	24	0	0.1	25
7:00 PM	0	0.1	16	0		35	0	0.1	27
8:00 PM	0	0.1	13	0	0.2	44	0	0.1	21
9:00 PM	0	0.1	14	0	0.2	52	0	0.1	24
10:00 PM	0	0.1	16	0	0.2	52	0	0.1	24
11:00 PM	0	0.1	15	1	0.2	46	0	0.1	36
12:00 AM	0	0.1	15	0	0.2	48	0	0.1	35
1:00 AM	0	0.2	13		0.2	37	0	0.1	18
2:00 AM	0	0.1	13	0	0.1	34	0	0.1	19
3:00 AM	0	0.1	13	0	0.1	23	0	0.1	25
4:00 AM	0	0.1	16	0	0.1	20	0	0.1	45
5:00 AM	0	0.2	17	0	0.2	21	0	0.1	35
6:00 AM	1	0.3	18	0	0.2	28	0	0.1	36
7:00 AM	0	0.2	23	1	0.2	23	2	0.1	38
8:00 AM	0		31	1	0.1	22	1	0.1	41
9:00 AM	0	0.3	38	0	0.1	24	2	0.1	25
10:00 AM	0	0.2	38	0	0.1	22	1	0.1	28
11:00 AM	0	0.3	54	0	0.1	21	0	0.1	14

CDPHE community air monitoring station data is available at  
[www.colorado.gov/airquality/report.aspx](http://www.colorado.gov/airquality/report.aspx)



## **Sand Creek recent work**

On May 7, during routine checks of Sand Creek, Suncor personnel observed a sheen in a section of the creek near our Commerce City refinery. Our investigation indicates that the sheen material is currently not coming from inside the refinery, but is an aged diesel fuel (~20+ years old, pre-dating Suncor) that appears to have been caught in the creek bed in an area along the south side of the creek (where the sheen was observed) many years ago.

Our mitigation activities included the removal of ~850 cubic yards of impacted soil and sediment likely left behind after historical creek re-alignment and mitigation work. Our extensive inspection and investigation confirmed that the current refinery barriers and defenses were not compromised.

Suncor worked closely with CDPHE throughout this investigation, including approval for restoration activities, which were completed at the end of August.

Moving forward, Suncor will conduct monitoring procedures intended to provide confirmation that mitigation efforts eliminated the presence of historical material (aged diesel fuel, or fuel oil) from Sand Creek, including the material first observed on May 7. This includes:

- Visual assessment walks of Sand Creek from Brighton Blvd. to Burlington Ditch, in which Suncor personnel check surface conditions of the southern bank of Sand Creek for presence of sheen.
  - Frequency:
    - Once daily, Monday through Friday, for four weeks (Suncor will initiate following agreement from CDPHE)
    - Once weekly for one month
    - Resume standard creek walks included in Suncor's standard monitoring procedures thereafter
- Visual assessment of the restoration area, involving observation intervals of 10-minute duration each, to check surface conditions for the presence of sheen at the mitigation restoration area. Personnel will note any scour or loss of bank material in the stabilized restoration area.
  - Frequency:
    - Twice daily, Monday through Friday, for four weeks (Suncor will initiate following agreement from CDPHE)
    - Once weekly for two months
    - Resume standard creek walks included in Suncor's standard monitoring procedures thereafter
- Surface water analytical sampling:
  - Conduct post-mitigation confirmation sampling of surface waters in Sand Creek and the South Platte River
  - Submit samples for laboratory analysis
  - Frequency:
    - Twice monthly for two months
    - Resume standard surface monitoring thereafter



## Maintaining refinery integrity

In addition to driving continuous improvement through implementing corrective actions identified through incident investigations, we take a proactive approach to driving safe and environmentally sound operations.

- Implement **Lessons Learned** and **corrective actions** shared through industry incidents.
- **Mechanical Integrity and Quality Assurance Program (MIQA)** to proactively maintain and continuously improve the integrity of systems throughout the life of the facility from initial installation through dismantlement.
  - MIQA is a series of procedures that define how Suncor's Commerce City Refinery does the following:
    - Meets industry codes, specs, and standards on equipment
    - Complies with equipment testing and inspections
    - Properly assemble, install, repair, operate and maintain assets
    - Purchase and store critical parts
    - Document and record equipment data
- **Inspection Programs** which meet industry codes and regulations in order to monitor, identify and address deficiencies
  - Corrosion Hazard Analysis
  - Heater mechanical integrity improvements
  - Risk Based Inspections and "dead leg" mitigation
- **Reliability Improvement Plan (RIP)** defines, tracks and monitors action plans designed to continuously improve plant reliability in accordance with industry best practices. Components of the RIP include but are not limited to the following programs:
  - Integration of online predictive monitoring tools
  - Addressing problematic equipment
  - Electrical Long Range Plan
  - Analyzer Improvement Program
- **Process Hazard Analysis (PHAs)** – The key provision of process safety management (PSM) is process hazard analysis (PHA), a careful review of what could go wrong and what safeguards must be implemented to prevent releases of hazardous chemicals. PHAs are completed for each process unit every five years; this revalidation schedule helps ensure changes in best engineering practices can be applied and inherently safer technologies are evaluated and employed.
- **Turnarounds**, which take place approximately every five years for each plant, in alignment with industry best practices, are when an entire plant is shut down to conduct work that can only be executed while offline. A typical turnaround at CCR takes 2+ years to plan, can cost between \$50-\$90 million and range from 30-45 days working around the clock.
  - Turnarounds provide an opportunity to perform work install projects required to reduce risk, upgrades
  - Suncor will execute a Turnaround in Plants 1 & 3 in spring 2021. Key activities for this turnaround include:
    - #1 FCC riser replacement, emergency shutdown installation and dip-leg replacement



- Flare system improvements
- Hydrogen plant header replacement
- Compressor upgrades
- Electrical upgrades and metering
- Regulatory inspections for towers, vessels, piping, and pressure relieving devices
- Heater re-tubes and repairs

### **Refinery capital investments plan to drive environmental performance**

Since purchasing the refinery, Suncor has invested more than \$1.3 billion in improvements. Suncor's capital investments have been driven to increase the 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 continue to invest hundreds of millions of dollars on average each year to provide 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.

- Since 2015, CCR has spent \$300-\$400 million in capital upgrades and investments in new technology.
- We plan to spend ~\$50 million this year (in 2020)
- Plan to spend ~\$300 million over the next three years (2021 – 2023)
- Reasons for Refinery Capital Investments:
  - Execute Cyclic Turnaround events (e.g., Plants 1 & 3 turnaround in Spring 2021)
  - Install equipment to meet new environmental regulations, reduce emissions, and meet new fuel specifications (EPA, CDPHE, ASTM) (e.g., ultra-low-NOx burners on Boiler 4)
  - Upgrade equipment and technology (Personal Safety, Process Safety and Codes, OSHA, API, AFPM) (e.g., installation of Emergency Shutdown Systems on both FCCs in 2020 and 2021)
  - Replace equipment and infrastructure (e.g., replace riser on #1 FCC)
- Turnaround Capital: Full plant turnarounds planned in Spring of 2021 (Plants 1&3), and Spring of 2023 (Plant 2)
- Regulatory/Compliance Investment Capital:
  - We've invested ~\$170 million on regulatory compliance projects since 2015. Included in this are:
    - New waste water treatment facility for mercury and arsenic reduction
    - New waste water treatment for selenium reduction
    - New flare monitoring and controls for Refinery Sector Rule compliance
    - Major hydrotreater upgrade for compliance with Tier 3 gasoline sulfur regulations
    - Relief system upgrades
  - Plan to spend \$31 million on confirmed compliance projects over the next three years:
    - Further reduction of selenium and nutrients in waste water
    - Ultra-low NOx burners on boiler 4
    - Flare system improvements to reduce emissions
    - Reduction in asphalt loading emissions
    - API repair



- Risk Mitigation Maintenance and Investment Capital:
  - \$95 million invested since 2015 to replace equipment
  - Plan to invest ~\$165 million over next three years (2021 – 2023)
    - Replace major components in both FCC units
    - Install Emergency Shutdown Systems on both FCC units
    - Additional process safety layers of protection
    - Replace equipment (incl. substations, control systems, rotating equipment, vessels, piping, etc.)

### **CDPHE settlement agreement progress**

In March 2020, Suncor reached a settlement agreement with the Air Pollution Control Division within the Colorado Department of Public Health and Environment (CDPHE) regarding air compliance issues at the Commerce City refinery located near Denver, Colorado. These issues occurred during the 2017-2019 period.

As part of the settlement agreement, Suncor agreed to:

- Pay approximately \$1.4 million in penalties (which have been paid);
- Direct approximately \$2.6 million to community projects that focus on improving public health and the environment surrounding the refinery (Supplemental Environmental Projects, or SEPs); and
- Spend up to \$5 million on refinery improvement projects that will be identified following an independent third party root cause investigation.

The agreement also outlined several key projects that the refinery will complete to improve its operations and environmental performance:

- Engage an independent third party root cause investigation to identify refinery improvement opportunities that will be implemented by Suncor.
- Conduct additional hydrogen cyanide (HCN) emissions monitoring at the refinery and 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.

### **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

Kearney is charged with providing an independent assessment of CCR with the following objectives:

- 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.

#### Community consultation project and survey

In the agreement reached with the Colorado Department of Public Health and Environment (CDPHE) earlier this year, Suncor committed to engaging with the community and stakeholders to seek input on improved processes and systems to notify, communicate and share data with our neighbors, stakeholders and CDPHE. The community consultation process also allowed us to meet recent Colorado legislation (House Bill 20-1265). Moreover, this process aligns with Suncor's purpose and is an important step for us – to listen and seek to understand how to improve our relationships with the community, be a better neighbor and rebuild trust.

We engaged a consultant to conduct the research, which included several different types of engagement approaches and data gathering – from one-on-one conversations and employee and community focus groups to online and phone surveys in both English and Spanish. Thank you Mayor and City Council members for your time to meet with us about the process. We appreciate you sharing the survey opportunity with your constituents and providing your one-on-one thoughts directly to us and to the third-party research firm. We also want to thank the City staff for sharing the information about the survey through the City's communications and social media channels.

The survey, which runs from September 9 through November 1, was promoted to the public using a number of advertising channels, including traditional media (e.g., print publications, radio, billboards, direct mail) as well as online and social media channels (e.g., LinkedIn, Twitter). The community survey was available for our neighbors living in communities from zip codes in Commerce City, Adams County and metro Denver, with a focus on those neighbors living closest to the refinery. Due to COVID-19, all research was conducted virtually.

Survey questions cover topics such as how respondents prefer to access news and information, their expectations of businesses including Suncor, and how effective they think our communications and notifications have been previously. The feedback we receive will inform the development of systems and/or processes (both short-term and long-term measures will be identified) by which we will communicate and share data with the community and stakeholders in the future.



Upcoming deadlines related to the community consultation project include:

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