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GCU-OE Environment & Chemistry

Your ref.	PAN-010169
Your letter	-
Our ref.	PMB/EBGP/20-4
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3rd September 2020

Pembroke Variation Application ref. PAN-100169 Supply Restoration Mode, Carbon Monoxide and Formaldehyde

Dear Kirsty,

In response to your e-mail of 2nd September 2020, I would like to make the following points on behalf of RWE.

Do you anticipate running in SR mode with CO emissions as high as 440-1000mg/m³?

No. I have now been advised that if RWE secures a contract to provide a black start capability at Pembroke, there will be a Joint Local Restoration Plan (JLRP) developed by NGESO, RWE and the regional distribution network operator (DNO) for the restoration of supplies from Pembroke Power Station in the event of a loss of supply incident. The constraints on the loads at which the main gas turbines can operate (except transiently during start-up and shut-down) will be written into the JLRP. This means that operation (in SR mode or otherwise) with CO emissions above 440 mg/m³ should be avoided.

We note that Condition IC8 in the existing permit is not specific about the emissions to be covered in the impact assessment we are required to include in the Black Start Response Plan. If CO and formaldehyde were issues for the operation of the main units in a black start situation then it appears to us that these would need to be addressed in that impact assessment (whether or not the EBGp project goes ahead) rather than in the context of the current variation.

We should keep in mind that the purpose of this variation is to permit three small engines and provide for some amendments to directly associated activities: it is not to permit alterations to the main gas turbines or re-permit the entire power station.

Do you anticipate needing a part load CO ELV greater than the 250mg/m³ currently permitted during SR operation ?

No. The comments about the JLRP and the scope of the assessment required by existing permit condition IC8 under the previous question are also relevant to this question.

In-combination effects with Valero CHP

The comment you refer to simply means that the Valero CHP installation will burn natural gas, rather than refinery fuel gas or refinery fuel oil and will be more efficient than the existing steam raising plant, with the expectation of lower NOx emissions than the predecessor plant at the same location. Lower emissions generally give lower impacts, which means lower combined impacts with other sources than are assessed in the EBGp air quality report and hence additional confirmation of no likely significant in-combination effect.

Notwithstanding this, in our view we have already **clearly** demonstrated that the EBGp habitat impacts and potential associated effects are insignificant whatever other impacts they combine with, because of their extremely small magnitude. This is the more so, given that the modelling shows the maximum ground level impact, such as it is, from EBGp emissions would occur very close to the proposed gas engines, within the power station site. In these circumstances we cannot see that any useful purpose would be served by doing a detailed in-combination assessment of emissions from the Valero CHP installation and the insignificant emissions from the EBGp.

However, if:

- (1) there are any remaining concerns or queries in the light of the above;
- (2) there are further air quality queries raised by your air quality colleagues;
or
- (3) NRW considers that further modelling or impact assessment is necessary,

could we please set up a conference call between our respective air quality specialists. The purpose of this would be to identify all the further air quality or related habitats impact assessment matters which need to be clarified and exactly what, proportionate assessment work may be needed for this.

Yours sincerely

Neil B K Richardson

Neil Richardson
Principal Consents and Permitting Advisor
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