



Number	2024-11	Date of Issue	28 th April 2024
Date of Incident	29 th March 2024	Incident Classification	L2 Environmental

Summary:

At 7.02 hrs on 29th March at an Energy from Waste Plant in the United Kingdom observed abnormal (negative) readings from the CEMS, which undertakes an automatic background check every day at 07.00 hrs to confirm the readings against the calibration gases. Although no alarm sounded and waste feed onto the grate continued, operatives were sent to investigate.

It was subsequently found that the solenoid panel which sits outside of the CEMS hut was in manual, instead of automatic. This caused the background check to be undertaken without any calibration gases, resulting in a background check being carried out with flue gas (instead of calibration gases) causing abnormal readings. Once the issue had been identified, the panel was put back into automatic and the background check completed with the calibration gases. This allowed the CEMS to return to normal readings from 09:20 hrs.

The Plant had been handed over to the HZI O&M Team on 28th March, and it is assumed that during commissioning work earlier that week on calibration bottles was when the solenoid panel had been switched to manual, however this had not been controlled by the permit to work process.

Outcome:

As the Operating Permit for the Plant requires notification to the Regulator in the event of breakdown of any piece of plant or equipment which may cause a breach of any condition of this Permit, this was a notifiable incident. This is therefore classified as a Level 2 incident.

In addition, the Operating Permit requires that controls and interlocks shall be provided, maintained and tested to ensure that, as soon as practicable, no waste can be fed to the incinerator if the CEMS is not operational.

Although the CEMS was not functioning correctly for approximately 2 hours and 20 minutes, it is believed that no emissions exceedance took place based on the fact that all other operations were normal (e.g. temperature, raw oxygen levels, urea dosing) and that the CEMS readings both before and after the malfunction were normal.

Root Causes and Contributory Factors	Lesson Learned
<ul style="list-style-type: none"> Lack of control of work on environmentally critical equipment as work previously carried out had resulted in the solenoid switch being left in manual mode and not been put back into automatic mode. No controls were in place that could detect the incorrect set up of the switch being in manual before calibration took place. If this had been detected prior to calibration being undertaken, intervention could have been actioned. The CEMS unit did not identify the readings as unusual and therefore did not raise any alarms or stop the waste feed (waste feed is required to be stopped when CEMS not operational) 	<ul style="list-style-type: none"> Work on environmentally critical equipment must be controlled under Permit to Work process. There can be various events which can lead to CEMS not reading correctly, and these need to be correctly identified during design and commissioning phases to ensure they are detected and an appropriate message sent to the DCS.



Every Lesson Learned is an opportunity to avoid recurrences.
What have you done to avoid a similar incident on your project?

