Thurrock Flexible Energy Centre (EN010092)

Gravesham Borough Council

Deadline 4

Comments on document EN010092-001245-Thurrock Power Ltd responding to our Deadline 2 submission to which the paragraph and page references refer

To be read in association with Gravesham Borough Councils submission at deadline 3 (EN010092-001233-DL3 Gravesham Borough Council)

1. The Borough Council welcomes the comments about noise (section 1.2) and its monitoring. It is important that should any nuisance occur there is a mechanism to deal with the issue in an appropriate way.
2. In respect to the Green Belt policy requirements including Tilbury Power Station site as an alternative (section 1.3), the Council does not wish to add anything to the representations it has already made, which still stand, and leaves the matter with the Examining Authority.
3. The Borough Council welcomes the agreement that air quality should be controlled at source (1.4.2) according to its air pollution control system (1.4.3). Construction air quality impacts are not seen as a major issue on the basis of the current understanding of what is involved.
4. Set out in the table below are comments from our consultants, Bureau Veritas, on the responses by Thurrock Power in pages 5/6/7of the document.

Gravesham Borough Council Comment	Thurrock Power Ltd Response	Further BV comments
Bureau Veritas (BV) have also reviewed the air quality material where they find that there are some deficiencies in the analysis and a need for further clarification. In particular they say that: • On construction 'it is considered that the conclusion that the change in emissions from construction is 'negligible' is robust and defensible' • However on operation: – "The short-term and long term contour plots do not seem to match results within the tables. There is a conflicting long-term contour plot in Appendix 12.8.	In response to the comments on operation: The response to ExQ1 acknowledged that mis-match in the short-term and long-term contour plots and those errors were corrected in response to ExQ1, with the correct contours having been provided in supporting document AQ-1 (RE2-044).	There do not appear to be amended contours in AQ-1 (https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010092/EN010092-001192-AQ-1_Air_Quality_Baseline.pdf). We are not able to provide comment on whether these have been correctly updated.
No information around Bias Adjustment or Annualisation of the project specific NO_2 monitoring is provided.	No project-specific NO_2 monitoring results were used for any receptors in Gravesham. For those receptors where project-specific monitoring results were used, in Thurrock, an annualisation factor of 0.99 was used with a bias adjustment factor of 0.87.	No additional comment regarding the assessment in Gravesham.
Justification required for choice of diffusion tubes for model verification of construction traffic modelling and why the assessment does not use the modelled concentrations from this study as background for main body of the assessment.	The assessment does not use the modelled concentrations from the construction impact study as a background. As the council notes, construction phase effects in Gravesham are 'negligible'. Regarding construction phase vehicle emission specifically, the construction traffic is more than 200 m from Gravesham and therefore no construction phase effects would be expected.	This comment related to the assessment outside of Gravesham. No additional comment regarding the assessment in Gravesham.
For the additional roads modelling within Gravesham, details of the model verification are not provided and it is stated that 'a ratio has been used as an adjustment factor' and the ratio is not clearly provided.	Details of the model verification were given in Appendix 12.8 (APP-108), Section 1.2 which provides a comparison of modelled and monitored concentrations in 2018. The ratios used as an adjustment factor for each receptor are shown in the last column of Table 1.2 of Appendix 12.8.	The verification process used is not in line with Box 7.17 of TG(16). We would need to complete further analysis as to whether the method used is appropriate as it deviates from the technical guidance. However, additional clarity is sought as to how there appears to be an increase between the 2018 monitoring concentration and the 2022 modelled baseline concentration in Table 1.3 of Appendix 12.8. It would be expected that the concentration would reduce in line with national projections.

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It is not clear what background concentrations were used for the purpose of the additional Gravesham traffic assessment and the traffic data used in the modelling is not provided.	The background concentrations and the source of the traffic data are given in Appendix 12.8 Paragraph 1.2.1, which states: "*Traffic data from the Department for Transport (DfT) website for 2018 was used in the roads modelling. The baseline concentrations used are the same as (or the nearest/most representative) the baseline concentrations used by GBC in its 2019 Annual Status Report, Table C.2 – Fall-off Distance Correction (GBC, 2019)"*	We would seek to clarify the road speeds used in the model and how the congestion around GR13 has been modelled.
There is no discussion of short-term exceedances in the additional assessment of Gravesham.	The short-term impacts were considered in Chapter 12: Air Quality (APP-061) and Chapter 25: Cumulative Environmental Assessment, Air Quality (APP-074). Paragraph 2.2.31 of Chapter 25 states: "*For all receptors the cumulative PEC is less than 70% of the AQAL of 200 µg.m^{-3}. This demonstrates that there is considerable headroom between the short-term AQAL and the PEC*". As there were no predicted exceedances of the short-term objectives, the discussion in Appendix 12.8 focused on annual-mean concentrations only.	Whilst it is accepted that it is unlikely that there are exceedances of the short-term NO_2 objective, confirmation of modelled short-term concentrations at receptors within Gravesham would be expected to be rationalised in the context of the assessment.
Further advice has been sought from the consultants taking into account the questions posed in ExQ1 to the applicant: 1.1.3, 1.1.4 and 1.5.7. *1.1.13 Explain the adverse impact on air quality at receptor 9* – Gravesend one way system. BV comment that "additional work including modelling of additional receptors around 'Receptor 9' and GR13 (West Street) has been completed by the applicant in appendix 12.8. This additional work confirms that the AQAL is predicted to be exceeded at receptors adjacent to West Street as a result of the development (Paragraph 1.3.11 of Appendix 12.8). This is true in both the 2022 and 2025 modelled scenarios. This is as a result of the effect of traffic emissions and process contribution from the proposed development. Without the development in place the pollutant concentration at these receptors is above 40ug/m3. Given that the sensitivity of the site increases at higher pollutant concentrations, the effect is	Appendix 12.8 notes that in 2025 concentrations at West Street are predicted to exceed the Air Quality Assessment Level (AQAL) with or without Thurrock FGP. The existing background concentrations and traffic on the Gravesend one-way system (designated in 2005 due to elevated NO_2 levels from traffic) remain the major sources of elevated concentrations at West Street. Para 1.3.1 of Appendix 12.8 describes the small contribution from Thurrock FGP, a predicted NO_2 increase of 0.6 µg.m^{-3} at West Street. This is only 1.5% of the AQAL of 40 µg.m^{-3} and 1.3% of the cumulative predicted environmental concentration (PEC) of 44.9 µg.m^{-3} predicted in 2025 at GR13. The small incremental contribution that is emissions from Thurrock FGP will indeed be controlled at source: an air pollution control (APC) system will be used to control emissions at source to ensure that the emissions limits set out in the Industrial Emissions Directive, and	It is accepted that emissions will be controlled at source, though the effect of these controls has not been quantified and the results presented in the assessment still show that there would be a 'moderate adverse' effect at GR13 as a result of Thurrock FGP in 2022 in line with the IAQM guidance. As above, as emissions from traffic are expected to reduce, clarification is sought as to the increase from 2018 of 47.1µg/m³ to 2022 of 48.4µg/m³ modelled concentration at GR13 and other modelled increases between 2018 and 2022.

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considered 'moderate adverse'". *1.1.14 Asking the applicant why air quality exceedances in Tilbury and Gravesend have not been addressed in the Environmental Statement*. This comment relates only to the situation in Gravesend. BV comments that "it is our understanding that the effect of the development on air quality has been identified as 'Moderate adverse' in the Environmental Statement at affected sensitive receptors in Gravesend. This has been identified through use of the industry standard IAQM/EPUK Guidance document – 'Land-use planning and development control: Planning for Air Quality'. It is not accepted that, given the evidence provided, the effect is 'not significant' as stated in ES Chapter 12, paragraph 5.1.5." 1.5.7 *Asking the applicant to comment on the exceedance in air quality at point 47* (A227 Wrotham Road in school grounds and at the north west corner of the Mid Kent Golf Course). BV state "it appears that the applicant has used a background concentration close to the AQAL of 38.6µg/m³ based on the concentration monitored at location 'GR57'. This is a 'roadside' monitoring location within the Old Road West Junction AQMA (see footnote 3 for link to map). With the effect of additional roadside and process emissions included, this results in the predicted exceedance of the AQAL at this committed development." • There is therefore in the view of the Borough Council that there is a significant air quality issue in West Street, Gravesend as a result of the proposed development. The one-way system round the Town Centre is an Air Quality Management Area already due to impacts of pollution from traffic flow and the impact of built form. The applicant is not responsible for the base conditions, but is for the increment. This is despite the relatively infrequent operation of their facility. This is a matter that should be tackled at source and the Council will discuss the matter with the applicant.	on which the modelling is based on, are met. Regulatory control once operational would be through the Environmental Permitting Regime as outlined in paragraph 2.8.8 of Chapter 2: Proposed Development (APP-045): "*Environmental management of the flexible generation plant will be regulated by the Environment Agency using the facility's Environmental Permit, which will specify operating techniques and will include a regular schedule of audits. The permit will also regulate discharges and emissions from the facility, specifying limits, monitoring and reporting of these. Thurrock Power will implement an ISO14001 or equivalent Environmental Management System (EMS) as required by the Environmental Permit".* • Future vehicle emissions are expected to decrease and Appendix 12.8 shows that based on Defra's traffic emission factors, the concentrations at West Street (and at all modelled receptors in Gravesham) are predicted to meet the air quality objective by 2030, with the Thurrock FGP operational.	

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It is noted that at Appendix 12.3 of the Environmental Statement there is a discussion about the influence of stack heights on emissions and that beyond 50m there are not significant gains. The analysis in Chapter 12 is based on 40m, so the Council would appreciate a determination on whether an increase to 45m or 50m would address the air quality issues or not. There may of course be other ways of achieving the same result but the focus should be at source.	The results of the detailed stack-height modelling in Appendix 12.3 show the most noticeable reductions in ground level concentrations per increase in stack height are achieved up to 35 m, after which the incremental gains begin to level off, with further incremental gains diminishing substantially with increases in height beyond 50 m. If the analysis in the air quality assessment was based on a stack height of 50 m rather than 40 m, the Thurrock Flexible Generation Plant process contribution would be incrementally reduced; however, this would have no material change to the conclusions of Appendix 12.8 as the majority of relevant exceedances of air quality objectives at Gravesend AQMAs are predicted both with and without the Thurrock Flexible Generation Plant development (where, as set out above, traffic emissions are the dominant source and the Thurrock Flexible Generation Plant's contribution is small). The applicant agrees that there are several ways of controlling air pollutant emissions and concentrations, of which appropriate stack height to provide pollutant dispersion is only one: and one where the primary effect is on maximum pollutant concentrations in the immediate vicinity of the source. Other techniques will also be employed, regulated by the Environmental Permit, as has been discussed above. It should be noted that other factors also come into the consideration of appropriate stack height, particularly the visual impact of taller stacks.	No additional comments.
One of the unclear matters is what traffic levels assumed in the modelling for the one way system. It is not clear what flow data has been used and whether it reflects recent permissions and forthcoming proposals.	Traffic flow was assumed to remain constant at 2018 levels. Department for Transport traffic data indicates that traffic flows in the area are generally decreasing and this was therefore a reasonable assumption.	Section 6.2.2 of the IAQM/EPUK 'Lane-Use Planning for Development Control: Planning for Air Quality' Guidance states: *The report prepared detailing the results of the assessment should contain the following information (but not necessarily in this order):* *…* *Cumulative impacts and effects. In many cases, the impact of the development being assessed will have a cumulative effect with other planned developments, which may or may not have planning permission. Where these developments have been granted planning*

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		consent and are therefore 'committed' developments, their impacts should be assessed cumulatively with those of the application site. The contribution of these committed developments should be accounted for in the 'future baseline', provided that their contributions can be quantified. As the effects of committed development traffic from the following schemes (in accordance broadly with sites allocated the Local Plan Core Strategy 2014) in Gravesend Town Centre has not been considered, there is the potential that the traffic model is under predicting future conditions: • Clifton Slipways, West Street (permitted 227 units) • M Block, Clifton Road (115 units permission subject to s.106) • The Charter, Crooked Lane/The Terrace (permitted 242 units) • Canal Basin, Canal Road (planning application for 1500 homes under consideration) • St George's Phase 2, Bath Street/West Street (application under preparation)
The one-way system in Gravesend town centre needs to be subject to ongoing monitoring to find if the issue is significant or if more so require additional measures to be taken. The monitoring would also require logs of when the gas engines run so that it is clear if any deterioration in air quality is as a result of this development or some other cause. The Borough Council would expect to receive copies of such reports and there to be an agreed strategy of what happens is the agreed impacts are breeched [sic].	Monitoring of local air quality is among the responsibilities of the local authority under the Local Air Quality Management (LAQM) system and is routinely undertaken. It is not clear what additional type of monitoring the council is proposing. The applicant does not consider that additional monitoring in Gravesend could be used to determine whether any change in air quality is due to traffic emissions in Gravesham, emissions from Thurrock FGP, or any other background source. The applicant is not aware of such additional monitoring being imposed on equivalent developments and does not accept this as a meaningful, practical or proportionate suggestion.	No additional comment.

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Point 47 is however in a much more open location with school playing fields to the west, and Mid Kent Golf Course to the south east. The Borough Council would therefore suggest that there probably is not an air quality issue a point 47 but that location GR57 needs to be checked. That is located in an AQMA at a skewed road junction and together with the surrounding built form at this location mean the emissions are not readily dispersed.	Thurrock Power Ltd`s response to EXQ1.5.7 is aligned with the Borough Council`s position on this point, stating: "*At receptor 47 (named 20141214) the cumulative PEC is predicted to be 40.3 µg.m^{-3} or 101% of the AQAL. This is based on using a baseline ambient concentration (AC) of 38.6 µg.m^{-3} obtained from the five year average monitored concentration at monitoring location GR57. The location of GR57 is at the junction of the B251 and the A227, as depicted in Figure 1.3 of Appendix 12.2 Baseline Air Quality Conditions [APP-102]. The A227 is the only major road near to receptor 47 and therefore the baseline AC estimate obtained from GR57 (which will be affected by traffic on both the B251 and the A227) is likely to be higher than the actual baseline AC at receptor 47. On that basis the actual cumulative PEC at receptor 47 is likely to be below 40.3 µg.m^{-3} and the AQAL.*"	No additional comment.

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17/05/2021