Cyfoeth Naturiol Cymru
Natural Resources Wales

Mr. M Williamson
Morganite Electrical Carbon Ltd
Upper Forest Way
Morriston
Swansea
West Glamorgan
SA6 8PP

**Our ref:** PAN-024653
**Your ref:**

**Date:** 18 June 2024

Dear Mr. Williamson

**We need more information about your application**

**Application reference: EPR/VP3339PD/V014**
**Operator: Morganite Electrical Carbon Ltd**
**Facility: Electrical Carbon - Swansea, Upper Forest Way, Morriston, Swansea, West Glamorgan, SA6 8PP.**

Thank you for your application received on 31 January and 27 February 2024.

Unfortunately the fee you sent is incorrect. This is because since the variation application was received, you have requested the removal of the Theta process and associated emission point (A10) from the permit, (email from applicant's consultant dated 26/04/24). The Theta process forms part of the installation's inorganic chemicals listed activity. As such, the variation of this additional listed activity will increase the normal variation application fee from £13,672 to £16,047. Please send a cheque of £2,375 for the difference made payable to 'Natural Resources Wales or contact Permit Receipt on (03000) 654386 to arrange to pay by credit/debit card. Please also submit an updated copy of your completed charge banding tool to reflect this amendment.

I need to ask you for some more information before I can decide whether it is duly made or not. The information required is summarised below:

**Application Form C2**

**Q5a: Site Plan**

Please update the "Site Plan with Emission Points" in Appendix A of the Application Report to show the location of all proposed emission points to air, water and sewer. This can be an update of the site plan in Schedule 7 of the existing permit (EPR/VP33339PD/S013), which enables the emission points to be easily cross-referenced with the monitoring tables in the permit. Air emission point (A10) also needs to be removed to reflect the cessation of the Theta Process.

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**Q6: Environmental Risk Assessment**

**Variation Application, Appendix F: Air Quality Assessment**

An email received from the applicant's consultant on 26 April 2024 requests the removal of the Theta process and associated air emission point A10. Please confirm the date that this process ceased / will cease to operate and revise the Air Quality Modelling files and assessment report to show predicted impacts to human and ecological receptors without emission point A10.

Please update Table 4 of the air quality assessment to show the modelling scenarios for Total Organic Carbon (TOC) as Benzene ($C_6H_6$) and Polycyclic Aromatic Hydrocarbons (PAH) as benzo(a)pyrene (BaP).

Table 5 of the air quality assessment shows that the existing emission points have been modelled based on their diluted volume flow rates. Please confirm if addition of dilution air is part of the process (e.g. to achieve minimum flue gas velocities), rather than as mitigation.

Please update Table 6 of the air quality assessment and associated modelling files and results to include modelling of Polycyclic Aromatic Hydrocarbons (PAH) as benzo(a)pyrene (BaP) for emission point A15. This is required because a limit for BaP is associated with this emission point in Permit EPR/VP33339PD/S013.

Section 3.5: Please confirm if the model in ADMS-6 uses time varied emissions for sulphur dioxide ($SO_2$) releases from the kilns, as presented in Table 7 of the Air Quality Assessment report. If this is the case, please explain the purpose of the 500 mg/$Nm^3$ emission limit value (ELV), for $SO_2$ on the three kilns in Table 6. It is also noted that the 500 mg/$Nm^3$ is nearly six times lower than the permitted ELV for $SO_2$ in permit EPR/VP33339PD/S013. As such the modelled scenario may not represent a worst-case scenario, unless lower permitted ELVs for $SO_2$ are required in the permit, in which case the modelling should specify this stating the new maximum ELV required for the three kilns.

Paragraph 3.5.7 shows the operating pattern of the three kilns. Will the proposed new furnace operate at the same time as the kilns and is this accounted for in the modelling?

Paragraph 1.2.1 states "…at a distance of approximately 115m is a small traveller site containing a number of residential mobile home units". However, this site does not appear to have been considered as a sensitive human receptor in Table 8 and Figure 5. Please revise the air quality modelling files and assessment report to ensure predicted impacts at the traveller site receptor are included.

There are 12 Ancient Woodland Sites within a 2km screening radius of the installation. However, these have not been considered as ecological sensitive receptors in Table 9 and Figure 6 of the air quality assessment. Please revise the air quality modelling files and assessment report to ensure predicted impacts at the Ancient Woodland receptor sites are included.

Paragraph 3.10.1 states that meteorological data has been taken from the Mumbles Met station which is approximately 12km southwest of the installation. Whilst Mumbles Met station is one of the closest weather stations to the installation, there is a possibility that due to its coastal location, the data may have a different distribution of wind speeds relative to meteorological data at Morganite. Therefore, please provide a sensitivity analysis with meteorological data more representative of the inland location where Morganite is located. For example, Met Office modelled 1.5km NWP data.

Paragraph 3.10.2 states that 5 years meteorological data between 2015 – 2019 has been used to ensure a worst-case assessment. As the most recent 5 years of meteorological data should be used in an air quality assessment, please revise the assessment based on the most recently available 5-year data set.

Please clarify which year the DEFRA Background Pollutant Concentrations shown in Table 17 represents. Table 17 itself suggests that all the data is for 2019, whereas paragraph 4.4.2 states that "Background concentrations for $NO_X$, $NO_2$, $PM_{10}$ and $PM_{2.5}$ are predicted for 2024, whilst benzene is predicted for 2010".

Tables 23 and 24: please confirm that the PC columns for both tables, show zero values in all cells because no NOx combustion emissions are emitted from the new electrically heated slot furnace. Also please explain why the percentage PEC column in Table 24 is showing zero values.

Tables 25 and 27: please explain why the PC column shows zero values.

Table 32 footnote states that "Predicted concentrations were assessed against 99.18%ile 24-hour mean EQS of 125 µg/m$^3$". However, the 15-minute mean EQS that the table is supposed to represent is 266 µg/m$^3$. Please confirm if the data presented in Table 32 is based on the 24-hour mean or the 15-minute mean and amend as necessary.

Table 34: For transparency in terms of the public domain and as per the human health results tables, please use a table footnote to confirm which $SO_2$ Critical Level has been applied to the assessment and why.

Please confirm which emissions scenario Table 36 represents. It is placed in section 5.4 of the air quality report, which focuses on combined impacts, but the preceding text in paragraph 5.4.1 implies that the data in the table is for the new emission process concentrations only.

Paragraph 5.4.11 states "PC proportions of the annual mean EQS are greater than 1% at one receptor location". This is not reflected shown in Table 38, which shows all receptors at less than 1% of EQS.

Paragraph 5.4.21 states "PC proportions of the annual mean EQS are less than 1% at all receptor locations and all impacts can be screened as insignificant". However, this is not reflected in Table 40, which shows PCs greater than 1% at receptors HR3, HR11, HR13 and HR14. Please confirm which is correct and amend paragraph 5.4.21 or Table 40 accordingly.

Table 41: please confirm if the data shown is for new process emissions only or for the combined impact from the entire installation.

Table 42 shows that the PC for 24-hour mean TOC (as benzene) is greater than 10% at receptor HR11. However, in contrast to table 29, which shows new process emissions only, the predicted PC at receptors HR13 and HR14 has dropped to below 10% for the combined impacts from the site. Please confirm if this is correct.

Table 45 footnote states that "Predicted concentrations were assessed against 99.18%ile 24-hour mean EQS of 125 µg/m$^3$". However, the 15-minute mean EQS that the table is supposed to represent is 266 µg/m$^3$. Please confirm if the data presented in Table 45 is based on the 24-hour mean or the 15-minute mean and amend as necessary.

Paragraph 5.4.43 states that the predicted PC exceeds 10% at 8 receptors, whereas table 45 shows it is exceeded at 10 receptors. Please confirm which is correct.

Table 47: please confirm if the predicted annual mean NOx concentrations at ecological receptors represent the combined impact from the whole installation.

Table 48: please confirm if the predicted 24-hour mean NOx concentrations at ecological receptors represent the combined impact from the whole installation.

Table 49: please confirm if the predicted annual mean $SO_2$ concentrations at ecological receptors are for the new emissions only of if they represent the combined impact from the whole installation. Also, for transparency in terms of the public domain and as per the human

health results tables, please use a table footnote to confirm which $SO_2$ Critical Level has been applied to the assessment and why.

Table 50: please confirm if the nutrient nitrogen deposition results presented are for the combined emissions from the whole installation.

Table 51: please confirm if the acid deposition results presented are for the combined emissions from the whole installation. Paragraph 5.5.17 states that "…the PC proportion of the EQS do not exceed 1% at all national and European designations (ER1-ER10)…". This is not reflected in Table 51, which shows that 1% is exceeded at receptors ER1 and ER4.

When the air quality modelling assessment has been updated, please provide the electronic ADMS-6 modelling files, to enable audit by Natural Resources Wales.

**Application Supporting Information Report**

Section 1.8 "Point Source Emissions to Water" explains that process effluent from blowdown associated with the new furnace and wet scrubber waste will be discharged to sewer. Morganite currently hold a trade effluent consent from Dŵr Cymru Welsh Water for the discharge of process effluent from the installation. Please provide confirmation that Welsh Water are aware of and accept the inclusion of these two additional effluent streams for discharge.

Table 3.8 of this report states that a bag filter will be installed to abate dust from the new inspection table. Please send the manufacturers technical specification for the bag filter to show what abated emission concentration it can achieve for total particulate matter.

**Noise Impact Assessment Report**

Hunter Acoustics conducted an environmental noise survey in May 2022 to assess existing background and ambient noise levels at nearby sensitive receptors. This represents the baseline noise survey underpinning the Enzygo modelling and noise impact assessment. With regard to the Hunter Acoustics report, please confirm if the "typical" background is based on the 90 %ile of the residual noise, rather than the ambient noise. Please provide evidence to demonstrate that the survey data in the Hunter Acoustics report can still be considered representative of current background sound levels, given the removal of the theta process and associated air emission point A10. Also please confirm if there have been other operational changes since May 2022 that are likely to influence the current background.

Paragraph 1.2.3 (first bullet point) states "To the north of the site are additional commercial/industrial units. Beyond this, at a distance of approximately 115m is a small traveller site containing a number of residential mobile home units". This traveller site does not appear to have been considered as a sensitive human receptor in Figure 3.1 and Tables 3.1, 3.2 and 3.3. However, it is identified in the noise contour plots in Appendix C and tables in section 4 of the report. As such, the baseline noise survey does not appear to have been conducted at the traveller site receptor. Please provide evidence that the baseline survey results at location A (site boundary) are representative of baseline conditions at receptor AL01, further north, to ensure that predicted impacts at this receptor are accurate.

Paragraph 4.2.5 states that "Limited information is provided for internal noise sources, with the only new items identified as relatively small-scale fans and an MVHR unit. To that end, an assumption that internal noise levels would achieve 80dB LAeq,1hr in line with the lower exposure level of the Noise at Work regulations". The comparison with the Noise at Work Regulations is not relevant, as 80dB (A) in this context is simply the level at which employers are obliged to assess the risks to workers health from noise exposure. It is not sufficient to assume that operational noise levels will be lower, as all permit decisions must be evidence-based. As such, please provide the sound power level associated with the new graphitisation furnace and use this to derive an internal sound power reverberant level in Cadna for the

building in which the furnace is housed. The noise modelling results and impact assessment report must be updated to reflect this.

Table 4.3: Please confirm if the predicted specific noise levels for receptors AL02 and AL03 are the wrong way round and update the table accordingly if this is the case.

Paragraphs 4.6.1 and 4.6.2 explain that no character corrections have been applied in the modelling because sensitive receptors become habituated over time to the prevailing noise climate. It is not considered that the Premier Inn customers will be habituated and this justification seems to be at odds with the statement in the conclusion of the Hunter Acoustics report which states: "The noise rating level of proposed plant should be assessed against the measured data from this survey in accordance with British Standard 4142:2014+A1:2019 by a suitably qualified acoustic consultant. Criteria should allow for corrections for tonality, impulsivity and intermittency and would apply at the closest noise sensitive receivers with all plant operating normally". Also, the Environment Agency guidance "Noise and Vibration Management: Environmental Permits" (January 2022) explains in the "Suggested Noise Impact Assessment (NIA) report structure" section: "Where neither tonal nor impulsive corrections apply, the environment agencies will generally expect a +3dB 'other' correction to be applied for readily distinguishable industrial noise, unless you can demonstrate this is not justified". As such please update the modelling and noise assessment report to reflect the addition of appropriate character corrections under BS4142.

When the noise modelling assessment has been updated, please provide the electronic CadnaA modelling files, to enable audit by Natural Resources Wales.

**Containment**

Please demonstrate that the bund which will enclose the 4m$^3$ fuel tank for the emergency diesel generator meets the requirements of Ciria C736 "Containment Systems for the Prevention of Pollution".

Please reply within 10 working days from the date of this letter. If we don't hear from you, we must return your application and fee.

If you email or write to us, please quote the application reference EPR/VP3339PD/V014 on any correspondence and send it to the relevant address below.

When we receive the missing items, we'll continue to check the details in your application. If there's enough there for us to begin the process of deciding whether or not we can grant your application we say the application is 'duly made' and we'll let you know this by letter.

We'll assess your claim for confidentiality once your application is duly made.

Please quote our reference if you contact us. If you have any questions, please phone me on (03000) 654358 or email anna.griffiths@naturalresourceswales.gov.uk.

Yours sincerely

A. M. Griffiths

**Anna Griffiths**
**Senior Specialist Advisor, Installations and RSR Permitting**