ENVIRONMENT AGENCY

Variation Notice with introductory note

Pollution Prevention and Control Regulations 2000

Ruabon Chemical Works

Flexsys Rubber Chemicals Ltd
Ruabon Works
Cefn Mawr
Wrexham
LL14 3SL

Variation Notice number

DP3232MG

Permit number

BQ4173

Introductory note

This introductory note does not form a part of the Variation Notice.

The following Notice is issued under Regulation 17 of The Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No. 1973 (as amended) (the Regulations) to vary the conditions of a Permit issued under the Regulations to operate an installation.

The Notice comprises Schedule 1 containing conditions to be deleted, Schedule 2 conditions to be amended and Schedule 3 conditions to be added. The Notice is subject to the express conditions set out in Schedules 1 to 3.

The Permit, as amended by this Variation Notice, contains conditions which have to be complied with. It should be noted that aspects of the operation of the installation which are not regulated by those conditions are subject to the condition implied by Regulation 12(10) of the PPC Regulations, that the Operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation. Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

This variation notice has been issued in response to an application by Flexsys Rubber Chemicals Ltd to permit the use of gas oil as stand-by fuel when the market conditions for gas use are not economically viable. This change does not affect permissible periods of gas oil use during an interruption of the gas supply to the installation or for test firing the boilers for inspection or maintenance purposes (as described in the permit Application). A period of up to 500 hours per year has been permitted. In addition a number of agreed changes to release points and limits have also been included as has the change in operation of the Waste Water Treatment Plant from two to one bioreactors (a consequence of the shut-down of the pHBA plant).

Other PPC Permits relating to this installation		
Permit holder	**Permit Number**	**Date of Issue**
Clariant Production UK Ltd (formerly Clariant UK Ltd)	BV1950	13/04/04
DuPont Air Products NanoMaterials Ltd	BV2689	13/04/04

Superseded Licenses/Consents/Authorisations relating to this installation		
Holder	**Reference Number**	**Date of Issue**
Flexsys Rubber Chemicals Ltd	AL7618 (IPC)	01/06/94
Flexsys Rubber Chemicals Ltd	AK5784 (IPC)	23/02/94
Flexsys Rubber Chemicals Ltd	AN9000 (IPC)	28/11/94
Flexsys Rubber Chemicals Ltd	AK5750 (IPC)	23/02/94
Flexsys Rubber Chemicals Ltd	AK5768 (IPC)	21/02/94

Talking to us

If you contact the Agency about this Permit please quote the Permit Number.

The Operator should use the Emergency Hotline telephone number (0800 80 70 60) or any other number notified to it to give a notification under condition 5.1.1 of the Permit.

Confidentiality

The Permit/Variation requires the Operator to provide information to the Agency. The Agency will place the information onto the public registers in accordance with the requirements of the PPC Regulations. If the Operator considers that any information provided is commercially confidential, it may apply to the Agency to have such information withheld from the register as provided in the PPC Regulations. To enable the Agency to determine whether the information is commercially confidential, the Operator should clearly identify the information in question and should specify clear and precise reasons.

Variations to the permit

This Permit may be varied in the future. The Status Log within the Introductory Note to any such variation will include summary details of the Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Surrender of the permit

Before this Permit can be wholly or partially surrendered, an application to surrender the Permit has to be made. For the applicant to be successful, they would have to be able to demonstrate to the Agency, in accordance with Regulation 19 of the PPC Regulations, that there is no pollution risk and that no further steps are required to return the site to a satisfactory state.

Transfer of the permit or part of the permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit has to be made by both the existing and proposed holders, in accordance with Regulation 18 of the PPC Regulations. A transfer will be allowed unless the Agency considers that the proposed holder will not be the person who will have control over the operation of the installation or will not ensure compliance with the conditions of the transferred Permit. If the Permit authorises the carrying out of a specified waste management activity, then there is a further requirement that the transferee is considered to be a "fit and proper person" to carry out that activity.

Status Log

Detail	Date	Comment
Application BQ4173	Received 14/08/03	
Additional information	Received Nov.03-Jan.04	Further Site Report information
Additional information	Received 16/12/03	Releases to air
Additional information	Received 11/12/03, 09/01/04	Hertel Services lease & location
Additional information	Received 30/01/04	Units and minor operational changes
Additional information	Received 05/03/04	Impact of released copper from Syton ion-exchange unit
Additional information	Received 05/03/04	Site plan
Additional information	Received 23/03/04, 01/04/04	Cadmium and Mercury in effluent
Permit determined	13/04/04	
Variation DP3232MG	Received 11/12/06	
Additional information	Received 26/02/07, 26/02/07, 16/03/07	H_2S abatement and limits
Additional information	Received 07/03/07	Waste Water Treatment Plant operation
Additional information	Received 14/05/07	Drg. 88CO1027 (Rev B)
Variation determined	24/05/07	

End of introductory Note

Variation Notice
Pollution Prevention and Control
(England and Wales) Regulations 2000

ENVIRONMENT AGENCY

Variation Notice

Permit number **(The Permit)**
BQ4173

Variation Notice number
DP3232MG

The Environment Agency in exercise of its powers under Regulation 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I. 2000 No. 1973) (as amended), hereby varies the Permit issued on 14/05/04 (as varied) and held by
Flexsys Rubber Chemicals Ltd ("the Operator"),

whose Registered Office is
Ruabon Works
Cefn Mawr
Wrexham
LL14 3SL

Company registration number **1277553**

which relates to the operation of part of an Installation at
Ruabon Chemical Works
Cefn Mawr
Wrexham
LL14 3SL

to the extent set out in Schedules A to C of this Variation Notice.

This Notice shall take effect from 24/05/2007 at 00.01 hours.

Signed

Ann Weedy, Regulatory Team Leader (PIR/RSR)

Authorised to
sign on behalf of
the Environment
Agency

Date
24/05/07

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Flexsys Rubber Chemicals Ltd
Schedules to Variation Notice DP3232MG

SCHEDULE A-CONDITIONS TO BE DELETED

1. None.

SCHEDULE B-CONDITIONS TO BE AMENDED

2. Condition 1.1.1 shall be amended to:

1.1.1 The Operator is authorised to carry out the activities and the associated activities specified in Table 1.1.1.

Table 1.1.1

Activity listed in Schedule 1 of the PPC Regulations / Associated Activity	Description of specified activity	Limits of specified activity
Section 4.1 A(1) (a)(iii): Producing organic chemicals such as organic compounds containing sulphur, such as sulphides, mercaptans, sulphonis acids, sulphonates, sulphates and sulphones and sulphur heterocycles	Manufacture of chemicals for the rubber industry	From receipt of raw materials to dispatch of products
Section 4.1 A(1) (a)(iv): Producing organic chemicals such as organic compounds containing nitrogen, such as amines, amides, nitrous-, nitro- or azo- compounds, nitrates, nitriles, nitrogen heterocyclics, cyanates, isocyanates, di-isocyanates and di-isocyanate polymers	Manufacture of chemicals for the rubber industry	From receipt of raw materials to dispatch of products
Associated Activity	Waste water treatment	Treatment of liquid effluent prior to discharge to controlled water (River Dee). Includes rain water, abstracted water and effluent from other operators on site. Operation involves one bioreactor only.
Associated Activity	Process water treatment	Provision of process and cooling water from extracted river water
Associated Activity	Power house	Steam generation from a CHP unit and package boilers (individual capacities <20MW, aggregated <50MW), electricity generation from the CHP unit. Gas oil combustion: limited to periods specified for use as a stand-by fuel, for periods of natural gas interruption and for test firing.
Associated Activity	Compressed air generation	Provision of compressed air for the site's manufacturing units and in-house nitrogen generation
Associated Activity	Nitrogen generation	Nitrogen generation from a pressure-swing adsorption unit, backed-up by liquid nitrogen in the event of the nitrogen generator failing
Associated Activity	Waste storage	Provision of designated storage areas and segregation for generated waste

3. Condition 1.4.1 shall be amended to:

1.4.1 The operator shall complete the improvements specified in Table 1.4.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Agency within 14 days of the completion of each such requirement.

Table 1.4.1. Improvement programme

Reference	Requirement	Date
49	The operator shall monitor and report on the Waste Water Treatment Plant (WWTP) performance following the closure of the pHBA plant – to include, but not be limited to, nitrate, ammonia and suspended solids in the discharge from W1 and W2 and compliance with the Q2 2007 Manufacturing Schedule described in Appendix 5 of the Additional Information received 7/03/07.	As required by the Environment Agency
50	The operator shall identify "worst case" scenarios for the performance of the WWTP and evaluate measures required to rectify the scenarios. A report shall be sent to the Environment Agency.	31/05/07
51	The operator shall optimise the WWTP performance against nitrate levels and permitted emission limits in the discharge from W1 and W2. Progress reports shall be sent to the Environment Agency	First report 31/10/07 and subsequently as required by the Environment Agency

4. Condition 2.1.1 shall be amended to:

2.1.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the documentation specified in Table 2.1.1, or as otherwise agreed in writing by the Agency in accordance with conditions 1.5.1 and 1.5.2 of the Permit.

Table 2.1.1: Operating techniques

Description	Parts	Date Received
Permit Application	The response to questions 2.1 and 2.2 given in pages 6 - 98 of the application	14/08/03
Variation DP3232MG Application	The response to questions C2.1 and C2.2 given in page 1 of the application	11/12/06
Additional Information	All	26/02/07, 26/02/07, 16/03/07
Additional Information	All	07/03/07

5 Condition 2.2.1.2 shall be amended to:

2.2.1.2 Emissions to air from the emission points in Table 2.2.1 shall only arise from the sources specified in that Table.

Table 2.2.1 : Emission points to air		
Emission point reference or description	**Source**	**Location of emission point**
TMQ PROCESS[1]		
A20/1	Washer Vent Tank Scrubber	Building 502
A20/2	Acetone Feed Tank Scrubber	Building 502
A20/3	Acetone Vent Tank Scrubber	Building 502
A20/4	Azeotrope Condenser Scrubber	Building 502
A20/5	Acetone Scrubber Tank	Building 502
A20/6	Separator Feed Tank	Building 502
A20/7	Recovered Aniline Storage Tank	Building 502
A20/8	Hi-boiler Storage	Building 502
A20/9	No.1 Vacuum Still Ejector Seal Pot	Building 502
A20/10	No.1 Vacuum Still Ejector Scrubber	Building 502
A20/11	11H Polymer Storage	Building 502
A20/12	Single Stage Vacuum Ejector	Building 502
A20/13	11H Polymer Storage Scrubber	Building 502
A20/14	Washer Sample Point Fume Extraction	Building 502
A20/15	No.1 Vacuum Still Flue	Building 502
A20/16	Main Acetone Storage	Road 1
A20/17	No.2 Vacuum Still Ejector Seal Pot	Adjacent Building 423
A20/18	No.2 Vacuum Still Flue	Adjacent Building 423
A20/19	No.2 Vacuum Stil Ejector Exhaust	Adjacent Building 423
A20/20	Santotherm Expansion Tank	Adjacent Building 423 North Side
A20/21	West Polymer Storage	Building 423
A20/22	West Polymer Storage Scrubber	Building 423
A20/23	Pastillator Dust Collector Exhaust	Building 423
A20/24	HCl Storage Scrubber	Road 1
A20/25	North Effluent Settling Tank	Road 5
A20/27	Main Aniline Storage	Road 1
A20/28	No.1 Vacuum Still Sample Point Fume Extraction	Building 502
CAUSTIC STORAGE[1]		
A65/1	47% Caustic Storage Tank	Road 3
A65/2	25% Caustic Storage Tank	Road 3
DPG PROCESS[2]		
A15/1	South Cyanide Storage	Area 596
A15/2	North Cyanide Storage	Area 596
A15/3	Aniline Storage	Area 579
A15/7	Precipitator	Building 521
A15/9	Vac. Pump No.1 for Vac. Belt Filter	Building 521
A15/10	Vac. Pump No.2 for Vac. Belt Filter	Building 521
A15/11	Recycle Slurry Tank	Building 521
A15/12	Dryer & Plant Scrubbers Discharge Stack	Building 521
A15/14	Caustic Scrubber Vac. Ejector Vent	Building 520
A15/15	Effluent Holding Tank & Venturi Scrubber Vent	Adjacent Building 521
A15/17	Absorber Train A Nitrogen Conservation Vent	Building 520
A15/21	Filtrate Tank	Building 520
A15/47	Caustic Scrubber Atmospheric Vent	Building 520
A15/48	HCl Scrubber for In-Plant Storage	Building 520

A15/49	CNCl Effluent Ammonia Water Scrubber	Building 520
A15/50	CNCl Building Scrubber	Building 520
A15/51	Absorber Train B Nitrogen Conservation Vent	Building 520
A15/52	CNCl Effluent Neutraliser Caustic Head Tank	Building 520
A15/53	DPG HCl Scrubber	Building 520
A19/54	Offloading Caustic Scrubber	Area 597
A19/55	Spent Caustic Storage Tank	Area 597
A19/56	Building Scrubber	Area 599
A19/57	Building Scrubber Caustic Hold Tank	Area 599
A29/1	Precipitator & Slurry Tank	Building 509
A29/3	Drier Scrubber	Building 509
A29/4	Mixed Feed Hopper Collector	Building 509
A29/5	Plant Dust Collector	Building 509
A29/6	Bivac System	Building 509
A29/8	Hot Wash Tank	Building 509
A29/9	Filtrate Tank	Building 509
A29/10	Pack-Out Hopper Dust Collector	Building 509
PVI PROCESS[3]		
A50/1	Butoxide Reactor System Vent	Building 696
A50/3	Phthalic Anhydride Weigh Tank Breather	Building 696
A50/4	No.1 Imide Reactor System Conservation Vent	Building 696
A50/5	No.2 Imide Reactor System Conservation Vent	Building 696
A50/6	Imide 1 Solvent Water Separator Conservation Vent	Building 696
A50/7	Imide 2 Solvent Water Separator Conservation Vent	Building 696
A50/8	Imide Solvent Receiver Vent	Building 696
A50/13	No.1 Chlorinator Ejector Vents	Building 696
A50/14	No.2 Chlorinator Ejector Vents	Building 696
A50/16	Butoxide Feed Tank Conservation Vent	Building 696
A50/19	No.1 Glycol Expansion Pot Breathers	Building 696
A50/20	No.2 Glycol Expansion Pot Breathers	Building 696
A50/21	Centrifuge Conservation Vent	Building 696
A50/23	Wet Cake Hopper Vent	Building 696
A50/24	Dryer Process Vent	Building 696
A50/25	Mill Feed Hopper Vent	Building 696
A50/26	Dust Collector Vent	Building 696
A50/27	Butyl Oleate Storage Vent	Tank Farm North of Building 696
A50/30	Cyclohexylmercaptan Carbon Absorption System	Building 696
A50/31	Cyclohexylmercaptan Storage Seal Pot Vent	Tank Farm North of Building 696
A50/33	Ammonia Scrubber Vent	Tank Farm North of Building 696
A50/34	Solvent Storage Conservation Vent	Tank Farm North of Building 696
A50/35	Butanol Storage Conservation Vent	Tank Farm North of Building 696
A50/36	Phthalic Anhydride Storage Scrubber Vent	Tank Farm North of Building 696
A50/37	Residue Storage Conservation Vent	Tank Farm North of Building 696
A50/40	Strong Effluent Sump Vent	North of Building 696
A50/41	Plant Vacuum Cleaning Vent	Building 696
A50/42	H_2S Carbon Bed Abatement System	Building 696
UTILITIES[4]		

A51/1	No.9 Package Boiler	Building 207
A51/2	No.10 Waste Heat Boiler (Gas Turbine)	Building 208
A51/3	No.11 Package Boiler	Building 207
A51/4	No.12 Package Boiler	Building 207
A51/5	Salt Saturator Tank	North of Building 207
A53/1	Kerosene Storage Tank Conservation Vent	East of Building 207
A56/1	Poly Aluminium Chloride Storage Tank Vent	Process Water Treatment Plant
A56/2	Sodium Chlorite Storage Tank Vent	Process Water Treatment Plant
A56/3	Hydrochloric Acid Tank Vent	Process Water Treatment Plant
A59/1	Nitrogen Generator	Building 207
A92/1	Fire Water Pumps – Diesel Storage Tank Vent	North of Building 217
WASTE WATER TREATMENT PLANT (WWTP)[4]		
A71/1	Sludge Handling Odour Extraction System	North of Sludge Handling Tanks
A71/2	Sludge Centrifuge Odour Extraction System	South of Centrifuge Building
A71/3	Sulphuric Acid Storage Tank Vent	Chemical Storage Area
A71/4	Caustic Soda Storage Tank Vent	Chemical Storage Area
A71/5	Phosphoric Acid Storage Tank Vent	Chemical Storage Area
A71/6	Ammonium Hydroxide IBC Vent	Chemical Storage Area

[1] Drg. 88C01023, [2] Drg. 88C01025, [3] Drg. 88C01027 (Rev.B), [4] Drg. 88C01029

6 Condition 2.2.1.3 shall be amended to:

2.2.1.3 The limits for emissions to air for the parameter(s) and emission point(s) set out in Table 2.2.2 shall not be exceeded.

Table 2.2.2 : Emission limits to air and monitoring

Emission point reference	Parameter	Limit (including Reference Period)[1]	Monitoring frequency	Monitoring method
TMQ Process	Acetone		Annually	BS EN 13649
A20/1, A20/6, A20/14, A20/19 A20/25		2000g/h		
DPG Process	Aniline		Quarterly	BS EN 13649
A15/7		25g/h		
A15/12		350g/h		
A29/3		100g/h		
TMQ Process				
A20/13, A20/22		100g/h		
DPG Process	Aniline		Annually	BS EN 13649
A15/9, A15/10		20g/h		
A15/21, A15/51		20g/h		
A15/53, A29/4		5g/h		
A29/1		20g/h		
A29/9		35g/h		
TMQ Process				
A20/1, A20/6, A20/10,A20/14, A20/19, A20/25		100g/h		
PVI Process	n-Butanol		Annually	BS EN 13649
A50/1		1400g/h		
A50/42		900g/h		
PVI Process	White Spirit		Quarterly	BS EN 13649
A50/42		2000g/h		
PVI Process	White Spirit		Annually	BS EN 13649
A50/25		1500g/h		
TMQ Process	VOC[2]		Quarterly	BS EN 13649
A20/10, A20/13		100g/h		
TMQ Process	VOC[2]		Annually	BS EN 13649
A20/1, A20/6, A20/19		100g/h		
DPG Process	Ammonia		Quarterly	VDI 2461
A15/7		75g/h		
DPG Process	Ammonia		Annually	VDI 2461
A15/9, A15/10		60g/h		
A15/21, A29/9		20g/h		
A29/1		40g/h		
PVI Process				
A50/1		100g/h		
A50/6, A50/7		20g/h		
A50/42		200g/h		
PVI Process	Cyclohexylmercaptan		Annually	NIOSH 2542
A50/13, A50/14	(as H_2S)	2mg/m³		
DPG Process	HCN		Annually	NIOSH 7904
A15/53		2g/h		
DPG Process	CNCl		Annually	A measured volume of stack gas is drawn from the stack through
A15/53		2g/h		

				a sorbent tube. The collected samples are solvent desorbed and analysed by GC with an FID detector.
PVI Process A50/42	H_2S	45mg/m³ [3] 5mg/m³	Continuous Annually	Draeger USEPA Method 11

Note 1: See Section 6 of Permit BQ4173 for reference conditions, limits are hourly average

Note 2: VOC refers to TMQ only

Note 3 Average of the values from the two Draeger H_2S monitors on the Carbon Adsorption Fan

7 Condition 2.2.2.5 shall be amended to:

2.2.2.5 Where a substance is specified in Table 2.2.5 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration

Table 2.2.5 : Emission limits to water and monitoring

Emission point reference	Parameter	Limit (including Reference Period)	Monitoring frequency*	Monitoring method
W1, W2*				
	Maximum Flow Rate	92.5l/s	Continuous	On-line electromagnetic flow meter
	Maximum Discharge Volume	8000m³/day	Continuous	On-line electromagnetic flow meter
	pH	Min.6 Max.9	Continuous	On-line pH meter
	Biological Oxygen Demand (BOD) (5 day ATU @20° C)	30mg/l	Annual	Seeding with micro-organisms and measuring dissolved oxygen after 5days
	Chemical Oxygen Demand (COD) (2h)	250mg/l	Weekly	Dichromate oxidation
	Suspended Solids (dried @ 105°C)	90mg/l	Daily	Gravimetric
	Ammoniacal nitrogen (expressed as Nitrogen)	15mg/l	Daily	Ion Selective Electrode
	Free Cyanide	0.05mg/l	Weekly	Free cyanide is complexed and absorbance measured at 600nm
	Total Zinc	0.5mg/l	Weekly	Inductively Coupled Plasma (ICP)
	Total Iron	5.0mg/l	Weekly	ICP
	Chloride (Cl^-)	25000kg/day	Sampling – Daily, Week-day samples are analysed, week-end samples retained until Monday's result determined.	Ion Chromatography
	Total Phenol	0.2mg/l	Sampling and Analysis – as for chloride.	HPLC with electrochemical detector
	Total Tetrachloroethene	2.5µg/l (Note 1)	Sampling – Daily, Week-day samples are analysed, week-end samples retained until Monday's result determined.	Solvent extraction with analysis by GCMS
W3				
	Maximum Flow Rate	70.8l/s	Non-routine discharge	Manual control
	Maximum Discharge Volume	455m³/day		Manual control
	pH	Min.5 Max.10		Manual control

Biological Oxygen Demand (BOD) (5 day ATU @ 20°C	20mg/l	Seeding with micro-organisms an measuring dissolved oxygen after 5days
Chemical Oxygen Demand (COD) (2h)	50mg/l	Dichromate oxidation
Suspended Solids	30mg/l	Gravimetric
Total Phenol	0.5mg/l	HPLC with electrochemical detector

* Monitoring frequencies do not apply to W2

Note 1: Annual average concentration

8 Condition 2.2.8.1 shall be amended to:

2.2.8.1 The Operator shall comply with the requirements specified in Table 2.2.11, which supplement or replace emission limit values in accordance with Regulation 12(8) of the PPC Regulations.

Table 2.2.11 Equivalent parameters and technical measures

Parameter or measure	**Requirement or description of measure, and frequency if relevant**
Gas oil	Limit maximum 0.2% by mass Sulphur (before 1 January 2008) **(Note1)** Limit: maximium 0.1% by mass Sulphur (from 1 January 2008) **(Note1)**

Note1 Reference The Sulphur Content of Liquid Fuels (England and Wales) Regulations 2000

9 Schedule 2 – Reporting of monitoring data shall be amended to:

Parameters for which reports shall be made, in accordance with conditions 4.1.2 and 4.1.3 of this Permit, are listed below.

Table S2: Reporting of monitoring data

Parameter	Emission point	Reporting period	Period begins
Acetone g/h	A20/1, A20/6, A20/14, A20/19, A20/25	Annually	01/01/04
Aniline g/h	A15/7, A15/9, A15/10, A15/12, A15/21, A51/51, A15/53, A29/1, A29/3, A29/4, A29/9, A20/13, A20/1, A20/22, A20/6, A20/10, A20/14, A20/19, A20/25	Annually	01/01/04
n-Butanol g/h	A50/1, A50/42	Annually	01/01/04
White Spirit g/h	A50/25, A50/42	Annually	01/01/04
VOC (TMQ only) g/h	A20/1, A20/6, A20/10, A20/13, A20/19	Annually	01/01/04
Ammonia g/h	A15/7, A15/9, A15/10, A15/21, A29/1, A29/9, A50/1, A50/6, A50/7, A50/42	Annually	01/01/04
Cyclohexylmercaptan (as H_2S) mg/m³	A50/13, A50/14	Annually	01/01/04
HCN g/h	A15/53	Annually	01/01/04
CNCl g/h	A15/53	Annually	01/01/04
H_2S mg/m³	A50/42	Annually	01/01/04
Maximum Flow Rate l/s	W1	Quarterly	31/03/04
Maximum Discharge Volume m³/day	W1	Quarterly	31/03/04
pH	W1	Quarterly	31/03/04
Biological Oxygen Demand (BOD) (5 day ATU @20° C) mg/l	W1	Annually	01/01/04
Chemical Oxygen Demand (COD) (2h) mg/l	W1	Quarterly	31/03/04
Suspended Solids (dried @ 105°C) mg/l	W1	Quarterly	31/03/04
Ammoniacal nitrogen (expressed as Nitrogen) mg/l	W1	Quarterly	31/03/04
Free Cyanide mg/l	W1	Quarterly	31/03/04
Total Zinc mg/l	W1	Quarterly	31/03/04
Total Iron mg/l	W1	Quarterly	31/03/04
Chloride (Cl^-) kg/day	W1	Quarterly	31/03/04
Total Phenol mg/l	W1, Pontcysllte Adit. Tref-y-nant Brook, Factory Boreholes (Middle, South), Brook Culvert Sump, Road Culvert Sump, Rhosymedre Quarry Leachate, Rhosymedre Quarry b/h B3	Quarterly	31/03/04
Total Tetrachloroethene µg/l	W1	Annually	01/01/04
TOC mg/l	Pontcysllte Adit. Tref-y-nant Brook, Factory Boreholes (Middle, South), Brook Culvert Sump, Road Culvert Sump, Rhosymedre Quarry Leachate, Rhosymedre Quarry b/h B3	Quarterly	31/03/04
Micro-pollutants	Pontcysllte Adit. Tref-y-nant Brook, Factory Boreholes	Quarterly	31/03/04

	(Middle, South), Brook Culvert Sump, Road Culvert Sump, Rhosymedre Quarry Leachate, Rhosymedre Quarry b/h B3, River Dee Upstream, River Dee Downstream		
Water usage		Annually	01/01/04
Energy usage		Annually	01/01/04
Waste disposal		Annually	01/01/04

SCHEDULE C-CONDITIONS TO BE ADDED

10 Condition 2.1.3 to be added:

2.1.3 The total period for which gas oil can be used as a stand-by fuel in the gas turbine and boilers Nos. 11 and 12 shall not exceed 500 hours in any given contract year. This allowance shall not be taken to affect the following permissible periods: gas oil use during periods of interruption to the gas supply to the installation; and scheduled test firing on gas oil for inspection or maintenance purposes.