

6 April 2020

Your Reference
EN010107

Case Manager
National Infrastructure Planning,
Planning Inspectorate

Via Email only

Application by EP Waste Management Limited, Proposed Energy Centre Development at South Humber Bank Power Station - Flood Risk Assessment

On behalf of EP Waste Management Limited in support of the above Application, AECOM acknowledges the references provided by the Planning Inspectorate in our meeting of 17 March 2020 to the recently updated Climate Change Allowances guidance (December 2019) published by the Environment Agency and the recent advice provided at acceptance stage to Flood Risk Assessment ('FRA') for a separate DCO application. This letter has been prepared by the Applicant and is signed on behalf of the Environment Agency and provides a summary of the points raised and how these have been addressed within the above Application, in consultation with the Environment Agency, as follows:

- *A site-specific FRA should take climate change into account, applying allowances for peak river flow; peak rainfall intensity; sea level rise (updated Dec 2019); and off-shore wind speed and extreme wave height (updated Dec 2019).*
- *The ES should demonstrate efficacy of proposed mitigation with reference to the future baseline.*
- *Consultation should be undertaken with Environment Agency regarding the approach to assessment including any divergence from Guidance.*

The Applicant has prepared the FRA in consultation with the Environment Agency (cc-ed into this letter) as summarised in Table 1, appended below.

The actual and residual tidal flood risk to the Site over the Proposed Development's lifetime have been assessed within the FRA, using the appropriate version of the Environment Agency's published Tidal Climate Change Allowances, which at that time, for the Humber Estuary were the UKCP09 projections¹ (**ES Volume 1, Appendix 14A, Section 4.3**), in agreement with the Environment Agency (**Section 42 Consultation on the Preliminary Environmental Information Report, 06/12/19**).

The projection data has been used to determine the minimum elevation required to protect critical infrastructure and equipment, and to provide safe refuge for personnel (+4.6 mAOD). This has been calculated based on 0.1% AEP² event predicted water levels behind the coastal defences, during a breach failure event for 2115, as agreed with the Environment Agency (**Consented Development EIA Scoping, 03/08/18, and Proposed Development EIA Scoping, 17/09/19**) and which is noted to be 5 times more stringent than the NPPF requirements (see Footnote 2). Mitigation for critical infrastructure protection has therefore been defined within the FRA as elevation above 4.6 mAOD, or otherwise ensuring adequate protection (**Appendix 14A, Section 6.2**); the place of safe refuge is defined as an elevated location within the administration building, which will have at least three floors and upper floors will be well above the minimum 4.6 mAOD level. (**Appendix 14A, Section 6.6**). Mitigation is proposed to be secured by a requirement in the draft DCO.

AECOM understands that to date the Environment Agency has not undertaken hydraulic modelling of the Humber Estuary Northern Area with the latest UKCP18 projection allowances for climate change up to 2125, and it is currently finalising new baseline data in respect of water levels. However, the Environment Agency has confirmed that the hydraulic modelling outputs (hazard maps) used in the FRA are still considered fit for purpose. The FRA is therefore based on the most up to date, available data. In addition it is noted that the projected tidal level for the UKCP09 epoch up to 2115 (+450 mm) with allowances for climate change, which resulted in the predicted peak

¹ 2010 Humber Estuary Northern Area Tidal Modelling

² Annual Exceedance Probability (0.1% equivalent to 1 in 1000 year event). The NPPF requirements are to ensure any proposed developments are built to withstand tidal flooding up to a 0.5% AEP (1 in 200 chance) event taking into account the potential impacts of climate change

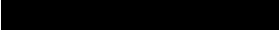
water level within the Site of 4.6 mAOD defined above, is in any case well in excess of what is projected to occur by the end of the anticipated lifetime of the Proposed Development (circa 30 years) by the UKCP18 epoch up to 2065 (+339 mm) (**Appendix 14A, Section 3.2**). This demonstrates that, based on the most recent EA data available, the level of 4.6 mAOD defined in this FRA is still considered precautionary.

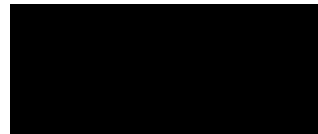
In agreement with the Environment Agency, it is therefore considered that the FRA to be submitted with the Application has used the latest available data. Should new baseline data become available during the course of the examination of this application this could be used to verify the FRA conclusions if this is thought to be necessary.

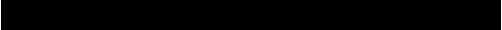
We trust that the above and enclosed information provides confidence that the Applicant has provided all necessary and appropriate information within the ES to enable an examination of this NSIP.

Yours sincerely,



Dr Richard Lowe
EMEA Director of Power and Industrial Consents
AECOM Limited
E: 



Annette Hewitson
Principal Planning Advisor
Environment Agency Lincs and Northampton Area
E: 

enclosures: Table 1

cc: Annette Hewitson, Environment Agency
Simon Bate, EP UKI Ltd

TABLE 1: SUMMARY OF CONSULTATION WITH THE ENVIRONMENT AGENCY

DATE	SUMMARY OF RESPONSE
Meeting to discuss scoping response 17/07/18	Consented Development: Scoping report received and Environment Agency accepted proposed approach to flood risk assessment and confirmed tidal flooding only (no fluvial flood risk). Site is defended, but the FRA must demonstrate site can remain operational, or will shut down, in event of a breach. A safe refuge would need to be provided because of tidal defence proximity. The FRA will need to demonstrate that critical infrastructure is protected (against 1 in 1000 year flood level, with climate change allowance) and that the development is safe for its lifetime.
Letter response to NELC on 03/08/2018 (EA Ref. AN/2018/127698/01-L01) and follow up telephone conversation 06/11/2018 regarding Consented Development assessment.	<p>Consented Development: The proposed content of the EIA is considered appropriate in relation to issues within Environment Agency remit, which include assessment of water resources, flood risk and drainage.</p> <p>Advice was provided by the Environment Agency on the requirements of the FRA for the Consented Development.</p> <p>The FRA should consider all sources of flooding, which may include tidal, fluvial, ground water, drainage systems, reservoirs, canals and ordinary watercourses. It should demonstrate that the proposal will be safe for the lifetime of the development, without increasing risk elsewhere and where possible reducing flood risk overall. Evidence should be included that appropriate mitigation measures including flood resilience techniques have been incorporated into the development. Mitigation should include consideration of the residual risk of flooding (rapid breach of flood defences) over the lifetime of the development. The Applicant confirms that the FRA for the Consented Development considered all sources of flooding, and demonstrated that the Consented Development will be safe for its lifetime, without increasing risk elsewhere, and where possible, reducing flood risk overall.</p>
Email responses to AECOM's request for updated data to inform the Proposed Development assessment and the FRA 30/09/2019 and 10/10/2019.	<p>Proposed Development:</p> <p>The Environment Agency confirmed that there has been no change to the baseline data since the original request in June 2018. The peak flood water level for the Site from the Northern Area Tidal Modelling study was provided (having not previously been available to inform the Consented Development assessment).</p> <p>Reconfirmation of the requirement for raising critical equipment above the 2115 0.1% (1 in 1000) modelled breach level. The Applicant confirms that the assessment has been updated to refer to the peak flood water level for the Site (4.60 m Above Ordnance Datum) provided on 10/10/19. This is only 0.05 m higher than was estimated for the Consented Development FRA from the provisional data provided by the EA.</p>
Letter response to the Planning Inspectorate dated 17/09/2019 (EA ref. AN/2019/129417/01-L01) within Appendix 2 of the EIA Scoping Opinion received 2/10/2019.	<p>Proposed Development:</p> <p>The flood risk mitigation proposed for this project is likely to be in line with that agreed for the Consented Project. This included raising critical equipment above the 2115 0.1% (1 in 1000) modelled breach level, which remains our recommendation.</p> <p>Advice provided relating to permissions that must be obtained from the Environment Agency for any proposed activities which will take place over, on or within 8 m of a flood defence structure, culvert or Main River within the floodplain, and within 16 m of a sea defence.</p> <p>The Applicant confirms that no such work is included in the proposals in the vicinity of Main Rivers, culverts, river or sea defences so no additional permissions or mitigation is required.</p>
Section 42 letter response to the Preliminary Environmental Information (PEI) Report dated 06/12/2019	The Environment Agency welcome the application of the IEMA 2011 approach as part of the assessment of the impact on the water environment, and welcomed the recommendations made in the FRA. The Environment Agency confirmed that: the FRA is appropriate to the scale nature and location of the proposed development and recommends a minimum critical level of 4.6 mAOD; and welcomed that additional mitigation strategies will be considered, including development of a Flood Emergency Response Plan through consultation with NELC and support that future occupants of the Site sign up to the Environment Agency's Floodline Warnings Direct service.

