

Commerce City Refinery: Improving Our Performance



We are continuing on a journey to improve our performance and communications so that we can regain the community's trust.

As a part of our 2020 settlement agreement with Colorado Department of Public Health and Environment (CHPHE), we heard our neighbors' input, and we learned a lot about their need for us to provide more timely, transparent and accessible information. We also heard the need for us to do better at explaining our operations and the improvements we're making to minimize our

environmental impact and ensure the safety of our people and the community.

Below is an overview of findings from an investigation conducted by Kearney, an independent, third-party expert, into the cause of our past emissions exceedances, as well as some of the actions we're taking.

The investigation entailed:



Interviews with employees



Review of procedures, operating parameters and safety analyses



On-site observations

Key Findings:

The investigation found that our refinery is designed to meet environmental permits during steady-state operations, and it is adequately funded.

It also found some areas where we can:



Improve our **systems** and **processes**



Increase **training** for our people



Continue to foster a **culture** based on **trust** and **confidence**

Our Improvement Plan

Our Improvement Plan highlights what we have done so far and what we plan to do, while enabling us to more fully live our purpose – **providing trusted energy that enhances people's lives while caring for each other and the earth.** A few actions include:

Automatic Shutdown

We're enhancing our safeguards by investing in upgrading our automatic shutdown systems for our gasoline making units (FCCUs). These systems significantly reduce the potential and severity of future catalyst releases.

Cost to install these capabilities:

\$12 million

Exceeding the \$5 million we committed to invest as part of the settlement with CDPHE; cost for Plant 2 upgrades alone will exceed approximately \$10 million

Timeline

2020

Upgrade of automatic shutdown system for the FCCU in Plant 2 complete

End of June 2021

Similar updates for the FCCU in Plant 1 complete

End of 2022

Installation of a Programmable Logic Controller (PLC) as well as upgraded instrumentation, automated shutdown valves and new hydraulic pressure units in Plant 2 complete to further increase the reliability and speed of FCCU shutdown process

Additional Measures

In striving to demonstrate our values, our Improvement Plan includes additional voluntary measures that will enhance our processes, strengthen the capabilities of our employees and continue to expand and reinforce a culture focused on safety and environmental responsibility above all else.



Safety and Reliability

There is an opportunity to leverage digital technology to increase real-time availability of critical procedures and expertise.

Actions Taken

- Continued assessment to identify and analyze potential hazardous conditions, and evaluate controls and responses on a rotating five-year basis, with advanced knowledge management tools

Actions Planned

- Review environmental controls, which includes a review of alarms and pre-alarms and associated operating procedures



Training

We want to develop the best team possible. This includes enhancing their skills, knowledge and capabilities.

Actions Taken

- Increased the use of training drills to prepare for all types of events

Actions Planned

- Intent to initiate a project to design, build and operate an on-site training simulator for employees to work through a variety of scenarios



Culture

Our goal is to continue to foster a workplace built on trust and confidence, where any employee is empowered to ask the right questions, willing and able to act swiftly to do the right thing and bring forth ideas and solutions to make us even better – for today and into the future.

Actions Taken

- Reviewed our key procedures, including the Plant 2 FCCU Start-Up Procedure, to more closely reflect industry best practice with input from company experts
- Reinforced operator empowerment and intervention at all levels to act, including unit shutdown, should they feel it necessary to prevent or mitigate the impact of incidents

Actions Planned

- Continue to implement a higher degree of operational discipline, which to us means rigor around the elements that support our safety culture and help us achieve operational excellence

We are committed to regaining the community's trust, and continuing to supply Colorado with quality, reliable and affordable energy.

You can view **Kearney's final report** and our full **Improvement Plan** at [Suncor.com/ccr-report](https://www.suncor.com/ccr-report)