Permit Variation Application

Permit BU 2357 (as varied)

Following a review of the current situation with the number of environmental permits for Warwick International Group Limited it was recommended that a variation application was submitted that drew together all of the elements of the last few permit variations.

The root cause of this decision was that the variation granted for the operation of the AED Recycle Plant identified a number of manufacturing plants would be shutting down with the reduction in the number of emission points. For a number of reasons, the AED Recycle Plant has not performed as designed and has not been fully operational, continually, for anything more than a few days. This has meant that the other manufacturing plants have remained on-line with the emission points operational and the Company have been operating under the contradicting content of the last two permit variations.

The Company is aware that once the AED Recycle plant is fully operational there will be a requirement for another permit variation. It is likely that there will be additional manufacturing activities to be permitted at this point.

An additional element to this variation application is the change to the location of the final discharge point for the waste water treatment plant because of the original discharge point becoming blocked due to changes/movement to the sand banks/bed of the River Dee. Discussions with the site's NRW Inspector has indicated that, in principle, the change to the final discharge point is acceptable. It can be demonstrated that the new discharge point is more sustainable – from a maintenance point of view. It also significantly reduces the risk to employees or contractors who would be employed to service/monitor the outfall pipe.

The Company accepts that there may be some monitoring or modelling required to demonstrate that there are no significant changes, or adverse environmental impact, in the dilution and/or dispersion of the waste water in the River.

Summary of proposed changes

The proposed changes are to continue to produce TAED/TAED Granulate using the manufacturing plants:

- Plant 3
- Plant 5
- Plant 6
- DAED Plant
- AED Recycle Plant

- Distillation unit 4
- Luwa 2
- Incineration Plant
- Filter Dryer 2
- Granulation 2
- Granulation 3

and the associated utilities – steam raising boilers, WWTP, etc.

The relevant monitored emission points for these plants/utilities are:

- DAED plant scrubber vent, emission points A22 and A23
- Plant 5 scrubber vent, emission point A2
- Plant 6 scrubber vent, emission point A3
- Filter dryer 2 scrubber vent, emission point A5
- Silos 1-4 scrubber vent, emission point A6
- Silos 5-9 scrubber vent, emission point A7
- AED Recycle Plant scrubber vent, emission points A20 and A24
- Steam raising plant (boilers), emission points A17, A18 and A19
- DAED HT fluid heater stack, emission point A21
- Distillation Residue Incinerator, emission point A14
- Waste Water Treatment Plant, emission point W1

There will be no change to the current consented emission limits or to the current monitoring frequencies, with the exception of emission point W1 where there is a proposal to alter the current discharge times to ensure appropriate dispersion/dilution of the waste water discharged.

The proposed changes to the Waste Water Treatment Plant are to alter the discharge time. Currently the discharge time is for a two-hour period two hours after high tide. As the final discharge point has been relocated higher up the river bank the dispersion/dilution is not going to be as effective as it was before when discharging near the middle of the channel on the outgoing tide. To get better dispersion/dilution the proposal is to begin the discharge one hour after the high tide and to discharge for a three-hour period. This will effectively slow down the discharge and allow for better dispersion/dilution.

The scrubbing systems for the 'wet chemistry' plants (DAED, Plant 5, Plant 6, AED Recycle Plant) currently run on counter current water systems to scrub the acidic gases released during the manufacturing process. No changes proposed to these operations.

Currently the scrubbing systems for the 'Dry' plants are counter current sodium hydroxide systems used to scrub any acidic gases, and any powder carry over, from the powder handling systems. It is proposed that the permit should also allow for the operation of these scrubbers using sodium hydroxide and/or water to provide some flexibility in their operation and allow for trials to be carried out in order to review performance, operability and a reduction in use of chemicals. The emission limits would remain the same and precautions

would be in place to ensure that emissions during any trial period would be monitored to ensure that limits were not exceeded.

Work is ongoing to get the AED Recycle Plant into a fully operational unit and trials on this Plant will continue. When trials are being carried out Plant 6 will be shut down and emissions from A3 will cease and there will be emissions from A20 and A24. However, once the trial(s) on the AED Recycle Plant has been completed Plant 6 will be brought back on line.

The following information identifies the revisions for the Permit. Changes are identified by text in italics.

PPC Permit Authorisation Status Log

Detail	Date	Comment
Application BU2357	Received 29/08/03	Duly Made 16/09/03
Request to extend determination	Request dated 22/12/03	Request accepted 05/01/04
Response to request for information	Request dated 10/03/04	Response dated 14/04/04
Permit BU2357	Issued 14/05/04	Permit for operation of Installation under PPC Regime
Application for variation AP3634SJ	Received 18/03/2005	Duly made 18/03/2005
Response to Schedule 7 notice.	Schedule 7 dated 15/06/2005	Response dated 28/07/05
Response to request for further information	Request dated 30/11/2005	Response dated 12/12/2005
Variation AP3634SJ	Issued 15/12/2005	Variation issued to comply with the Waste Incineration (England and Wales) Regulations 2002 (SI 2002 No. 2980) (The WI Regulations) and the Pollution Prevention and Control (Waste Incineration Directive) (England and Wales) Direction 2002
Application for variation KP3937LZ	Received 04/08/2005	Duly made 04/08/05

Additional information in support of application KP3937LZ	Received 06/11/2006	Criteria for fuel switching and commitment to restrict period of gas oil firing
Variation KP3937LZ	Issued 21/11/2006	Variation to permit use of gas oil as stand-by fuel when the use of gas is not under economically viable conditions
Application for permit AP3338MA	Received 03/11/2006	Duly made 03/11/2006
Variation PP3831MU	Issued 22/01/2007	Variation to establish a revised compliance date for completion of improvement programme reference 1.4.1.8 – performance validation of the continuous emissions monitoring systems
Additional information in support of application AP3338MA	Received 05/02/2007	Options appraisal for air emissions abatement and proposals regarding air emissions monitoring
Variation AP3338MA	Issued 01/03/2007	Variation to permit production of sodium acetate tri-hydrate
Application for variation EPR/BU2357IP/V009	Issued 23/06/2008	Duly made 23/06/2008
Variation EPR/BU2357IP/V009	Issued 20/08/2008	Variation to permit production of synthetic rubbers
Application for variation EPR/BU2357IP/V010	Received 15/10/2012	Administrative version
Variation EPR/BU2357IP/V010	Issued 19/11/2012	
Environment Agency variation determined EPR/BU2357IP/V011	22/03/2013	Environment Agency variation to implement the changes introduced by the Industrial Emissions Directive
Application for variation EPR/BU2357IP/V012	Duly made 03/10/2013	Variation issued
Application for variation EPR/BU2357IP/V013	Duly made 08/05/2015	Variation to add a mixing tank and associated vent system with a new emission point; A24
Variation application determined EPR/BU2357IP/V013	xx/xx/2015	Variation issued

The sections below have been laid out following the Permit format:

1 General

1.1 Permitted Activities

Table 1.1.1 No change to this section

1.1.2 No change to the conditions in this section

1.2 Site

1.2.1 No change to the conditions in this section

1.3 Overarching Management Condition

1.3.1 No change to the conditions in this section

1.4 Improvement Programme

1.4.1 Appropriate Improvement programme to be determined by NRW

1.5 Minor Operational Changes

1.5.1 to 1.5.4 No change to the conditions in these sections

1.6 Pre-Operational Conditions

1.6.1 No change to the conditions in this section

1.7 Off-Site Conditions

1.7.1 No change to the conditions in this section

2 Operating Conditions

2.1 **In-Process Controls**

2.1.1 No change to the conditions in this section

2.1.2 No change to the conditions in this section

2.2 **Emissions**

2.2.1 Emissions to Air (including heat, but excluding odour, noise or vibration) from specified points.

2.2.1.1 No change to the conditions in this section

2.2.1.2 No change to the conditions in this section

Table 2.2.1: Emission points to air

Table 2.2.1 Emission points to air		
Emission point reference or description	**Source**	**Location of emission point**
A1	Tank Farm 1 vent	3 metre high stack
A2	Plant 5 caustic scrubber vent	15 metre high stack
A3	*Plant 6 caustic scrubber vent*	*15 metre high stack*
A4	Tank Farm 2 vent	3 metre high stack
A5	Filter Dryer plant 2 scrubber vent	26 metre high stack
A6	Silo 1-4 scrubber vent	19 metre high stack
A7	Silo 5-9 scrubber vent	21 metre high stack
A8	EDA bulk storage scrubber vent	12.9 metre high stack
A9a	Granulation 2 system filter vent (white)	16.5 metre high stack
A9b	Granulation 2 system filter vent (coloured)	9.5 metre high stack
A10	Granulation 3 system filter vent	19 metre high stack
A11	Granulation 4 system filter vent	16.5 metre high stack
A12	Warehouse 1 (25 kg bagger unit dust extraction)	2.7 metre high stack
A13	Warehouse 2 (25 kg bagger unit dust extraction)	2.7 metre high stack
A14	Distillation residue incinerator	30 metre high stack
A17	Boiler 201	30 metre high stack
A18	Boiler 202	30 metre high stack
A19	Boiler 301	30 metre high stack
A20	AED recycle plant scrubber	26 metre high stack
A21	Continuous DAED HT fluid heater	27 metre high stack
A22	Continuous DAED 2 plant scrubber vent	26 metre high stack
A23	Continuous DAED storage tanks scrubber vent	26 metre high stack
A24	Single stream of DAED	28 metre high stack

Table 2.2.2 Emission limits to air and monitoring

Changes to the first part of this table as see below -

Table 2.2.2 Emission limits to air and monitoring [other than the incinerator plant]				
Emission point reference	**Parameter**	**Limit (including Reference Period)** Note 1	**Monitoring frequency**	**Monitoring method**
A2, A3, A5, A6, A7, A20, A22, A23, A24 (See Note 3)	Acetic acid and anhydride (as Acetic acid)	50 mg m-3 (hourly average)	Quarterly	Spot sample - see Note 2
A9a, A9b, A10, A11, A12, A13	Particulate matter	No visible release	-	-
A17, A18, A19, A21	Oxides of nitrogen (as NO2)	170 mg m-3 (hourly average)	Annual	Spot sample - see Note 2
A17, A18, A19, A21	Carbon monoxide	70 mg m-3 (hourly average)	Annual	Spot sample - see Note 2

Table 2.2.2 Emission limits to air and monitoring- cont'd.

No changes to the other two sections of this table (as seen in permit BU 2357)

2.2.1.4.1 to 3 No change to the conditions in these sections

2.2.1.5 No change to the conditions in this section

2.2.1.6 No change to the conditions in this section

Table 2.2.3 Annual limits

No changes to this table (as seen in permit BU 2357)

2.2.2 **Emissions to Water (other than groundwater), including heat, from specific points**

2.2.2.1 No change to the conditions in this section

Table 2.2.4: Emission point to water

No changes to this table (as seen in permit BU 2357)

Table 2.2.5: Emission limits to water and monitoring

Changes to the table are:

- *Rate of discharge – to be determined and agreed*
- *Note 1: Release of effluent from W1 shall take place only between 1 and 4 hours after high tide*

- *Note 2: The maximum volume discharged between high water plus 1 hour and high water plus 2 hours shall not exceed 1350m^3 and the maximum volume discharged between high water plus 2 hours and high water plus 4 hours shall not exceed 900m^3.*

Table 2.2.6 Annual Emission Limits
No changes to this table (as seen in permit BU 2357)

Emissions to water (other than sewer)

2.2.2.2 to 2.2.2.6 No change to the conditions in these sections

Emissions to Sewer

2.2.2.7 to 2.2.2.10 No change to the conditions in these sections

2.2.3 **Emissions to Groundwater**

2.2.3.1 to 2.2.3.3 No change to the conditions in these sections

2.2.4 **Fugitive Emissions of substances to Air**

2.2.4.1 to 2.2.4.2 No change to the conditions in these sections

2.2.5 **Fugitive Emissions to water and Sewer**

2.2.5.1 to 2.2.5.2 No change to the conditions in these sections

2.2.6 **Odour**

2.2.6.1 No change to the conditions in this section

2.2.7 **Emission to Land**

2.2.7.1 to 2.2.7.3 No change to the conditions in these sections

2.2.8 **Equivalent Parameters or Technical Measures**

2.2.8.1 No change to the conditions in this section

2.3 **Management**

2.3.1 to 2.3.8 No change to the conditions in these sections

2.4 **Efficient use of Raw Materials**

2.4.1 No change to the conditions in this section

2.4.1.1 No change to the conditions in this section

2.4.1.2 No change to the conditions in this section

2.4.1.3 No change to the conditions in this section

2.5 **Waste Storage and Handling**

2.5.1 No change to the conditions in this section

2.6 **Waste Recovery and Disposal**

2.6.1 to 2.6.3 No change to the conditions in these sections

2.7 **Energy Efficiency**

2.7.1 to 2.7.3 No change to the conditions in these sections

2.8 **Accident Prevention and Control**

2.8.1 No change to the conditions in this section

2.9 **Noise and Vibration**

2.9.1 No change to the conditions in this section

2.10 **On site Monitoring**

2.10.1 to 2.10.10 No change to the conditions in these sections

Table 2.10.1: Other Monitoring Requirements

No changes to this table (as seen in permit BU 2357)

2.11 **Closure and Decommissioning**

2.11.1 to 2.11.4 No change to the conditions in these sections

2.12 **Multiple Operator Installations**

2.12.1 No change to the conditions in this section

2.13 **Transfer to Effluent Treatment Plant**

2.13.1 to 2.13.2 No change to the conditions in these sections

3 Records

3.1 to 3.1 7 No change to the conditions in these sections

4 Reporting

4.1.1 to 4.1.8 No change to the conditions in these sections

5 Notifications

5.1.1 to 5.1.8 No change to the conditions in these sections

6 Interpretation

6.1.1 to 6.1.4 No change to the conditions in these sections

Schedule 1 Notification of abnormal conditions

No change to the conditions in this section

Schedule 2 Reporting of Monitoring data

Table S2: Reporting of monitoring data

Remove the reference to emission point A25 (as seen in table in Permit BU 2357)

Schedule 3 Forms to be used

No change to the conditions in this section

Schedule 4 Reporting of performance data

No change to the conditions in this section

Schedule 5 Site Plan

No change to the conditions in this section