

Process Safety Forum

Safety Alert #012 – Issued on 20 June 2017

Site flooding event

This safety alert is shared in order to promote learning and improve safety. You should seek appropriate guidance regarding the relevance, accuracy, and completeness of this alert to your circumstances prior to implementation.

Issue

A lower tier COMAH site storing and blending hazardous wastes (potentially flammable, toxic and dangerous to the environment) which has a boundary directly onto the North Sea was partly flooded by a tidal surge.

The site was identified as being at 'high' risk from coastal flooding but was protected by a sea wall and wave guard. The wave guard was damaged during a tidal surge on 13/1/17 resulting in flooding of the site yard area to a depth of 10-15cm which had been estimated as part of the site Flood Risk Assessment. Site arrangements derived from the flood plan (based on CDOIF Guidance) meant that actual site damage was minimal, some empty stacked drums were toppled by wave actions and loose plastics were caught in the site fence. After the event, the COMAH Competent Authority was mainly concerned over detail within the Site Emergency Plan before and during an event to trigger an evacuation. The plan has been updated to give clear site actions based on tides, weather conditions and onsite observations.



Picture of the damaged wave guard

Learning

Companies should be aware that sites at risk of flooding from such an event may only receive a 'flood alert' email from the Environment Agency and this may not be escalated to a flood warning. It is therefore recommended that sites have a dynamic assessment tool to predict escalation from 'flood alert' status (Local Authority emergency planners may operate their own traffic light assessment system in your area that could be shared)

Sites should ensure that any site flood risk assessment fully captures the risk to persons and that Emergency Procedures are very specific as to when evacuation of site is to be triggered. Ensure there are arrangements for a dynamic risk assessment if there has been failure of a protective measure.

Guidance from the Chemical & Downstream Oil Industry Forum (CDOIF): "Preparing for flooding – a guide for regulated sites", is a good introduction to controlling flood risk.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/439863/LIT_7176.pdf

Note that drainage channels associated with flood defences should be kept clear and free flowing at all times to ensure backing up of flood water is not exacerbated by poor drainage. This needs to be taken into account when considering the risk from spills of hazardous materials.

The Process Safety Forum has been set up to provide an industry association platform whereby initiatives, best practice, lessons from incidents and process safety strategy can be distilled and shared across sectors, to influence our stakeholders (including the Regulators), and to drive the process safety management agenda. The Process Safety Forum consists of representatives from UKPIA, TSA, CIA, OGUK, CBA, RSSB, ENA, ECIA, UKLPG, BAMA, EIG, UKOPA, SWA, SDF, and MPA.

The website is www.p-s-f.org.uk. For further details contact: PSF.Secretary@gmail.com.