

**Summary interim statement for Beckton application – non-technical summary, submitted to EA 24-11-2020**

**Application reference:** EPR/PB3238RK/V002

**Operator:** Thames Water Utilities Limited

**Facility:** Beckton STW Combustion Plant

- **A 1.1a1a variation application, EPR/ PB3238RK /V002, was submitted by TWUL on 19/5/2020 to permit the combustion plant at Beckton STW.** The application was required given the aggregated thermal input of all combustion plant at the site is above 50MWth. The total rated thermal input of permitted combustion activities is 67MWth.
- **Subsequent to the application being submitted, TWUL communicated to the EA on 30/9/2019 that none of the STW's standby *diesel generators* would be run for triad/STOR/CM.** Instead, they would be run solely as *the equivalent* of an excluded generator under Specified Generator Controls (SGC). The ten standby diesel generators are therefore currently for emergency use only and are tested in accordance with a monthly maintenance schedule and limited other tests, resulting in less than 27 hours of operation per year.
- As the introduction of abatement (SCR) was interlinked with the project for elective running for triad/STOR/CM this will not now be implemented. In short, minimum essential running hours will continue but with unabated emissions.
- The application air quality chapter - '**Appendix B – Air Quality Assessment**', the findings of which are summarised in the main application supporting document in 'Section 5. Impact on the Environment' - does not yet reflect this revised operational regime.
- Experience at other sites is that TWUL can reduce the occurrence of but not entirely eliminate the risk of short term NO<sub>2</sub> impacts to human health. This can be achieved through actions *such as* reviewing maintenance programmes to identify any improvements, and where feasible, running diesel generators sequentially rather than concurrently during routine maintenance testing.
- The long-term impacts on air quality, for the routine testing without mitigation, were not found to be significant at either human health receptors or at statutory or non-statutory sites within the study area.
- The results for hourly mean nitrogen dioxide suggested that exceedances of the air quality standard could occur at sensitive human health receptors during routine testing, without mitigation in place (assuming that all combustion sources operate concurrently and permanently throughout the year). The probability of breaching the air quality objective even on that basis was extremely low, based on the hypergeometric mean being well below the Environment Agency's guideline value of 1% probability for the acceptability of low-frequency events.
- The results currently presented as Scenario 2 (which conservatively modelled the monthly testing as combined operation whereas in reality, no more than one test of a standby generator will be undertaken at any time) will overestimate the risk of significant short-term air quality impacts from nitrogen dioxide (NO<sub>2</sub>) during regular maintenance testing.

- The potential for acute health impacts on human health receptors during sequential diesel generator running will be the subject of an updated air quality study. The principal location of concern is at Galleons Reach (non-residential receptor) that exceed the acute exposure guideline criteria (the US EPA AEGL1 for NO<sub>2</sub> – 60 min) during the combined operation of the standby generators (Scenario 2, Table 4-9 of air quality assessment report). In light of the proposed maintenance testing of single engines, only two relevant events will apply to these results. The first, being a single annual HV test where all generators are run concurrently as a test of ability to provide electrical load to the site transmission system. The second, where concurrent diesel generator running is needed in a genuine emergency, and in turn, prevent a pollution risk to controlled water courses.