

Tidal Lagoon Swansea Bay

Construction Environmental Management Plan Appendix L

Emergency Spill Response Plan

DCO Requirement 5

Works 7a

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1 Introduction

1.1 The TLSB project

- 1.1.1 Tidal Lagoon Swansea Bay (TLSB) will be the world's first purpose built tidal energy lagoon. The generating station will have an installed capacity of 320 megawatts (MW) and will enclose part of Swansea Bay, from the eastern side of the River Tawe to the eastern edge of the new Swansea University Bay-Campus. In total the seawall will form an approximately 9.5km-long, U-shape which will encompass approximately 11.5km² of the seabed, foreshore and intertidal area of Swansea Bay.
- 1.1.2 TLSB made an application to the Planning Inspectorate on 7 February 2014 for a Development Consent Order (DCO) for a tidal lagoon (the TLSB Project) in Swansea Bay, South Wales. Examination of the application closed on 10 December 2014 and development consent was granted by the Secretary of State (SoS) on 9 June 2015.

1.2 DCO Requirement

- 1.2.1 Agreement of an Emergency Spill Response Plan (ESRP) is Requirement 5 of the DCO, and as such has been prepared by TLSB for approval by the relevant planning authorities in consultation with Natural Resources Wales in accordance with the DCO.
- 1.2.2 DCO Requirement 5 – Construction Environmental Management Plan states:

5.—(1) No authorised development are to commence until a CEMP substantially in accordance with the outline Construction Environmental Management Plan, has been submitted to and approved by the relevant planning authorities in consultation with Natural Resources Wales
- 1.2.3 The ESRP has been produced to satisfy the criteria of DCO Requirement 5 in accordance with the Construction Phasing Scheme (DCO Requirement 3). This document will be updated, as appropriate, at the relevant phases of construction to include details relevant to that phase of DCO Works.
- 1.2.4 This ESRP only relates to works proposed under Phase 1 – i.e. construction activity in works element 7a and in connection with Work 7a (with reference to Part 1A) a), temporary construction works, including workshops and stores, working areas, laydown areas, construction sites, and vehicle parking facilities; f) to the extent shown on the demolition plan, the alteration, removal, clearance, refurbishment, reconstruction, decommissioning and demolition of any buildings and structures within the Order limits; h) lighting columns and lighting; i) safety / emergency points.

1.3 Construction Environmental Management Plan (CEMP)

- 1.3.1 The ESRP has been included as an appendix to the Construction Environmental Management Plan (CEMP), to ensure accordance with DCO Requirement 5 (CEMP) and to ensure that all construction related information is easily accessible to the relevant authorities, construction contractors and TLSB.

2 Ancillary Civils

2.1 Responsibility

- 2.1.1 The following section outlines the personnel and authorities that will be responsible and notified should there be a spill on site.
- 2.1.2 In all cases responsibility for immediate action lies with the person discovering the incident. They will take whatever actions they can, without compromising their own safety or that of others to immediately stop the source and contain the pollution. This will include for example locating the closest emergency spill kit for minor incidents and reporting more serious spills to the Site Manager.
- 2.1.3 In all cases the incident to be reported to the Site Manager/Incident Controller by the Site Foreman after he has inspected the site of the spill and ensured whatever mitigating measures to immediately contain the spill are undertaken. The Incident Controller shall coordinate resources to ensure implementation of further containment and mitigation actions. The Environmental Coordinator and Health and Safety Manager shall be informed immediately and shall assist in the supervision of containment and mitigation actions as necessary.
- 2.1.4 The Environmental Clerk of Works (ECoW) shall assist in post incident training, incident reporting/monitoring and preparing documentation for the Environmental Management System (EMS). The EMS document for the site will outline the way in which environmental aspects will be managed and recorded. The EMS will be compiled in accordance with the criteria set out in ISO:14001.
- 2.1.5 The action details for the key staff responsible for emergency spill response are summarized in Table 2.1 below and their contact details will be displayed in prominent locations around the site and be included in the Environmental section of the site induction.

2.2 Severity of Spill

- 2.2.1 The most likely types of spills to occur on the site are spills involving lubricants and oils that are associated with fueling delivery vehicles, construction vehicles and piling rigs.

Tier 1 (Minor)

- 2.2.2 Tier 1 spills can be generally defined as small spillage, generally caused by poor maintenance or operating practice (i.e., broken hose or overfilling) and should be containable by the response resources available on site. This classification of spill is considered to be of local importance with marginal impact. There is potential for escalation to a more serious incident if the response to the incident is slow or poorly managed.

Tier 2 (Serious)

- 2.2.3 Tier 2 spills are generally considered to be of more than local importance with more critical impact and will require support from external resources.

2.3 Types of Spill

2.3.1 Fuel or oil entering a watercourse or drainage.

- Incident during refuelling or topping up oil of plant or machinery.
- Fuel/oil deliveries to fuel depots.
- Leaks from fuel/hydraulic pipes on plant or machinery.

2.3.2 Fuel or oil spillage on land

- Incident during refuelling or topping up oil of plant or machinery.
- Fuel/oil deliveries to fuel depots.
- Leaks from fuel/hydraulic pipes on plant or machinery

2.3.3 Spillage of chemicals

- Shuttering oils and concrete retarding agents.

2.3.4 Silt entering a watercourse:

- Waterborne silts in run off during periods of inclement weather.
- Pumped water from excavations.

2.3.5 Concrete/grout spillage

- From concrete being discharged from mixer trucks
- From concrete skipping/pumping operations
- Grout leakage from formwork

2.3.6 Filling disused pipework with grout

2.4 Spill response preparedness and resources

Spill Kits and absorbent materials

2.4.1 Emergency spill kits will be located at strategic locations, including in the cabs of all moving plant, adjacent to static plant and close to oil and diesel tanks, within the TLSB site.

2.4.2 Spill kits contain:

- spill response procedure;
- gloves;
- absorbent granules/pads/pillows;
- spill socks or booms;
- drain mat;
- disposal bags and ties; and
- drum with lid

2.4.3 Spill kits locations, list of contents, and drain covers locations are listed in the site EHS documentation.

- 2.4.4 Sand, sawdust and straw bales to be located at strategic locations within the Griffiths TLSB site.

2.5 Training

- 2.5.1 All personnel undertaking operations involving the use of materials/liquids that may cause harm to themselves, others or the environment will receive specific training in their proper handling, use and storage.
- 2.5.2 All personnel will be informed of emergency procedures to be adopted in the event of a spill through site inductions and tool-box talks.
- 2.5.3 The location and use of the spill kits and other absorbent materials will be covered in site inductions and tool-box talks.

2.6 Notification

Liaison with NRW and Swansea Bay Port Health Authority

- 2.6.1 Particular attention will be paid to the prevention of pollution of the shellfish harvest areas within Queens Dock and maintaining both the waters of the dock and foreshore in their existing condition. Early liaison with NRW and Swansea Bay Port Health Authority (SBPHA) before commencement will confirm the condition of the existing waters, the location of any existing outfalls and the location of proposed pollution prevention measures. Both NRW and SBPHA will be immediately informed of any spills by the Incident Controller together with proposed mitigating measures for their approval.
- 2.6.2 NRW to be contacted on 0800 807060. Swansea Bay Port Health Authority to be contacted on 01792 653523.

Liaison with Local Authorities

- 2.6.3 County of Swansea Tel (01792 635600) will be immediately informed of any Tier 2 spill within their County boundary by the Incident Controller together with mitigating measures for their approval.
- 2.6.4 All Authorities will be informed of any changes/updates to the Emergency Spill Response Plan
- 2.6.5 Initial information to include when reporting an incident will include:
- caller's name and contact numbers;
 - date and time of call;
 - applicable facility information;
 - date and time of incident (or when first discovered);
 - location and description of incident (includes estimated size/direction);
 - type and volume of substance released;
 - source of release;
 - weather;

- affected or threatened environmentally or operationally sensitive areas;
- number and type of injuries (if any); and
- potential for fire or other hazards.

2.7 Spill Response Procedure

Fuel or oil entering a watercourse or drainage

- 2.7.1 The response will depend on the amount of hydrocarbon spilt and the flow of the watercourse. The following steps will be taken.
- 2.7.2 Stop release of fuel by removing the source or by using plastic sheeting and bunding if safe to do so.
- 2.7.3 Deploy an oil absorbent boom across the watercourse to contain the spill.
- 2.7.4 Place oil absorbent mats on the water surface to absorb the oil. N.B. once used these are to be stored and disposed of as special waste in accordance with the Site Waste Management Plan (SWMP). Impermeable gloves and boots and disposable overalls are to be worn by those undertaking spill response duties.
- 2.7.5 The above items can be found in the oil spill kit, which will be located with foremen, environmental coordinator, store man and in the environmental emergency area in main stores.
- 2.7.6 Contaminated water will also be pumped from the watercourse into a sealed container for disposal by a registered waste handler.

Fuel or oil spillage on land

- 2.7.7 Stop release of fuel by removing the source or by using plastic sheeting and bunding if safe to do so.
- 2.7.8 Excavate oil contaminated soil and place in an oil tight container. This will be disposed of by a specialist waste handler as special waste in accordance with the SWMP.
- 2.7.9 If spillage is onto a hard surface, all drains and gullies will be sealed immediately. Absorbent materials such as sand, sawdust, straw or oil absorbent granules/mats are to be placed over the contaminated area to soak up the spill. These will then be removed and stored and disposed of as special waste in line with the SWMP. Impermeable gloves and boots and disposable overalls will be worn.
- 2.7.10 The above items can be found in the emergency spill kit, these will be located with foremen, environmental coordinator, storeman and in the environmental emergency area in main stores.

Spillage of chemicals

- 2.7.11 Where possible the source of pollution will be stopped, if safe to do so.
- 2.7.12 The first persons to report the spill shall obtain as much information on the chemical spilt as possible (i.e. COSHH Assessment) to evaluate the potential harm it could cause

to staff and the environment. If it can be ascertained that there is no significant health and safety risk the chemicals should be dealt with as oil.

- 2.7.13 If a potential health and safety risk is identified the area should be evacuated and the emergency services contacted as well as the site manager.

Silt entering a watercourse:

- 2.7.14 The source of contamination will be removed by stopping silt contaminated water entering watercourses, ceasing works in or near watercourses or removing contaminating material from watercourses. Selection of the most appropriate method will depend on the size and severity of the spill and available materials.
- 2.7.15 Immediate response methods (i.e. within four hours) for achieving this include; sand bags to divert flows, basic silt traps, straw bales and use of geotextiles as filters.
- 2.7.16 Medium term methods (i.e. within 24 hours) that will be used include; diverting flows through a system of lamella clarifier tanks such as "Siltbusters" prior to discharge.
- 2.7.17 Longer term solutions (i.e. up to seven days) will include construction of a settling lagoon adjacent to the watercourse with a pipe set at the required discharge level at the outlet. The water should then be diverted into this lagoon which should have sufficient capacity to retain the water long enough for any particulates to settle out.

Concrete/grout spillage

- 2.7.18 Dedicated concrete washout pits will be constructed at all locations where concrete is to be poured. Washouts will be signed and site operatives will be instructed to guide vehicles to them.
- 2.7.19 Concrete skips will be checked upon delivery and after each use to ensure that gates close securely and be washed out into the washout pits.
- 2.7.20 All concrete delivery vehicles will also wash out at the washout facility.
- 2.7.21 In order to avoid grout loss from the shutters expanding foam will be inserted into all gaps where the shutters abut existing pipes or structures. The shutters will be oversized in height to ensure the containment of any spillage or splash back from the concrete skipping operations.
- 2.7.22 Shuttering will be checked by the temporary works coordinator/section engineer for integrity prior to pours and the rate of rise to be controlled during the pour.
- 2.7.23 A heavy duty visqueen fixed on the ground around the shutters will act as a further protection barrier against accidental spillage. These sheets will be carefully removed and placed in the washout area to enable concrete/grout to set when it will be emptied into the washout pits.
- 2.7.24 Water from the jet washing of green concrete shall not be permitted to flow into surface water drainage but shall be retained on site to allow particulates to settle and pH to adjust.

- 2.7.25 Working methods that comply with EA guidance on good environmental practice as given in PPG1, PPG5 and PPG6 will be employed as a minimum requirement.
- 2.7.26 No concreting works will be undertaken in high water or flood conditions.
- 2.7.27 Should a spill occur then the spillage will be immediately excavated and concrete/grout materials placed in the washout pits.
- 2.7.28 Inclusion of coagulating agents for use in underwater concreting operations may also be utilised as further defence against washout of concrete fines should a spill incident occur.
- 2.7.29 Careful monitoring of disused pipework grouting operations with stoppers installed in downstream manholes and a section of pipework upstream of manholes exposed and broken out to enable grout to flow.

Emergency spill response team and key actions

Title	Responsibilities
General Foreman (Griffiths)	Receives initial report of incident from site, visits location of incident to ensure all actions taken to stop the source and contain pollution. Reports incident and actions taken to Incident Controller
Site Manager (Incident Controller) (Griffiths) Deputy Site Manager (Incident Controller in the absence of Site Manager) (Griffiths)	Receives report from General Foreman and coordinates resources to undertake further actions in accordance with the Spill Response Plan. Informs Contract Manager and Local Authorities Pollution Control Officer, NRW or Swansea Bay Port Health Authority (SBPHA) of incident as appropriate and agrees mitigating measures.
Environmental Co-ordinator (TLSB)	Incident Controller informs Environmental Coordinator and Health and Safety Manager who assist in supervision of the mitigating actions.
Health & Safety Manager (Griffiths)	
Environmental Clerk of Works (Griffiths)	Undertakes post incident training and carries out incident reporting/monitoring and completes documentation for the Environmental Management System
Contract Manager and Local Authority Pollution Control Officer	Incident Controller provides written confirmation that mitigating actions complete and incident closed out.