THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

The Sizewell C Project

Natural England's Comments on Fen Meadow Plan

Planning Inspectorate Reference: EN010012

24th September 2021

Natural England's comments on Fen Meadow Plan Draft 1 [REP6-026]

1.1 Natural England has reviewed the Applicant's Deadline 6 Submission - 9.64 Fen Meadow Plan Draft 1 [REP6-026] and has the following comments.

1.2 One of the habitats for which Sizewell Marshes is in part notified as being of national significance is its fen meadow. The works for the construction of the main power station platform and SSSI crossing as proposed will lead to the permanent loss of an area of this habitat type.

1.3 For further detailed comment containing the context and background of this issue, please see Part II, Issue 49 of Natural England's Relevant Representation [RR-0878].

General Comments

1.4 The plan clearly outlines the requirements for the restoration of fen meadow vegetation, and recognises the biotic and abiotic factors that influence the development and maintenance of such a habitat. In particular, the recognition of the likely need to remove enriched and degraded peaty topsoil to improve the probability of a successful restoration is welcomed by Natural England.

1.5 It is important to recognise however that fen vegetation, particularly when developed on (and that has led to the development of) peat, exists in continuity with the surrounding peat body, the wider fen/peatland ecosystem, and the local water environment. The restoration or re-creation of one component of such a system – such as a field of fen meadow - in relative isolation from the wider peat body and the conditions in which the peatland originally developed – the natural or reference ecohydrological state – is inherently less likely to provide a resilient, diverse and long-term stable functioning wetland than an holistic restoration of the system within which it occurs. For the same reasons, the destruction of an area of semi-natural fen peatland that is a component of a larger, relatively undamaged peatland ecosystem (i.e. Sizewell Marshes Site of Special Scientific Interest (SSSI)) will unquestionably have impacts beyond the destroyed area, i.e. the extent of the damage caused to Sizewell Marshes will be greater than the 0.5 ha of direct loss.

1.6 As Natural England and the Applicant have identified, there are very few if any examples of successful restoration of these scarce habitats in the United Kingdom, at least in part because they are highly complex and occur in systems that have developed over thousands of years, with peat slowly accumulating with ongoing and ever-changing interactions between local hydrology, the growing peat mass and vegetation development.

1.7 These are the reasons that Natural England, throughout our engagement on this issue, consistently recommended the identification of a compensation scheme that a) sought to achieve a near-natural hydrological regime as most desirable, and b) sought the maximum multiplier for compensatory habitat creation (i.e. 9x that which would be destroyed from Sizewell Marshes SSSI as a result of the proposed development). Currently, the Applicant's plans for all three sites are some way off this achievement of a near-natural state, and we would like to see further consideration of re-naturalising all aspects of the schemes, including hydrology, water quality and water resources. We consider the extent currently identified for compensation to be a minimum to achieve any semblance of the sustainable expression of fen meadow as part of a peatland ecosystem.

Comments on the Hydrology of Fen Meadow Sites

<u>Benhall</u>

1.8 The data collected, including soil cores and surface and groundwater monitoring indicate that the interventions proposed have the potential to achieve the conditions for fen meadow habitat creation. It is noted that the interventions do fall short of the desire to restore natural hydrological function. The site could be at risk to incursion by nutrient rich water from the River Fromus and the canal, presenting a risk to successful habitat creation. The conclusion presented by the Applicant is that the nearby groundwater abstraction (0.25Ml/d 200m from site) is unlikely to have a significant impact on groundwater levels on the site, although it should be noted that this has not been quantified.

Halesworth

1.9 The data collected, including soil cores and surface and groundwater monitoring indicate that the interventions proposed have the potential to achieve the conditions for fen meadow habitat creation. It is noted that the proposals include backfilling the central ditch that crosses the site to discharge to the Walpole River; this will be completed using material won on site with placement of clay stanks. During backfill it is recommended that the material is placed to, as far as possible, replicate the adjacent soil horizons to ensure hydraulic continuity across the site. It is not currently proposed to back fill the catch dyke or the other on-site drainage ditches (which drain to the catch dyke). A water control structure is proposed to raise water levels in the catch dyke and associated ditches. This is contrary to the desire to restore natural hydrological function at the site. It is not clear why backfilling the catch dyke is not feasible, and no assessment of this as an alternative action appears to have been undertaken. No work is proposed to control water levels on either the Walpole River or the eastern boundary drain, both of which may continue to act as a discharge point for groundwater.

1.10 Drainage from the industrial estate to the north currently discharges to the central ditch. As part of the proposals, this will be diverted to discharge to the Walpole River downstream of the site. Whilst this may result in a loss of water entering the site, as surface water with potentially poor quality, this is still considered to be beneficial.

Pakenham

1.11 The data collected, including soil cores and surface and groundwater monitoring indicate that the interventions proposed may have the potential to achieve the conditions for fen meadow habitat creation; however it is considered by Natural England that the risk of not achieving suitable conditions is higher at this site. Groundwater monitoring indicates that the water table can be comparatively deep (>1mbgl). However, it is noted that there is no ongoing monitoring being undertaken within the main areas for proposed habitat creation. The proposal therefore relies on an assumed relatively flat water table being closer to surface as the ground level falls to the main areas for habitat creation, as well as slightly deeper excavation compared to the other two sites. The absence of any kind of water control means that there is less reliance placed on raising water levels at this site as opposed to lowering ground

surface elevation. Again, there does not seem to be much consideration of potential for greater restoration of natural hydrological function.

1.12 The ditch network on site is noted to be relatively complex and includes a culvert beneath the Pakenham Stream (which is perched above the surrounding areas). Water levels in the ditch network are at least partially maintained by a leak from the Pakenham Stream to the ditch network at the location of the culvert. It is proposed to maintain this leak as part of the proposals. However, nutrient levels in the stream can be elevated, and this therefore represents an input of poorer quality water which may limit the site's suitability for fen meadow creation. This leak has not been quantified, and nor has its seasonal variability been investigated. There is also elevated nitrate already recorded in groundwater at some locations, further indicating potential risk to fen meadow establishment.

1.13 There is a licenced surface water abstraction (1.44Ml/d, operating spring and summer) on site taking water from the drains. Whilst the Fen Meadow Plan includes recommendations that this abstraction should cease, this does not appear to be guaranteed. Ongoing abstraction at this location could result in drawdown of the water table in spring/summer and present a risk to the creation of fen meadow habitat.