GPT Environmental Management Services

Bund Cable Entry Sealing Case Study

Summary

During and environmental audit of a major DNOs substation we found that the cable entries into their transformer bunds had not been effectively sealed. This was creating a pathway for oil to escape their bunds in breach of The Oil Storage Regulations.

In order to upgrade the bunds in line with the requirements of The Oil Storage Regulations we needed to design a safe system of work for working with live HV cables.

A safe system of work was designed and approved by the DNO. A programme of works was then undertaken to upgrade their bunds to requisite standards using specialist sealing products.

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During and environmental audit of a major DNOs substation we found that the cable entries into their transformer bunds had not been effectively sealed. The cable entries had a split duct running through them which had been filled with expanding foam.

The foam seals were not watertight and this was allowing oil to migrate through the cable entry and providing a path for the oil to escape to ground, in breach of the Oil Storage Regulations which state that where there is a penetration into the bund walls or floor:

"the junction of the pipe with the base or walls must be adequately sealed to prevent oil escaping from the system."

In order to facilitate the effective sealing of the cable entries work needed to be conducted on live high voltage cables. A safe methodology was designed in order to engineer out any risks and the methodology was submitted to, and approved by, the DNOs safety team.

We undertook a programme where we would remove the ducting to below ground level, remove the expanding foam and clean the cables, prepare the duct and fill with CSD RISE a specialist sealant leaving the bund watertight and preventing the loss of any oil to ground.