



OFFICE OF
INSPECTOR GENERAL
U.S. DEPARTMENT OF THE INTERIOR

Allegations of Safety and Employee Health Hazards and Excessive Flaring at the Cliffside Helium Enrichment Unit




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Memorandum

OCT 29 2021

To: Laura Daniel-Davis
Principal Deputy Assistant Secretary - Land and Mineral Management

From: Mark Lee Greenblatt 
Inspector General

Subject: Management Advisory – *Allegations of Safety and Employee Health Hazards and Excessive Flaring at the Cliffside Helium Enrichment Unit*
Case No. OI-OG-21-0640-I

In May 2021, we received serious safety- and health-related allegations from employees and contractors at the Bureau of Land Management's (BLM's) Cliffside Helium Enrichment Unit (CHEU) in Amarillo, TX. The allegations included safety violations, mismanagement of safety incidents, and excessive flaring and venting activities that all pose serious risk of harm to personnel, infrastructure, and the environment. The results of our interviews and observations are detailed below. For the most part, we have not drawn conclusions regarding the merits of these concerns. However, given their potential significance and the associated risks, on May 28, 2021, we briefed BLM officials on this matter and emphasized that the allegations and concerns we received warrant immediate attention by the BLM. We also referred the allegations to the Occupational Safety and Health Administration (OSHA), the U.S. Environmental Protection Agency (EPA), and the Texas Commission for Environmental Quality (TCEQ).

Background

The BLM operates and manages the CHEU, a helium processing plant. The CHEU is located on private land leased by the BLM, and much of the plant's equipment is leased from Government contractors. The BLM's Amarillo Field Office (AFO) is responsible for the helium plant, and the BLM AFO Field Manager directly oversees the helium plant. The AFO reports directly to the BLM's New Mexico State Director.

The CHEU extracts and processes helium from a gas stream originating from a reservoir owned exclusively by the Federal Government. The pure helium that results from the processing activity is either delivered to a purchaser or pumped back into the ground when the helium cannot be transported through a sales pipeline.

Allegations of Unsafe Operations and Safety Concerns

During an investigation into allegations of royalty fraud by a private company,¹ we visited the CHEU and observed its helium operations. Before we arrived, however, a confidential complainant contacted us alleging many serious safety violations at the CHEU. During our visit to the CHEU in May 2021, we spoke with BLM employees and managers, contractors, and other individuals who had direct knowledge of the operational activities at the CHEU. Some of the people we interviewed asked to remain confidential and expressed fear of retaliation.

Witnesses we interviewed alleged unsafe conditions and mismanagement at the CHEU that increased the risk of an explosion or fire, damage to the helium plant, and injury or death. The personnel we interviewed described activities or conditions that they believed demonstrated the significance of their concerns. Examples recounted by these witnesses included the following claims:

- Safety measures, procedures, and standards for occupational health and plant safety are routinely ignored, such as lockout/tagout² procedures.
- Safety checklists associated with many CHEU operations “do not exist.”
- There is no formal safety training program, and one witness alleged that a supervisor provided answers to safety training tests to give the appearance that required training had taken place.
- Emergency and alarm systems are not tested.
- The lighting systems are inadequate or inoperable.
- Open flame heating devices are routinely used to thaw valves during the winter months.

During our interviews and discussions, one witness described CHEU management’s mantra as, “Helium first, safety second.” Other witnesses agreed with this assessment and believed this caused CHEU employees to take risks to keep the plant operating, especially during the winter.

Allegations of Management Failures

Multiple witnesses alleged that local BLM management and officials at the New Mexico State Office are aware of the mismanagement and unsafe operations and that, for years, those officials have taken no action to address their concerns. Personnel we interviewed recounted the following examples in which they believed that management contributed to unsafe conditions:

¹ This investigation is still pending.

² “Lockout/Tagout,” as defined in 29 C.F.R. § 1910.147, addresses the practices and procedures necessary to disable or de-energize equipment, thereby preventing accidental operation of the equipment while others are working on the equipment.

- CHEU managers routinely fail to communicate critical operational issues to incoming personnel between shifts.
- CHEU managers pressure personnel to work exceptionally long hours.
- CHEU managers fail to address safety suggestions, concerns, and reports made by personnel, including safety personnel.
- CHEU managers make changes to valve configurations without telling anyone.
- The CHEU has operated for years without a qualified and accountable plant manager.

April 2021 Incident Resulted in Evacuation of the CHEU

We obtained a copy of an incident report concerning an April 2021 discharge of natural gas liquids (NGLs) that resulted in a large vapor cloud and the evacuation of more than 20 people from the plant. The incident occurred while CHEU personnel were repairing a valve, and the incident report stated that the safe work permit for the repair falsely stated a number of safety checks had been completed. A BLM expert prepared the report, which also documented many of the concerns we received about the CHEU's unsafe operations.

The personnel we interviewed told us that, had the vapor been exposed to an ignition source, serious damage to infrastructure and injury or death to personnel could have resulted. One witness we asked about the incident stated, "The person who was doing the work could easily have been killed. It is quite possible that the combustible gas level might have been too high to combust, but that could mean that the person would be overcome by the gas cloud and be asphyxiated. There could have been a flash, or a flaming cloud could have traveled and injured personnel and damaged equipment."³

Another person we interviewed contended that CHEU management failed to recognize factors that contributed to the April 2021 incident, including:

- The lockout/tagout procedure was not followed.
- The workers did not visually and positively assure valves were closed.
- The workers did not test the process line to see if it had been depressurized.
- The workers failed to follow the correct procedure to open a six-bolt bonnet valve.

We were also told that CHEU management originally reported the incident as a "leak." According to witnesses, only after a specialist learned about the details of the incident from a

³ We also learned that a school bus stop is located outside the CHEU's main gate, and one witness expressed concern that the school children could have been affected by the vapor cloud had the wind been blowing in their direction.

CHEU employee did BLM officials recognize this as an event that required further review and ultimately led to the incident report described above.

Reports of Excessive Venting and Flaring Activities

The process of purifying helium creates a number of byproducts, including flammable methane gas and other types of gases that pose a risk of harm to people and the environment. The CHEU personnel we spoke with also reported concerns regarding leaks, dangerous venting, and the helium plant's excessive flaring activities.

Multiple CHEU personnel told us the system has leaks “everywhere” and that, in at least two locations, system components vent noxious gases, including carbon monoxide, carbon dioxide, and hydrogen sulfide, into the environment. Witnesses also told us that leaks and venting events are not accurately reported to the EPA or the TCEQ. We were told that CHEU employees have claimed health effects and attributed them to winds blowing vented gas toward the control room. When we asked CHEU management about the venting concerns, however, they said the plant only conducts flaring activities and does not vent gas into the atmosphere.



Figure 1: CHEU Flare on May 18, 2021

Witnesses we interviewed told us that the CHEU has flared between 8 million and 9 million Mcf⁴ of methane daily for months at a time.⁵ According to CHEU management, these volumes are driven by a contracting decision with the El Paso pipeline that makes the CHEU the lowest priority for pipeline space. CHEU management also told us that without pipeline space for the methane gas, flaring becomes a necessity. We did not verify the flared gas volumes reported to us, but CHEU management did not contradict the volumes CHEU personnel reported.

⁴ One Mcf is equal to 1,000 cubic feet.

⁵ By way of comparison, Notice to Lessees #4A (NTL-4A), the current BLM rule for industry venting and flaring onshore, allows royalty-free venting and flaring only in cases of emergencies and certain tests, none of which apply to the CHEU. It further states that, except in those limited circumstances, gas produced from a gas well “may not be flared or vented.” Even when venting or flaring is allowed, it should be only in the amount necessary under the circumstances.

Conclusion

On May 28, 2021, we verbally briefed BLM leadership regarding these allegations and concerns. Also on May 28, at the request of BLM leadership, we repeated this briefing for managers responsible for BLM's New Mexico State Office.

According to the BLM website, the BLM "shut [CHEU] down on 7/1 for an extended period to resolve critical safety issues." The most recent status report on the website stated the following causes: recent NGL release (4-16-2021), OSHA referral and audit; and the BLM Safety Team walk-through and on-site visit.

As part of its assessment of the merits of the concerns articulated in this document, the agency may wish to consider whether its safety compliance and reporting process is adequate and whether, for example, it comports with industry standards. The agency may also wish to consider whether its training and complaint processes are adequate. Finally, we note that the repeated concerns regarding fears of retaliation and, more generally, of an environment that is not conducive to raising concerns is an area that may require particular focus.

Please provide a written response to us within 15 days describing the actions you have taken, or plan to take, to address the allegations. You may email your response to doioigreferrals@doioig.gov. We intend to provide Congress with a copy of this management advisory and a copy or summary of the agency's response, as appropriate, no sooner than 31 days from the date of transmittal and post it publicly on our website the following day.⁶

If you have any questions or need further information concerning this matter, please contact me, or your staff may contact Matthew Elliott, Assistant Inspector General for Investigations, at 202-208-5745.

cc: Michael Nedd, Deputy Director for Operations, BLM
Barbara Eggers, Assistant Director, Business and Fiscal Resources, BLM
Gera Ashton, Deputy Assistant Director, Human Capital Management, BLM
Jaymes Hovinga, Supervisory Safety and Occupational Health Manager, BLM

⁶ On October 13, 2021, the DOI responded to us in writing acknowledging the allegations and describing its plans to address them. In particular, the DOI stated that, after an external investigation by another agency is concluded, it anticipates scheduling an "internal review" to address findings and recommendations related to safety concerns and the April 2021 process release incident. It also represented that it has taken action to implement recommendations of the Process Hazard Analysis and that it had reviewed its "reporting process for safety incidents and established clear expectations for employees and supervisors" and "emphasized several ways to report complaints anonymously." With respect to the venting and flaring activities, the DOI stated that the "amount that was flared was . . . well within permit tolerances" but that the BLM is working with "our internal Air Quality Specialists and external regulators to ensure we are operating within the parameters of our permits." It also described what it characterized as efforts to be "more actively involved with the operators." Finally, the DOI stated that a bureau official has traveled twice to the plant location to "meet with employees and advise them of the changes, continue[] the focus on safety and to encourage open communications."

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