

Date: 07/06/2018
 Site: Lloyds animal feeds, Wrexham industrial Estate
 Permit number: AB3492ZQ
 CARs reference: CAR_NRW0033731
 Tank / bund ID: Edible oils and fats tanks and bund, Rhodimet tanks

Management systems

EMS	<i>Is there a section of the EMS that addresses containment?</i>
No specific section within the EMS for containment, however storage and handling of products and maintenance of storage facilities on site is partly covered within other procedures e.g. spillage procedures, weekly checklists, deliveries, DSL planned preventative maintenance scheduling tool and the matrix of substances held on site, which was originally prepared for DWPZ consoling purposes and has been recently updated. The operator should use the matrix of substances and identify those liquids held in bulk, outdoors, or in high-risk areas and expand upon that to include storage facility capacity, construction, expected lifespan and manufacturer's maintenance and/or non-destructive testing frequency recommendations. This should include primary tanks, secondary containment and ancillary equipment such as pipework couplings, hoses, connectors etc. (Action given on CAR form)	
Maintenance / inspections procedures	<i>Could you supply a copy of the sites Planned Preventative Maintenance (PPM). Where are maintenance / inspection procedures kept within the EMS?</i> <i>Are the inspections at suitable intervals (daily, weekly and after rainfall checks by ops staff; 6-12 month checks by works engineer and a detailed inspection every 5 years by a competent person) and what is done to remedy issues encountered?</i> <i>Is there a procedure for upgrading tanks as they reach their end of life</i> <i>Is there a simple check in place to remove debris/rainwater</i>
Tanks, bunding and associated pipework are visually inspected on a weekly basis and completed records for these checks were reviewed. They are incorporated into the new monthly record sheet for daily and weekly 'static' checks. Daily checks carried out within specific departments would also be recorded on their work records as would any repairs or maintenance. Recent monthly/ weekly/ daily record checks highlighted some fat accumulated in the edible oils and fats bund and a contractor was due on site the following day to empty the bund. There is not currently any specific procedure for carrying out the visual checks, however the operator is intending to produce procedures to support all the weekly 'static' checks as part of the development of the EMS since coming into regulation. (Action on CAR form) No current procedure in place for upgrading tanks at the end of their expected lifespan, and the age of many of the tanks on site is not precisely known however it is thought that some of the larger silos on site may require replacement soon. Many are >30 years old.	

The operator has already indicated that they intend to install a penstock or similar tertiary containment device on the surface water drainage system within the site boundary. It would be prudent to consider a system that could be utilised during handling of IBCs and deliveries of high-risk substances such as Rhodimet to provide tertiary containment in the event of catastrophic failure of the tank, connections and pipework, or delivery vehicles given the potential for a significant spillage to cause an impact on local surface waters. (Action on CAR form)

Link: [example of reusable inflatable drain bungs](#)

Accident management plan

*Is there an up to date accident management plan in place?
If so what is in place for an incident from this tank
Does it cover not only the failure of the primary storage but also the combustion of its contents?*

Accident management plan is in place and site procedures cover actions in the event of spillage or fire, including a drainage plan of the site identifying storage areas for flammable substances, electrical sources, spill kits etc and firewater management.

A black and white copy was in the paper copy of the management plan – it is advisable that colour copies are used to help identify the separate surface and foul drainage, or the plan should use dashed/ solid lines to clearly denote which drains are a priority to protect during a spillage or fire. The accident management plan should cover combustion of the contents of tanks/ bunds. (Action on CAR form)

Planned Preventative Maintenance system

*Is there one in place?
If so what is the PPM in place for this tank?
At what frequency are the PPM checks done?
If this differs from manufacturers recommendations site needs to explain why.*

The DSL planned preventative maintenance system covers the manufacturing parts and equipment, this does not cover static items such as tanks, ancillary pipework and bunding. These items are subject to 'static' weekly checks. Manufacturers recommendations for these static items are not currently recorded in an easily accessible format within the EMS.

The frequency of PPM checks on all bulk storage of liquids should be reviewed against the manufacturers recommendations where possible, including primary and secondary containment, ancillary pipework and couplings and any linings or hoses. The PPM frequency should be detailed within the EMS. (Action on CAR form)

Continued..

Specifications

Location of tank / IBCs / drums	Either provide grid co-ordinates or location map
Within the highlighted area above: Rhodimet tanks: SJ3835349644, Edible oils and fats: SJ3835049641	
Containing and associated SDS (safety data sheet)	What does the tank hold? What is the capacity? Check the CLP/GHS chemical classification system for substances with specific hazards. http://www.hse.gov.uk/chemical-classification/index.htm Has the operator ever changed the product within the tank?
The Rhodimet feed additive tanks are double-skinned bunded tanks provided by the suppliers and used solely for this purpose, there is no known delivery sign-off procedure by the supplier to record the condition of the tanks at delivery. The tanks are outside the masonry bund area, on concrete floor slab without tertiary containment in an area that could potentially drain to the surface water system. Tank capacities are listed within the matrix of substances held on site in the EMS. Material safety data sheets for substances held on site are indexed within the EMS and the data sheets held on file. Please provide the MSDS for Rhodimet and review whether or not any certification of the tank suitability for their contents are held on record. Please also confirm the total volume of Rhodimet storage capacity. (Action on CAR form)	

Tank specification	This would help determine the appropriate tanks are used or the liquid. What is the life of the tank? Links : http://www.hse.gov.uk/pubns/guidance/pm75.pdf (GRP tanks) http://www.hse.gov.uk/pubns/priced/hsg235.pdf (bulk storage of acids) http://www.hse.gov.uk/pubns/priced/hsg176.pdf (flammable liquids)
The standard of construction and expected lifespan of the edible oil and fat tanks are not known and no testing of the structure's integrity have been carried out to the knowledge of current management. However there were no obvious signs of leakage from the tanks at the time of inspection. Testing by filling the bund with clean water after it is emptied/ cleaned out was discussed. The Rhodimet tanks are double-skinned bunded tanks provided by the suppliers and used solely for this purpose, there is no known delivery sign-off procedure by the supplier to record the condition of the tanks at delivery. The age and expected lifespan are not known. The tanks are outside the masonry bund area, on concrete floor slab without tertiary containment in an area that could potentially drain to the surface water system. The details of construction of the primary storage tanks should be investigated and recorded in the EMS along with the expected lifespan and a schedule for PPM and integrity testing by suitably qualified personnel as appropriate. (Action on CAR form)	
Ancillary equipment	Need to identify ancillary equipment specifications. Evidence of appropriate connections, hoses and linings.
Specification of ancillary pipework not listed within the EMS or matrix of substances held on site but both the edible oils and fats and Rhodimet have fixed ancillary pipework and couplings in place. The specifications and PPM schedule for 'static' ancillary equipment should be included with the bulk storage details in the EMS. (Action on CAR form)	
Secondary containment present	Yes / No Justification for not having secondary containment.
Edible oils and fats – masonry bund in place Rhodimet – both tanks are integrally bunded IBC store – IBCs previously stored on the yard surface near to surface water drains are now housed within a new container with internal bunding purchased specifically for this purpose. This has also been sited closer to the area that the IBCs are used, reducing the handling of IBCs across the yard surface water drains.	
Secondary containment specification	Suitability of secondary containment. Built to specification by qualified contractor. Inspected with signoff. There are key criteria for bunds on page 30. http://naturalresources.wales/media/2110/how-to-comply-with-your-environmental-permit.pdf

Edible oils and fats – The bund appears to be a simple, unlined masonry bund, which may be suitable if the structure is intact given that the tanks contain fats. No obvious signs of leakage through the bund walls at the time of inspection. Testing by filling the bund with clean water after it is emptied/ cleaned out was discussed and periodic testing to verify integrity is required, which should be identified in the EMS. The structure must be suitable for all materials that it may contain e.g the contents of the IBCs currently stored on racks within this area. (Action on CAR form)

The bund has recently been improved by the removal of pipework penetrating the bund, which has now been redirected over the top of the wall for tank-filling access. Ideally all couplings should be within the bund.

Rhodimet – integrally bunded tanks provided by the supplier, no sign-off of suitability from the supplier. As noted above the suitability of construction and expected lifespan should be verified with the manufacturer. (Action on CAR form)

Defects	Are there any defects following inspection? What procedures are in place to fix these defects? CIRIA C736 sets out repair and upgrading maintenance techniques
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Defects – Rhodimet tank sight gauge had an open valve leaving potential for loss of sight gauge contents and possibly tank contents if this were damaged. Please investigate if this can be replaced with a gauge within the integral bund. There was a plumb line fill gauge also in use so the sight gauge may be redundant.

The pipework between the two Rhodimet tanks and from the tanks to the process run across a concrete slab without containment.

Guidance on secondary containment requirements include pipework and couplings, please review the suitability of the current arrangements against the requirements listed in the 'How to Comply' guidance (p30) <http://naturalresources.wales/media/2110/how-to-comply-with-your-environmental-permit.pdf>

Further guidance can be found in CIRIA 736 guidance available at: https://www.ciria.org/Resources/Free_publications/c736.aspx this is more detailed and aimed at larger sites.

A review of the current facility against the guidance above should be undertaken to identify any required improvements to be planned and prioritised as part of site upgrades or ongoing improvements. (Action on CAR form)

Potential risk to environment

Level of risk to environment	Use source / pathway / receptor approach for each source with the following criteria. Consider flood, security here too. H – high rating , M – moderate rating, L – low rating		
		<i>Associated risk</i>	<i>Rating</i>
	<i>Source</i>	Edible oil and fats and rhodimet tanks, oil and fats bunds are all of indeterminate age and construction with no known integrity testing carried out. Delivery pipework connections and pipework between rhodimet tanks and from tanks into the process. Sight gauge pipework on one of the rhodimet tanks.	H

	<i>Pathway</i>	To permeable ground/ grassed area adjacent to tanks Via surface water drains to river Via site drains to foul sewer Spill kits on site and temporary drain clamps but no precautionary drain protection used during deliveries/ handling.	M
	<i>Receptor</i>	Groundwater – low vulnerability – secondary aquifer Redwither Brook and the River Dee Sewer network and sewage treatment works	M
	With overall rating assessed against: High – HHH, HHM, HMM (high potential for CICs category 1 incident) Medium – HHL, MMM, HML (medium potential for CICs category 2 incident) Low – MML, HLL, MLL, LLL (low potential for CICs category 3 incident)		
Photos	<i>See CAR form</i>		
	<i>See CAR form</i>		
Initial assessment, is further action required?	Yes		
Overall risk rating for the current storage arrangements is high due to volume and nature of stored liquids, lack of information on primary and secondary containment specificaiton, potential pollution pathways and the sensitivity of the River Dee catchment to substances such as Rhodimet. - A comprehensive list is required of bulk liquid storage facilities including capacity, construction, expected lifespan and manufacturer's maintenance and/or non-destructive testing frequency recommendations as appropriate. This should cover primary tanks, secondary containment and ancillary equipment such as couplings, hoses, connectors and pipework from delivery points, between tanks and into the process. - Confirm rhodimet toal storage capacity and send the MSDS info for Rhodimet - Review the rhodimet storage area, particularly pipework and sight gauge againsts the secondary containment requirements in 'How to Comply' and identify any required improvements. - Colour copies of drainage maps or maps with solid/ dashed lines should be used both on site and in the EMS documentation to clearly denote surface and foul water drains - Investigate options for 'tertiary' containment and drain protection during high-risk deliveries e.g. Rhodimet, fuels, AdBlu etc.			