

Case Study: Group 1

Lead-Acid Battery Manufacturing Facility

Following the restructuring of a lead-acid battery manufacturing company it has been decided to close one of their facilities. Production will be transferred to other group facilities and most of the workforce will become redundant, however employment regulations mean that they will have to be paid for 3 months after production ends in 3 weeks time.

Manufacturing of the lead oxide batteries involves creation of lead oxide paste from metallic lead, placing paste on metal frames, placing the frames into a plastic casing, connecting them to the terminal posts, filling the casings with acid and charging the batteries. A range of plant is used, in particular the paste handling plant is mounted on a major structure extending to two metres high. Tankage for storage of acids, and for settlement of lead oxide paste from aqueous suspension, is present on the site. There is also an effluent treatment plant. The site operates under UK Control of Lead at Work (CLAW) Act regulations that require all employees working with lead/lead oxide to undergo specific training and 3 monthly health screening.

The closing organisation's corporate estates function has agreed the sale of the site to a developer who intends to redevelop the site for housing. The developer is to take responsibility for demolition of buildings and below ground remediation (for which reason the sale price has been discounted) but the closing organisation has to clear the site of equipment, materials and waste (waste including large volumes of lead oxide paste) before handing over the site, which is due to take place in 3 months time. It has been assumed by the company directors that most closure costs can be offset by the sale proceeds of the manufacturing equipment, for which there is a ready market in Israel and India. Whilst the corporate estates function sees the proceeds from the land sale as contributing to their budget, they have reluctantly agreed that some of the proceeds can be used to cover closure costs.

Exercise

You are the general manager of the facility that is being closed and are shortly moving to take over the management of another facility. First you have to ensure that the closure of this site is completed and ensure the site is ready to hand over to the developer in accordance with the terms of the sale contract.

Prepare an outline of a site closure action plan including:

- Aspects and Impacts to be considered in the site closure
 - Eg: Legal/regulatory context
 - Divestment/liability transfer context
 - Closure strategy
 - Closure management
 - Demolition, remediation, restoration
- Issues and Priorities of the site closure
- Business consequences of closure actions
- Actions and tasks list for the site closure.

Based on this experience, how would you draw up a "Roadmap" for site closure?



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5 Ha site closed in 2003. Sale of site negotiated by closing organisation to developer. Closing organisation responsible for removal of equipment, materials and waste prior to sale completion. Proposed to use existing (soon to be redundant) workforce to carry out work. However large scale machinery required significant structural dismantling and a specialist demolition company had to be brought in to do this. Wastes included large volumes of lead oxide paste and this was handled by site workforce trained in handling this material and under long term health screening.



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Problems:

- Timescales dictated by land sale not required work scope
- Scope of pre closure works not appreciated: significant volumes of lead oxide paste and major machinery items needed removal before completion of sale.
- Third parties removing items of machinery sold by closing organisation created extra health and safety risks
- Skill set of site workforce engaged in closure works not sufficient to complete structural dismantling of large plant
- Site workforce demotivated as they were losing their jobs
- Challenges in co-ordinating site workforce and specialist dismantling contractor – different working cultures
- Interaction of lead at work laws and construction (CDM) laws



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Adverse Consequences:

- Complex works co-ordination task for closing organisation, significant management attention
- Several challenges for health and safety management
- As a result, high regulatory interest – full HSE unannounced inspection took place
- Increase in cost for closure, mitigated by increase in scrap reclaim value and by land sale receipts