Hitachi Zosen INOVA

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⚠️ **LESSON LEARNED** ⚠️

HiPo LTI: Explosion of a PVC pipe

Number	2020-06	**Date**	August 10th, 2020

Summary: On Thursday July 9th 2020, an explosion took place in a Biomethane project located in France.

The work underway at the time of the incident was the plasma arc welding on a stainless-steel elbow which was connected to a 160 mm PVC pipe.

The PVC pipe elements had been glued 2 days before with a special adhesive but not vented before being connected to the stainless-steel elbow. Due to that the fumes released by the adhesive cumulated inside.

When the hot work started, the open flame of the arc plasma ignited the flammable fumes. As a result, the ignition flowed along inside the PVC pipe, which blasted at a distance of approximately 12m away from the elbow.

Fragments of the pipe were scattered around, damaging the surrounding pipes, and some of them penetrated the cladding of the post digester

The incident didn't cause any injuries to people, only limited property damage. However, in other circumstances, it may have resulted in major consequence, therefore it is classified as a high potential incident (HiPo).

Outcomes:

- No one was injured
- Minor material damages

Incident Classification: HiPo Asset Damage

Photos

Root Causes and Contributory Factors

Procedures not followed:
- HSE recommendations stated in the MSDS of the adhesive not followed.
- Last Minute Risk Assessment (POWRA) not implemented.

Procedures not available:
- RAMS for the activities not prepared.

Lack of Coordination:
- Coordination meetings with HZI and the involved Subcontractors not conducted.

Lesson Learned

- Ensure that Site Coordination meetings with HZI and Subcontractors are held on a regular basis and recorded.
- Check that POWRAs are correctly implemented and the hazards in the work area have been identified and controls put in place.
- Ensure that RAMSs for each activity have been prepared and implemented at site.
- Ensure that MSDS recommendation are taken in account and controls implemented.

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