

Ian Roach

From: DES NBCD-SNW-NSSM (Meaken, John B2) [DESNBCD-SNW-NSSM@mod.uk]
Sent: 29 June 2011 13:00
To: Ian Roach; john.wade@mvvuk.co.uk; bruce.braithwaite@mvvuk.co.uk
Cc: Mark Crussell; paul.carey@mvvuk.co.uk
Subject: Dockyard Egress during an extreme flood event
Attachments: 20110629 Canel's Head Flooding Egress.doc

Ian, John and Bruce,

Further to our discussions on alternative egress from the EfW CHP Facility in the event of extreme flooding at the Camel's Head. I have been responsible for the Naval Base Nuclear Safety Case campaign for the past 16 years and to my knowledge whilst there have been some very high tides together with surge, the road at Camels Head has never flooded. However, should such an extreme event take place I suggest the following text together with the attached map reflect the agreement for emergency egress:

Outline Emergency Management Arrangements have been agreed to cover a range of events. In the event of extreme flooding at the Camel's Head entrance into the dockyard, exit from the EfW CHP Facility site would be possible through an Emergency Gate close to the workshop building on the West side of the EfW site via the new Bull Point Access Road (see PA 20B) or through an Emergency Gate South East of the new clear span bridge (see PA 22) into the dockyard. Vehicles would be escorted through the dockyard and would leave the dockyard via the Albert or Granby Gates.

It should be noted that it is likely that advance warning of extreme flood events would have been provided by the EA and, based on these warnings and other forecasting information, MVV would notify the relevant people in order to limit the numbers of people and vehicles on site.

Kind regards,



John Meaken
Nuclear and Services Support Manager
HM Naval Base, Devonport
Plymouth, PL2 2BG

From: Alexis Huggins [mailto:Alexis.Huggins@scottwilson.com]
Sent: 15 June 2011 14:49
To: DES NBCD-SNW-NSSM (Meaken, John B2)
Cc: paul.carey@mvvuk.co.uk; Bruce Braithwaite (bruce.braithwaite@mvvuk.co.uk); Ian Roach; Mark Crussell
Subject: Dockyard Access during an extreme flood event

John,

As discussed earlier, the Environment Agency have asked whether there is an alternative exit from the EfW CHP Facility as the Flood Risk Assessment (FRA) showed that in two extreme flood events the area of road around the Camel's Head could flood. They also want confirmation that the MOD is happy with an alternative access arrangement.

The background to this is found in the FRA. I've reproduced section 4.7 below which summarises the results of the hydraulic modelling. The Figures in Appendix I of the FRA illustrate the modelling results.

Summary of Hydraulic Model Results

The combined analysis hydraulic modelling study has demonstrated that the proposed EfW CHP facility is located on land outside of the fluvial and tidal extents for Flood Zone 3, Flood Zone 2 and Flood Zone 3 including climate change. Therefore the built development area of the site should be considered as Flood Zone 1.

The proposed access road is located outside the fluvial extent for the Flood Zone 3, Flood Zone 2 and Flood Zone 3 including climate change and therefore any proposed level changes to the access route would not diminish the fluvial floodplain. This access route is also located outside of the tidal Flood Zone 3 extent.

Where considering the tidal extents for Flood Zone 2 and Flood Zone 3 including climate change scenarios parts of the onsite access road in the vicinity of the Weston Mill Viaduct experience flooding with depths less than 0.3 m and 0.5 m respectively. Mitigation measures are proposed (see Chapter 7) to ensure that there is no flood hazard along the onsite access road at this location.

Where considering site access and egress beyond the site boundary, dry safe access and egress is achievable via Wolseley Road to the north-west during all tidal scenarios considered and the present day fluvial Flood Zone 3 scenario. With the exception of a period less than 4 hours over the flood peak (where the flood hazard is 'danger for most') dry safe access and egress is also achievable along this route during the fluvial Flood Zone 2 and fluvial Flood Zone 3 including climate change scenarios.

Floodwaters coming out of bank upstream of the Wolseley Road Culvert during the fluvial Flood Zone 3 and the tidal Flood Zone 3 including climate change scenarios are contained within the subway void and therefore no floodwaters would flow down Weston Mill Drive.

Flooding is observed during the Flood Zone 2 and Flood Zone 3 including climate change scenarios along Weston Mill Drive, the more likely access route for delivery of waste generated outside the City. Flood depths associated with these scenarios are predominantly less than 0.3 m, however flood depths of 0.5 m are experienced for limited periods of time. The associated flood hazard is 'danger for some' and 'danger for most'. It should be noted that these peak flood depths and associated hazards would only be experienced for a short duration (less than 4 hours) over the tidal peak, after which flood waters would recede.

A sensitivity analysis of the hydraulic model has been undertaken. As expected the model is most sensitive to inflows and changes to the tidal downstream boundary. The model is not particularly sensitive to changes to Mannings 'n' values. The sensitivity analysis also suggests that the removal of the two existing access bridges onsite has a negligible impact on peak flood levels throughout the model.

It should be noted that there is always a level of uncertainty within the model results and an appropriate freeboard should be used when using model outputs to inform development design.

I suggest that our response back to the EA is as follows:

In the event of flooding at the Camel's Head entrance into the dockyard, exit from the site would be possible through an Emergency Gate close to the workshop building as shown on the Landscape Masterplan (PA17). Vehicles would then be escorted through the dockyard via the new Bull Point Access Road (see PA 20A) and would leave the dockyard via the Albert or Granby Gates.

It should be noted that it is likely that advance warning of extreme flood events would have been provided by the EA and, based on these warnings, MVV would notify the relevant people in order to limit the numbers of people and vehicles on site.

John - can you confirm that you're happy with the text above. Could you also mark up on the attached map the proposed route from the emergency gate off the site via the Albert and Granby gates. We'll also need a brief letter/e-mail stating that you're happy with this arrangement.

Paul – can you check the text above, particularly in relation to the second paragraph – I assume that someone would need to be on site but that you'd operate on a skeleton staff and probably cease importing waste.

Thanks,

Alexis

Alexis Huggins MSc AIEMA

Assistant Environmental Consultant, Planning and Environment
Environment and Natural Resources
URS / Scott Wilson
Mayflower House, Armada Way, Plymouth, PL1 1LD, United Kingdom.

Direct: +44 (0)1752 676719

Fax: +44 (0)8702 386023

alexis.huggins@scottwilson.com

www.urs-scottwilson.com

Please consider the environment and only print this email if necessary.

cc - Day File

This e-mail and any attachments are confidential. If you receive this message in error or are not the intended recipient, you should not retain, distribute, disclose or use any of this information and you should destroy the e-mail and any attachments or copies.

URS Scott Wilson Ltd

Place of registration: England & Wales

Registered number: 880328

Registered office: Scott House, Alençon Link, Basingstoke, Hampshire, RG21 7PP

This e-mail has been scanned for all viruses by Star. The service is powered by MessageLabs. For more information on a proactive anti-virus service working around the clock, around the globe, visit:
<http://www.star.net.uk>
