

**Sol Environment Limited**

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Victoria Seller,  
Permitting Service,  
Natural Resources Wales,  
Cambria House,  
29 Newport Road,  
Cardiff,  
CF24 0TP

Date: 8<sup>th</sup> March 2017

Our Ref: SOL1605BUK201

Dear Ms Seller,

**RE: BIOMASS POWER NO.2 LTD – Barry Energy Production Facility – PAN-000869**

Further to your letter dated 24<sup>th</sup> January 2017 please find below our formal responses to each of the questions in turn.

***Air Impact Assessment and Human Health Risk Assessment***

*In relation to the computer modelling carried out as part of the air impact assessment and human health risk assessment, as referenced in the report 'Proposed Wood Gasification Plant Facility, Woodham Road, Barry: Air Quality Assessment' (the Air Quality report), we note that the locations of on-site buildings included in the modelling software different to the locations as they appear on site plans 'BUK202' and 'BARRY\_01\_DWG\_01\_20111'.*

*Please repeat the modelling exercise using the correct building orientation and re-submit the modelling files to NRW. Please also re-calculate the process contributions at sensitive receptors and re-assess the impact of the PCs in a revised Air Quality report.*

Please refer to the updated Air Quality Assessment and modelling files provided within Annex 1 of this letter.

Please refer to the updated Human Health Risk Assessment and modelling files provided within Annex 2 of this letter.

*Please also answer / address the following questions / queries in a revised Air Quality report:*

*1. In relation to Section 3.5 on page 9 of the Air Quality report. The emission limit for polycyclic aromatic hydrocarbons (PAHs) listed in Table 3.8 on page 156 of the cited reference is "< 0.01 mg/m<sup>3</sup>", not "< 0.001 mg/m<sup>3</sup>" as shown in the above referenced report. Please amend the predictions shown in Table 20 on page 23 of the Air Quality report;*

The modelling has been updated to reflect the revised site layout and all pollutants have been re-assessed. Please refer to the updated Air Quality Assessment provided within Annex 1.

*2. In relation to the AERMET modelling files, surface roughness for water was used several sections, which does not reflect land use within 1 km of the installation. Please revise the AERMET modelling files accordingly to include the correct surface roughness factors within 1km of the installation and re-process the modelling data to produce new PCs;*

The above has been amended and the results in Table 20 have been updated. Please refer to the updated Air Quality Assessment provided within Annex 1.

*3. In relation to Table 4 on page 15 of the Air Quality report. Please provide explanation why the Seven Estuary SAC was not included in the impact assessment, as this receptor is within the relevant screening distance of the installation;*

The Seven Estuary SAC has now been included within the assessment. Please refer to the updated Air Quality Assessment provided within Annex 1.

*4. There are errors in the page numbering from Section 4 of the Air Quality report onwards, which restart at page 1 from page 17. Please amend these errors;*

This has been addressed within the updated Air Quality Assessment provided within Annex 1.

*5. In relation to Table 6 on the restarted page 1 of the Air Quality report. NO<sub>2</sub> diffusion tube data for more recent years than is used in the assessment are available now. Please amend the assessment carried out in Table 6 to include the most recent diffusion tube data that is available;*

The most recent data has now been included within Table 6. Please refer to the updated Air Quality Assessment provided within Annex 1.

*6. In relation to Table 33 on page 34 of the Air Quality report. Please confirm that ammonia deposition and hydrogen chloride deposition (wet & dry) has been included in the acidification calculations. Please include this calculation;*

The original assessment did include ammonia and HCl deposition as detailed within Table 5. Please refer to the updated Air Quality Assessment provided within Annex 1.

*7. In relation to Table C2 on page 46 of the Air Quality report. The NO<sub>x</sub> emission concentration when the installation is operating in abnormal conditions (specifically, during periods of failure of the urea injection system) is stated to be lower than the short-term emission limit value for NO<sub>2</sub> given in Annex VI of the Industrial Emissions Directive. Please provide evidence / justification for this statement; and*

This is because the IED emissions limits are conservative for this process and have been used as a worst-case. The short term NO<sub>2</sub> emissions during abnormal operation is expected to be below the IED ELV.

Please refer to the updated Air Quality Assessment provided within Annex 1.

*8. In relation to Table C3 on page 46 of the Air Quality report. The SO<sub>2</sub> emission concentration when the installation is operating in abnormal conditions (specifically, during periods of failure of the lime dosing system) is stated to be lower than the short-term emission limit value for SO<sub>2</sub> given in Annex VI of the Industrial Emissions Directive. Please provide evidence / justification for this statement.*

This is because the IED emissions limits are conservative for this process and have been used as a worst-case. The short term SO<sub>2</sub> emissions during abnormal operation is expected to be below the IED ELV.

Please refer to the updated Air Quality Assessment provided within Annex 1

Should you have any further questions in relation to the above please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'S. Butler', with a stylized flourish extending from the end.

**Steve Butler**

## ANNEX 1: UPDATED AIR QUALITY ASSESSMENT

## ANNEX 2: UPDATED HUMAN HEALTH RISK ASSESSMENT