

The image shows a large white cylindrical tank with the word "SUNCOR" in large blue letters. A yellow and red arc is positioned above the letters. A yellow metal walkway with railings curves around the tank. The background is a clear blue sky with some clouds.

SUNCOR

**Commerce City Government
City Council Study Session**

March 22, 2021



Agenda

- Introductions
- Community air monitoring
- Permit renewals
- Environmental performance and reporting
- Refinery improvements
- COC updates
- Turnaround

Community air monitoring

- Announced in December of 2020
- Government stakeholder sessions underway with various agencies
- Community engagement sessions to be held
- Several other community monitoring efforts planned or implemented (CDPHE, DDPHE, CDOT, C3gov, TCHD)
- Will use an independent expert to provide data in a public-facing dashboard in English and Spanish
- Our current plan is to conduct our virtual listening sessions with the broader community in the spring and then roll out the air monitoring program in the summer



Permits from Colorado Department of Health and Environment

Renewals underway

- Plant 2 Title V Permit (95OPAD108)
- Wastewater (CO0001147) and Stormwater (COS000009) discharge permits

Year-over-year performance

Improvement over 2019

- The refinery's **record of exceedance periods improved by 54 percent** between 2019 and 2020, with the number of exceedance periods falling from 425 (2019) to 197 (2020).
- Along with the reduced number of exceedance periods, last year Suncor **lowered its SO₂ and H₂S emissions exceedance periods by 48 percent**, while total SO₂ emissions fell by 40 percent.
- The total duration of commonly exceeded parameters was **39 percent less** in 2020 than 2019.

Environmental reporting

January and February events

- Multiple reporting requirements regarding air emissions, depending upon the specific rule, regulation, or permit limit
- Extremely cold weather in February
- Excess emission/malfunction reports to CDPHE:
 - Size and scope of emissions exceedances
 - January 26
 - February 14-15, 19, and 20
- Other notifications:
 - Events did not result in emissions exceedances
 - February 9, 10, 14, 16, 17

Refinery reliability updates

Responses to 2019 and 2020 catalyst events

- Installed an automatic shut off system on the Plant 2 fluid catalytic cracking unit to attain a 90% probability of containing catalyst (FCC) from reliability incidents
 - Further enhancements are being engineered to increase the probability of containment to 99+% and should be implemented in 2022, as long lead equipment is designed, manufactured and installed.
- Will install a 99+% automatic emergency shutdown system on the #1 FCC to prevent similar catalyst reversals.
- Revised operating procedures to include ‘safe park’ hold points and additional process conditions to monitor.
- Enhanced training on procedures, conducted drills, and clarified responsibilities.
- Changed the processes that operators used to manage startup and shutdown of the refinery, which has already greatly reduced the number of opacity events.

Improvements: air release reductions

Helping reduce ozone and haze

- Severe Ozone Attainment likely in 2023
- RFG fuels will reduce VOC emissions by 3 tons per day
- All boilers will have an upgrade by October that reduces NOx emissions by a further 121 tons/year

Reducing crude truck deliveries

- New pipeline project completed (Fall 2020)
- Reduced the heavy haul trucking into Commerce City by approximately 150 trips per day
- Reduced associated trucking emissions



Improvements: PFAS

PFOS/PFOA

- Present due to past use of Class B firefighting foam
- Initiated an engineering study to treat and reduce all discharged water from the refinery to below federal and state guidelines for PFOS / PFOA
- Exact specifications will depend on permit timing and requirements
- Replaced our inventory of older firefighting foam with a new, compliant foam
- Working through our plan to safely dispose of the older foam through a third-party vendor




CDPHE settlement agreement update

As part of the settlement agreement reached with CDPHE in March 2020, we committed to complete several key projects to improve performance and communication with the community:

- Engaged an independent **third-party root cause investigation** to identify refinery improvement opportunities. The report and action plan will be completed and made public by mid-April.
- Provided **funding for HCN monitoring** in the surrounding community, which has been conducted by the CDPHE – monitoring was completed in December and January. Data will be released by CDPHE.
- In consultation with stakeholders and neighbors, **developed and implemented improved processes** to notify, communicate with, and make data available to the community and CDPHE

CDPHE settlement agreement progress: timelines

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 1, 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.

CDPHE settlement agreement progress: notifications

New alerts and notifications for the community



Emergency alert system through
Adams County

No action required to
receive alerts

Launched Jan. 1, 2021



Notification system for other
refinery events

Opt-In to receive notifications in
English or Spanish

Sign-ups launched Feb. 24;
notifications will begin in June

Refinery maintenance: Turnaround

- Plants 1 and 3 will be completely shut down to execute maintenance activities
- 48 days (mid-April through early June), 5 year cycle
- 24 x 7 work activity
- Approx. 700 add'l workers per shift (~1400/day)
- \$123 million investment
- Significant Commerce City tax revenue
- Strong COVID-19 safety protocols
- Improved reliability leading to reduced air emissions
- Modified shutdown and startup processes to reduce startup and shutdown emissions



Turnaround: integrity and reliability

- Plant 1 fluid catalytic cracking unit (FCC) emergency shutdown system
- Flare system
- FCC riser
- Piping system replacements and metallurgy upgrades
- Electrical system updates
- Corrosion resistant valves



Thank you!



APPENDIX

CDPHE settlement agreement progress: community engagement results

- Alerts and notifications (slide 17)
- Information and resources (slide 18)
- Operational improvements (slide 19)



ALERTS & NOTIFICATIONS

64% of residents want to be **automatically alerted** in an emergency

SUNCOR ACTION

The refinery will use the **Integrated Public Alert and Warning System (IPAWS)** as of Jan. 1, 2021 to notify the surrounding community about any emergencies that require immediate action.



INFORMATION & RESOURCES

Survey participants said a website was one of their **top choices** for how they want to receive information and be alerted of non-emergency events

SUNCOR ACTION

Launched Commerce City Refinery webpage
Suncor.com/Colorado to provide information
and updates



OPERATIONAL IMPROVEMENTS

55% of residents believe **Suncor is important to the community**, but more work needs to be done to help the community understand the refinery's operations and its improvements

SUNCOR ACTION

Conducted interviews, **surveys and focus groups in English and Spanish** with hundreds of community members and employees to gather feedback about how we can improve