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CONSENT NO.	CG0341601
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Asiantaeth yr
Amgylchedd Cymru
Environment
Agency Wales

WATER RESOURCES ACT 1991

SECTION 88 - SCHEDULE 10

(AS AMENDED BY THE ENVIRONMENT ACT 1995)

NOTICE OF MODIFICATION OF CONSENT TO DISCHARGE

TO: Environment Quality Scientist
Dŵr Cymru Cyf.
Pentwyn Road
Nelson
Treharris
Mid Glamorgan CF46 6LY



CG0341601_2006_03_06

Following a review of the conditions of its consent, the **ENVIRONMENT AGENCY** ("The Agency") in pursuance of its powers under the Water Resources Act 1991 **HEREBY MODIFIES ITS CONSENT** to the making of a discharge **OF SEWAGE EFFLUENT**, as follows:

Secondary Treated Sewage Effluent with Ultraviolet Disinfection, incorporating the requirements of the Urban Wastewater Treatment Regulations 1994
with respect to Modification of Consent No. CG0341601 issued on the 19th day of December 2002 and subsequent Modification Notice issued on the 6th day of February 2003

FROM: CRICCIETH WASTEWATER TREATMENT WORKS

AT: CRICCIETH, GWYNEDD

TO: TREMADOG BAY


HEREAFTER SUBJECT TO the conditions set out in the following schedule(s):

Secondary Treated Sewage Effluent with ultraviolet disinfection Schedule No. CG0341601 01

Urban Wastewater Treatment Regulations 1994 Schedule No. CG0341601 01/U

Subject to the provisions of Paragraphs 7 and 8 of Schedule 10 of the Water Resources Act 1991, no notice shall be served by the Agency, which alters the effect of modifications made by this notice, without the agreement in writing of the consent holder, during a period of 4 years from the date this notice is served.

Dated this 31st day of December 2005

Signed.....
IWAN WILLIAMS
Regulatory Water Quality Team Leader

Asiantaeth yr Amgylchedd
Ffordd Caer, Bwcle, Sir Flint CH7 3AJ Ffon 08708 506506 Ffacs 01244 550144

Environment Agency
Chester Road, Buckley, Flintshire CH7 3AJ Tel 08708 506506 Fax 01244 550144



CONSENT NO.	CG0341601
SCHEDULE NO.	CG0341601 01
DATED	31st December 2005

CONDITIONS OF CONSENT TO DISCHARGE

Secondary treated sewage effluent with ultraviolet disinfection ("the Discharge")

FROM: Criccieth Wastewater Treatment Works

NATURE

1. (a) The Discharge shall consist solely of secondary treated sewage effluent which, during the periods specified in condition 1 (b) of this consent, has been disinfected by means of ultra violet (UV) irradiation. For the purpose of this consent, "disinfection" is defined as the use of a process designed specifically to reduce the number of viable, potentially infectious micro-organisms in the effluent.
- (b) The disinfection of the effluent by means of UV irradiation is required for the period 30th April to 30th September inclusive each year.
- (c) The discharge shall be disinfected by means of UV irradiation from an artificial source with at least 85% of the available radiation emitted in the wavelength range 250 to 260 nm. An applied UV dose of 32 mJ/cm² (calculated at UV transmittance of 45%) must be exceeded subject to conditions 1 (d) and 1 (e) during the period specified in condition 1 (b) above of this consent.
- (c) The applied UV dose must exceed the limit set out in condition 1 (c) for at least 99% of the measurements as required by condition 18 (b) I b) in the time period specified in condition 1 (b).
- (d) No more than 10% of measurements taken consecutively during any 24 hour period from midnight to midnight should fall below 16 mJ/cm².
- (e) The period(s) when the applied UV dose limit is less than the limit set out in condition 1 (c) shall not be used by the Consent Holder for the maintenance of the UV plant. Maintenance is defined in the UV Code of Practice attached to this Consent.



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FAILURE OF UV MEASUREMENT SYSTEMS

2. In the event of failure of the flow monitor used in the control of the UV dosing system:
 - (a) the maximum available number of duty banks of UV lamps shall be automatically activated;
 - (b) the minimum applied UV dose at maximum effluent flow rates at a calculated UV transmittance (at 254nm) of 45 %, shall not be less than 32 mJ/cm²

LOCATION

3. The Discharge shall be made in the manner and at the place specified as:
 - (a) discharging via a 250 millimetre (mm) diameter pipe which extends to 674 metres below the high waters mean spring mark terminating with a diffuser section consisting of 4 ports (of sizes 95 mm, 105 mm, 115 mm and 125 mm increasing in diameter towards the end of the pipe) and spaced at 5.3 metre intervals;
 - (b) discharging to the Tremadog Bay;
 - (c) at National Grid Reference SH 48640 36850;
 - (d) shown marked 'Consent Point' on Plan No. CG0341601 (i) attached as Annex 3.

SAMPLE POINT

4. An appropriately labelled sample point shall be provided and maintained at National Grid Reference SH 48814 37954, as shown marked 'Discharge Sample point' on the Plan CG0341601 (ii) attached as Annex 3, or some other point as agreed in writing with the Agency, so that a representative sample of the Discharge may be obtained. The Consent Holder shall ensure that all constituents of the Discharge pass through the said sampling point at all times and in any legal proceedings it shall, for the purposes of Section 10 of the Rivers (Prevention of Pollution) Act 1961, be presumed, until the contrary is shown, that any sample of the Discharge taken at the said sampling point is a sample of what was being discharged into controlled waters.



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VOLUME

5. The volume of the Discharge shall not exceed 2830 cubic metres per day.
6. The Dry Weather Flow of the Discharge shall not exceed 1387 cubic metres per day.

For the purpose of this condition Dry Weather Flow shall mean the average daily flow to the treatment works during seven consecutive days without rain (excluding a period which includes public holidays) following seven days during which the rainfall did not exceed 0.25 millimetres on any one day.

7. The rate of discharge shall not exceed 58 litres per second.

FLOW MEASUREMENT

8. A continuous flow measurement and recording system, to a specification provided by the Agency, shall be provided and operated to record the total daily volume, and the instantaneous or 15-minute integrated flow every 15 minutes of the discharge. An on-site visual display from which instantaneous or 15-minute integrated flow readings can be readily obtained by the Agency shall be provided and operated. The Consent Holder shall hold records of the flow readings.
9. As soon as practicable after completion of the flow system installation and subsequently on the expiry of any certificate issued, the Consent Holder shall employ an independent expert to certify that the installation and its quality management system complies with the Agency's specification. The independent expert shall be accredited to a competency scheme approved by the Agency. A copy of the certificate shall be sent to the Agency and the certifier's report shall be provided to the Agency on request. If a certificate issued for a flow system has no expiry date included then the certificate shall be deemed to expire five years after the issue date of the certificate.
10. The Consent Holder shall produce and maintain a documented quality management system, approved by the independent expert and to the satisfaction of the Agency, specifying procedures for the calibration, operation and maintenance of the flow measurement equipment. The flow measurement equipment shall be calibrated, operated and maintained by the Consent Holder in accordance with the provisions of the QMS. The Consent Holder shall keep a record of these procedures available for inspection by the Agency and provide a copy to the Agency on request.



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11. The Consent Holder shall record all failures of the continuous flow measurement system and any other breaks in the flow record. The reasons for all significant failures and breaks, which lead to missing or suspect data, and all steps taken to prevent a re-occurrence shall be recorded and details shall be provided to the Agency on request. A failure or break is significant for the purposes of this condition if it prevents the calculation of the total daily volume to the required level of uncertainty. The Consent Holder shall ensure that as far as possible the recorder remains fully operational at all times. Any failures shall be remedied as soon as possible.
12. Records of the flow readings or the reasons for any breaks in the record, as described in condition 11 above, shall be provided to the Agency when requested, in a format specified by the Agency.
13. Flows of the discharge shall be measured at location NGR SH 48842 37980, or such other point as is agreed by the Agency.

COMPOSITION

14. (a) Subject to paragraph (b) below, the Discharge shall not contain more than;
 - (i) 50 milligrammes per litre of biochemical oxygen demand (measured after 5 days at 20⁰ C with nitrification suppressed by the addition of allyl-thiourea)
 - (ii) 60 milligrammes per litre of suspended solids (measured after drying at 105⁰C);
- (b) The limit for any of the relevant parameters set out in paragraph (a) above may be exceeded where, in any series of samples of the Discharge taken at regular but randomised intervals in any period of twelve consecutive months as listed in Column 1 of the table at Annex 1 to this consent, no more than the relevant number of samples, as listed in Column 2 of the said table, exceed the applicable limit for that relevant parameter.



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WORKS OPERATION

15. The works shall be operated and the effluent shall be treated in a manner which, so far as reasonably practicable, minimises the polluting effects of the discharge made from the works on controlled waters.

This condition does not require -

- (a) any higher standard to be achieved in relation to any characteristic of the discharge which is specifically regulated by condition 14 than is required by that condition;
- (b) any alteration of the works or a change in the type of treatment used.

MAINTENANCE

16. (a) The Consent Holder shall maintain the outfall pipe and diffusers in an efficient operational condition, so as to minimise the probability of blockages or other failures, and shall implement periodic inspections of the integrity and performance of the diffusers and outfall pipe.
- (b) On request the Consent Holder shall supply the Agency with a written report on the maintenance and all non-routine actions undertaken.

UNUSUAL WEATHER CONDITIONS

17. (a) No sample of the discharge, taken at a time when unusual weather conditions are adversely affecting the operation of the sewage treatment works, shall be taken into account in deciding whether or not conditions 14 and 15 of this consent schedule have been complied with.
- (b) For the purpose of this condition "unusual weather conditions" shall include:
- (i) low ambient temperatures as evidenced by effluent temperatures of 5°C or less, or by the freezing of mechanical equipment in the works;
 - (ii) significant snow deposits;



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- (iii) tidal or fluvial flooding;
- (iv) weather conditions causing unforeseen loss of power supply to the sewage treatment which could not be ameliorated by the reasonable provision and operation of standby generation facilities.
- (c) On any occasion where unusual weather conditions adversely affect the operation of the sewage treatment works, the Consent Holder shall use its best endeavours to mitigate that adverse affect.
- (d) For a sample of the discharge to be considered for the purposes of (a) above, the Consent Holder shall notify the Agency by telefax or telephone as soon as unusual weather conditions are known to have adversely affected operations and shall confirm the circumstances in writing as soon as possible thereafter (and in any event within 14 days of the occurrence of such conditions). That notification shall include a full description of the unusual weather conditions and their impact on the operation of the works.

RECORDING AND REPORTING

- 18. (a) **MAINTENANCE PROGRAMME**
 - I. The Consent Holder shall establish and operate a documented maintenance programme including the method and frequency of cleaning and replacement of UV lamps and flow meters, and record all non-routine actions undertaken that may have adversely affected effluent quality. Details of the maintenance programme shall be provided to the Agency for agreement. Copies of the programme shall be made available for inspection by the Agency's officers at all reasonable times.
 - II. The Consent Holder shall keep records of the maintenance undertaken (both routine and non-routine). Copies of these records shall be maintained by the Consent Holder and kept available for inspection by the Agency's officers at all reasonable times.
 - III. On request, the Consent Holder shall supply the Agency with a written report on the maintenance, and all non-routine actions that may have adversely affected effluent quality.



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(b) UV PROCESS MONITORING AND REPORTING

- I. Continuous recorders, with on-site visual display from which readings may be readily obtained, shall be provided and maintained by the Consent Holder enabling the following to be measured and recorded at 15 minute intervals:
 - a) the instantaneous flow rate through each UV irradiation channel
 - b) the instantaneous applied UV dose for each UV irradiation channel
 - c) any other parameters used in calculating the UV dose
- II. Copies of the records shall be maintained by the Consent Holder for a minimum of 2 years or such longer time as the Agency may from time to time specify and be kept at a nominated place available for inspection by the Agency's officers at all reasonable times.
- III. The Consent Holder shall supply to the Agency, 2 months in arrears, in a format specified by the Agency, on a three-monthly basis, the records of the readings specified in condition 18 (b) I.

(c) EXCEPTION REPORTS

The Consent Holder shall supply to the Agency at three monthly intervals, or upon request, a written report, detailing all occurrences where, at any time during the preceding disinfection period, as specified in condition 1 (b) above:

- I. there were any failures of any measurement system used to control the UV dosing system
- II. the external power supply to the UV disinfection system was interrupted
- III. a Discharge of sewage effluent was made which had not been subjected to the required UV dose as specified in conditions 1 (e) and 2 of this consent.



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- (c) A discharge of trade effluent into the works is altered if -
- (i) it is made by the sewerage undertaker and its composition or quantity changes significantly on or after the date of modification of this consent; or
 - (ii) it is made by a third party and the alteration of the discharge is authorised on or after that date.
- (d) An increase in the polluting effects of the discharge on controlled waters is not significant for the purposes of this condition if it relates to any characteristics of the discharge which are specifically regulated by condition 14 of this consent schedule but it may be significant if it is caused by a change in some other characteristic of the discharge.
- (e) For the purposes of this condition “trade effluent” means -
- (i) any discharge by the sewerage undertaker other than
 - (1) domestic sewage from premises connected directly or indirectly to the works; or
 - (2) surface water run-off;
 - (ii) any discharge by a third party which is authorised under Chapter III of Part IV of the Water Industry Act 1991 or which is only accepted as a result of a contract with the sewerage undertaker.

UNAUTHORISED DISCHARGES

21. (a) A discharge made from the works shall not contain any poisonous, noxious or polluting matter or solid waste matter which is attributable to any unauthorised discharge into the works.
- (b) A discharge into the works is unauthorised if it is made by a third party and either there is no obligation to receive it or conditions subject to which there is an obligation to receive it are not observed.



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III. Other determinands and frequencies

The measurement of all determinands below shall coincide with the measurement of microbial determinands. At each sample point, samples for analysis should be sub-sampled from a single bulk sample. Where this cannot be achieved, the sampling regime shall be clearly recorded.

- a) The flow through each UV irradiation channel shall be measured.
- b) The applied dose shall be recorded in each UV irradiation channel.
- c) The measured UV transmittance at 254nm in the channel shall be measured by laboratory analysis of samples collected from sample point B or C.
- d) Suspended solids shall be measured at sample point B or C.
- e) BOD (ATU) shall be measured at sample point B or C.

19. The Consent Holder shall notify the Agency in writing if any known or planned introduction or material change in respect of discharges from trade premises to the sewerage system occurs, that may increase or introduce into the effluent any "dangerous substance" (set out in Annex 2 to this notice as updated from time to time and notified to the Consent Holder in writing), and any other substance considered by the Consent Holder as having or likely to have a significant effect on the receiving waters.

SUBSTANTIAL CHANGE

20. (a) A discharge shall not be made from the works if it would cause a significant increase in the polluting effects of the discharge on controlled waters as a result of a new or altered discharge of trade effluent into the works.
- (b) A discharge of trade effluent into the works is new if -
- (i) it is made by the sewerage undertaker and is of a kind not made into the works by the undertaker immediately before the date of effect of this consent; or
 - (ii) it is made by a third party and the discharge is authorised on or after that date.



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- (c) A discharge of trade effluent into the works is altered if -
- (i) it is made by the sewerage undertaker and its composition or quantity changes significantly on or after the date of modification of this consent; or
 - (ii) it is made by a third party and the alteration of the discharge is authorised on or after that date.
- (d) An increase in the polluting effects of the discharge on controlled waters is not significant for the purposes of this condition if it relates to any characteristics of the discharge which are specifically regulated by condition 14 of this consent schedule but it may be significant if it is caused by a change in some other characteristic of the discharge.
- (e) For the purposes of this condition “trade effluent” means -
- (i) any discharge by the sewerage undertaker other than
 - (1) domestic sewage from premises connected directly or indirectly to the works; or
 - (2) surface water run-off;
 - (ii) any discharge by a third party which is authorised under Chapter III of Part IV of the Water Industry Act 1991 or which is only accepted as a result of a contract with the sewerage undertaker.

UNAUTHORISED DISCHARGES

21. (a) A discharge made from the works shall not contain any poisonous, noxious or polluting matter or solid waste matter which is attributable to any unauthorised discharge into the works.
- (b) A discharge into the works is unauthorised if it is made by a third party and either there is no obligation to receive it or conditions subject to which there is an obligation to receive it are not observed.
- (c) Nothing in this, or any other, condition of this consent prevents anyone from relying on any defence available to them under Section 87 of the Water Resources Act 1991.



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TELEMETRY

22. A telemetry alarm system connected to a 24-hour manned station shall be provided and maintained by the Consent Holder to provide a warning in the event that:
- (a) the external power supply to the UV disinfection system has been interrupted;
 - (b) failure of any measurement system used to control the UV dosing system has occurred;
 - (c) a Discharge of sewage effluent has occurred which has not been subjected to the required UV dose as specified in conditions 1(d) and 2 of this consent.

EMERGENCY NOTIFICATION

23. The Consent Holder shall notify the Agency in the event of a Discharge of sewage effluent which has not been subjected to the required UV dose as specified in conditions 1(e) and 2 of this consent, or of power failure causing loss of secondary treatment. Such notification must be made as soon as practicable and no later than 24 hours after the event, and shall detail the reasons why the situation occurred, and the actions taken by the Consent Holder.

POWER

24. Full stand-by power generation facilities shall be provided and maintained by the Consent Holder in good working order to enable automatic resumption of power to the UV disinfection system in the event of external power supply failure to the UV disinfection plant.



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SCHEDULE NO.	CG0341601 01/U
DATED	31st December 2005

CONDITIONS OF CONSENT TO DISCHARGE

Urban Wastewater Treatment Regulations 1994, as applied to:

Secondary treated sewage effluent with ultraviolet disinfection ("the Discharge")

FROM: Criccieth Wastewater Treatment Works

- U0**
- (a) The Consent Holder shall comply with the Urban Waste Water Treatment (England and Wales) Regulations 1994 ('the Regulations')
 - (b) For the purpose of condition U1 below, interpretations and references to a numbered regulation of Schedule shall have the meaning as in the Regulations, unless otherwise indicated.
- U1**
- (a) The Discharge derives from an agglomeration with a population equivalent of less than 10,000 discharging to coastal waters.
 - (b) The Consent Holder shall inform the Agency in writing of any change, or proposed change, to the population equivalent such as would make a material change to the application of the Regulations and shall, on request, inform the Agency in writing of the actual population equivalent.
 - (c) The Discharge shall be subject to Regulation 5(7) and shall satisfy the requirements of Regulation 5(8)(a).

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Annex 1

'LOOK UP TABLE'

<u>Column 1</u>	<u>Column 2</u>
Number of samples taken in any period of 12 months	Maximum number of samples permitted to exceed limit for given determinand
4-7	1
8-16	2
17-28	3
29-40	4
41-53	5
54-67	6
68-81	7
82-95	8
96-110	9
111-125	10
126-140	11
141-155	12
156-171	13
172-187	14
188-203	15
204-219	16
220-235	17
236-251	18
252-268	19
269-284	20
285-300	21
301-317	22
318-334	23
335-350	24
351-365	25

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Annex 2

- | | |
|--|------------------------------|
| 1. Mercury and its compounds | 2. Cadmium and its compounds |
| 3. Hexachlorocyclohexane
(lindane and related compounds) | 4. Carbon tetrachloride |
| 5. DDT (the isomers of 1,1,1-trichloro-2,2 bis{p-chlorophenyl} ethane) | |
| 6. Pentachlorophenol (PCP) | 7. Aldrin |
| 8. Dieldrin | 9. Endrin |
| 10. Isodrin | 11. Hexachlorobenzene (HCB) |
| 12. Hexachlorobutadiene (HCBd) | 13. Chloroform |
| 14. Polychlorinated biphenyls | 15. Dichlorvos |
| 16. 1,2-Dichloroethane | 17. Trichlorobenzene |
| 18. Atrazine | 19. Simazine |
| 20. Tributyltin compounds | 21. Triphenyltin compounds |
| 22. Trifluralin | 23. Fenitrothion |
| 24. Azinphos-methyl | 25. Malathion |
| 26. Endosulfan | 27. Lead |
| 28. Chromium | 29. Zinc |
| 30. Copper | 31. Nickel |
| 32. Arsenic | 33. *Iron |
| 34. *pH if outside the range 5.5 to 9.0 | 35. *Boron |
| 36. Vanadium | 37. PCSD'S |
| 38. Cyfluthrin | 39. Sulcofuron |
| 40. Flucifuron | 41. Permethrin |
| 42. 4-Chloro-3-methyl-phenol | 43. 2-Chlorophenol |
| 44. 2,4-Dichlorophenol | 45. 2,4-D (ester) |
| 46. 2,4-D (non ester) | 47. 1,1,1-Trichloroethane |
| 48. 1,1,2-Trichloroethane | 49. Bentazone |
| 50. Benzene | 51. Biphenyl |
| 52. Chloronitrotoluenes | 53. Demeton |
| 54. Dimethoate | 55. Linuron |
| 56. MCPA | 57. Mecoprop |
| 58. Mevinphos | 59. Napthalene |
| 60. Omethoate | 61. Toluene |
| 62. Triazophos | 63. Xylene |
| 64. Cyanide | 65. Azinphos-ethyl |
| 66. Fenthion | 67. Parathion |
| 68. Parathion-methyl | 69. Trichloroethylene |
| 70. Tetrachloroethylene | 71. Dioxins |
| 72. PAHs | 73. Nonyl phenol |
| 74. Nonyl phenyl ethoxylate | 75. Di-ethylhexyl phthalate |
| 76. Bisphenol-A | 77. Diazinon |
| 78. Chlorfenvinphos | 79. Chlorotoluron |
| 80. Isoproturon | 81. Diuron |
| 82. Propetamphos | 83. Flumethrin |
| 84. Amitraz | 85. High-Cis Cypermethrin |
| 86. Cyromazine | 87. Deltamethrin |
| 88. Cypermethrin | |

This list is applicable as at 1 December 1998 and will be updated as and when changes to the relevant legislative requirements occur.

*Notification to the Agency by the Consent holder is only required in respect of changes to trade effluents likely to cause significant changes to the pH value, and/or iron or boron concentrations, of the crude sewage.

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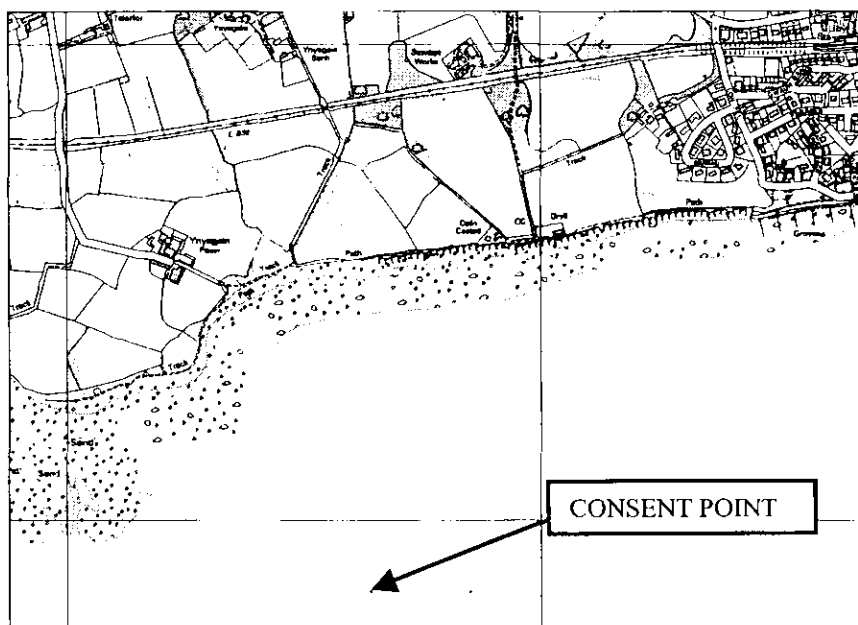


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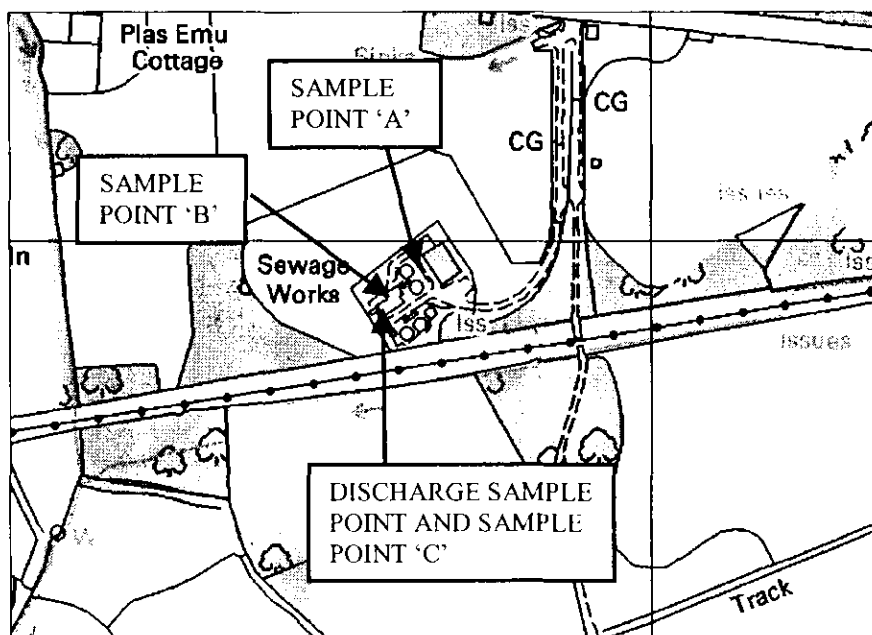
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Annex 3

Plan No. CG0341601 (i)



Plan No. CG0341601 (ii)



NOT TO SCALE



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APPENDIX

UV code of practice

The UV disinfection system shall be provided and maintained to ensure that its hydraulic characteristics and the path length of UV irradiation are such that, during the required period of disinfection, the effluent is subjected to the UV dose rate specified in the consent.

The UV disinfection system and stand-by power facilities shall be operated so as to minimise the frequency and duration of an emergency discharge of sewage effluent which has not been subjected to the required UV dose (as specified in the consent).

The applied and received UV dose (as defined in the Calculation of UV dose) shall be determined from:

- 1) the flow rate of effluent through the UV disinfection system (l/s),
- 2) the reactor volume,
- 3) the theoretical UV intensity at end of lamp life at an assumed transmittance for the effluent (at 254 nm) of 45%

Maintenance

- a) A maintenance programme, including the method and frequency of cleaning and replacement of the UV lamps/ UV radiation monitors, shall be undertaken by the Consent Holder as agreed in writing with the Agency.
- b) Any failure to meet the requirements of the agreed maintenance programme shall be advised to the Agency as soon as practicable and a report providing an explanation of the circumstances provided to the Agency within 2 weeks.
- c) The Consent Holder shall keep records of the maintenance undertaken (both programmed and un-programmed) and shall include the measured UV intensity readings immediately before and immediately after each UV lamp / UV monitor cleaning or replacement. Copies of these records shall be maintained by the Consent Holder and kept available for inspection by the Agency's officers at all reasonable times.



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APPENDIX

Definitions

For each bank of UV lamps, UV dose is defined as the product of UV light intensity (impacting on wastewater passing through the bank) and the retention time (of wastewater passing through the bank).

For the purposes of consent, the following terms are defined for each UV irradiation bank:

“reactor volume”

is the volume of wastewater in the bank at any given time;

“adjusted retention time”

is the reactor volume divided by the measured rate of flow through the UV bank;

“measured UV intensity”

is the average UV intensity (at 254 nm) for the effluent measured (at positions within the reactors agreed with the Agency in writing) for each operating bank of UV lamps.

“theoretical UV intensity”

is the predicted average UV intensity across the reactor volumes, being delivered by the operating lamps at the UV transmittance of 45% (as agreed with the Agency in writing) for the effluent (at 254nm - predicted from the rated output (mW) of the UV lamps at end of lamp life (cleaned) which are energised);

Calculations

$$\text{i. Received UV Dose per bank (mJ/cm}^2\text{)} = \text{Measured UV intensity (mW/cm}^2\text{)} \times \text{Adjusted retention time (s)}$$

$$\text{ii. Applied UV Dose per bank (mJ/cm}^2\text{)} = \text{Theoretical UV Intensity (mW/cm}^2\text{)} \times \text{Adjusted Retention Time (s)}$$

The UV dose (Applied or Received) for each channel is the sum of the UV doses for each operational bank in the channel.

The method of measuring / estimating UV intensity at this site must be clearly defined.



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Mr Iwan Hughes
Water Quality
Environment Agency
Chester Road
Buckley
Flintshire
CH7 4AJ

Dyddiad/Date:
22 December 2005

Ynholiadu/Enquiries:
JP Edwards
Tel: 01244 661628

Ein Cyf./Our Ref:
Dinas WwTW
Eich Cyf./Your Ref:

Dear Iwan

Just to confirm that DCWW agree to waiver the Hands off period to enable the EA to modify the following consents as discussed in the meeting of 22 December 2005
Many I take this opportunity to thank you for spending time with Nina Jones and myself to go through the draft consent mods in such detail.

CG0144801 Abersoch WwTW
CG0341601 Criccieth WwTW
CM0058401 Flint WwTW
CG0377601 Ganol WwTW
CM0014201 Heswall WwTW
CM0055401 Llanasa WwTW
CM0069001 Neston WwTW
CG0051701 Porthmadog WwTW
CG0362401 Pwllhelli WwTW
CM0082201 Queensferry WwTW
CG014401 Rhosneigr WwTW
CM0082501 Rhuddlan WwTW
CM0078101 St Asaph WwTW
CG0366001 Treborth WwTW
CG0351401 Tywyn WwTW

Yours sincerely

JP EDWARDS
Environmental Performance Manager

glas
Glas Cymru Cyfngedig

We welcome correspondence in Welsh and English
Rydym yn croeseisio gohebiaeth yn y Gymraeg neu yn Saesneg

Welsh Water is owned by Glas Cymru - a "not-for-profit" company
Mae Dŵr Cymru yn eiddo 'Glas Cymru' - cwmni nad yw'n gwneud oŵ

Dŵr Cymru Cyf, a limited company registered in
Wales no. 2386777. Registered office: Pentwyn Road,
Nelson, Trehamis, Mid Glamorgan CF46 6LY

Dŵr Cymru Cyf, cwmni cyfyngedig wedi'i gofrestru yng
Nghymru rhif 2386777. Swyddfa gofrestru: Heol Pentwyn,
Nelson, Trehamis, Morgannwg Ganol CF46 6LY

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Asiantaeth yr
Amgylchedd Cymru
Environment
Agency Wales

Dwr Cymru Cyfyngedig
Pentwyn Road
Nelson
Treharris
Mid Glamorgan
CF46 6LY

Ein cyf/Our ref: IH/LA/various231205

Eich cyf/Your ref:

Dyddiad/Date: 23rd December 2005

**FAO MS JAN EDWARDS
ENVIRONMENTAL QUALITY SCIENTIST**

Dear Ms Edwards,

**WATER RESOURCES ACT 1991, SCHEDULE 10 (AS AMENDED BY THE
ENVIRONMENT ACT 1995) CONSENT TO DISCHARGE SEWAGE EFFLUENT
FROM THE FOLLOWING LOCATIONS:**

Abersoch - CG0144801
Criccieth - CG0341601
Flint - CM0058401
Ganol - CG0377601
Heswall - CM0014201
Llanasa - CM0055401
Neston - CM0069001
P rthmadog - CG0051701

Pwllheli - CG0362401
Queensferry - CM0082201
Rhosneigr - CG0144401
Rhuddlan - CM0082501
St Asaph - CM0078101
Treborth - CG0366001
Tywyn - CG0351401

I enclose the Agency's formal consent to discharge sewage effluent from the locations listed above.

Under the present Scheme of Charges for Discharges to Controlled Waters an annual charge will be made for all consents to discharge, except where the discharge is of sewage effluent of five cubic metres or less per day. The charge is based on information derived from the conditions attached to the consent to discharge, as outlined in the enclosed leaflet.

If you consider that the conditions imposed by the consent are unreasonable you have a right of appeal to National Assembly for Wales at Cathays Park, Cardiff CF10 3NQ.

Notice of an appeal must be given in writing within three months of this notification and must be accompanied by a statement of the grounds of appeal.

If granted, a consent under Schedule 10 of the Act, covers water quality considerations only. It does not alter the need to obtain any other consents or



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Amgylchedd Cymru
Environment
Agency Wales

approvals which might be required in connection with your proposal under other legislation. For example it does not give any right or permission to discharge where land is not owned by the applicant.

Please take careful note that if the holder of the consent changes, you must inform the Agency IN WRITING as soon as possible of the name of the new holder. This is to ensure that the rights and charges associated with the Consent are transferred to the new holder. A Certificate of Holder notice will be sent to you shortly which is designed for this purpose, and should be kept safely with the Consent until required.

If you have any queries regarding the enforcement of this consent, please do not hesitate to contact Iwan Williams, Regulatory Team Leader (Water Quality), Environment Agency Wales, Chester Road, Buckley, Flintshire, CH7 3AJ.

Yours sincerely,

Armitage

PP **VICKY MATTHEWS**
CUSTOMER CONTACT & AUTHORISATIONS OFFICER

Llinell uniongyrchol/Direct dial: 01244 894502
Ffacs uniongyrchol/Direct fax: 01244 550144
E-bost uniongyrchol/Direct e-mail: vicky.matthews@environment-agency.gov.uk

Water Resources Act 1991

as amended by the Environment Act 1995



ASiantaeth Yr
AMGylchedd Cymru
ENVIRONMENT
AGENCY WALES

Consents to Discharge

Certificate of Holder

Part A

To : DWR CYMRU CYFYNGEDIG
PENTWYN ROAD
NELSON
TREHARRIS
MID GLAMORGAN CF46 6LY

NB: For a body corporate the job title is a point of contact.

Holder Start Date : 06 February 2003

The Environment Agency ("the Agency") hereby confirm that the above named person (or organisation) is a / the registered Holder of the Consent : CG0341601 Consent Issued : 06 February 2003

Nature of Discharge(s) STEC Sewage effluent

at SH4864036850 CRICCIETH STW (SETTLED STORM) , ,

Note : This certificate should be kept with the consent document for future reference. If you transfer responsibility for the discharge to somebody else, you must pass the consent to them and tell the Agency within 21 days. Responsibility for the consent cannot be disclaimed by the Holder but the registration of Holder may be transferred to a successor. To do this, please complete the form below (Part B), then tear it off and return it to the address shown. If you fail to transfer the consent, even though you are no longer on the site, you will still be liable for prosecution for pollution. If you transfer the consent but do not tell us, you will be committing an offence. In case of any queries, please contact your local Environment Agency office, quoting the Consent Reference.

----- cut here -----

Part B

Please complete in block capitals or type

To : Water Resources Act 1991 : Notice of transfer of Consent to Discharge

Consent Reference : CG0341601

Name : DWR CYMRU CYFYNGEDIG

Consent Issued : 06 February 2003

Address : PENTWYN ROAD

NELSON

TREHARRIS

MID GLAMORGAN CF46 6LY

I / We* hereby serve notice on the Agency that I / we* am / are* no longer a / the* Holder of the above consent which will be / was* transferred to :

* delete as appropriate

Name(s) of the new Holder(s) :

Post Code :

Date of Transfer to new Holder(s)

Signed :

Dated :

Name (block capitals) :

Position (if appropriate) :

(to be completed when signing on behalf of corporate bodies)



Caniatâd Gollwng

Tystysgrif Daliwr

Rhan A

**At: DWR CYMRU CYFYNGEDIG
PENTWYN ROAD
NELSON
TREHARRIS
MID GLAMORGAN CF46 6LY**

DS: I gorfforaeth gorfforedig mae teitl y swydd yn bwynt cysylltu.

Dyddiad Cychwyn y Daliwr : 6 Chwefror 2003

Mae Asiantaeth yr Amgylchedd ("yr Asiantaeth") yn cadarnhau drwy hyn mai / bod y sawl (neu sefydliad) a enwyd uchod yw / yn ddaliwr cofrestredig y caniatâd : CG0341601 Cyhoeddwyd y Caniatâd : 6 Chwefror 2003

**Natur y Gollyngiad(au) : STEC Carthffrwd
yn SH4864036850 CRICCIETH STW (SETTLED STORM) ,,**

Noder : Dylid cadw'r dystysgrif hon gyda'r ddogfen ganiatâd i gyfeirio ati yn y dyfodol. Os byddwch yn trosglwyddo cyfrifoldeb am y gollyngiad i rywun arall, rhaid i chi drosglwyddo'r caniatâd iddo ef neu hi a dweud wrth yr Asiantaeth cyn pen 21 diwrnod. Ni all y Daliwr wadu cyfrifoldeb am y caniatâd, ond gall cofrestriad y Daliwr gael ei drosglwyddo i olynnydd. I wneud hynny, byddwch gystal â llenwi'r ffurflen isod (Rhan B), yna'i dychwelyd i'r cyfeiriad a nodir. Os fethwch â throsglwyddo'r caniatâd, hyd yn oed os nad ydych ar y safle mwyach, gallwch gael eich erlyn am achosi llygredd. Os trosglwyddwch y caniatâd ond heb ddweud wrthym, yna byddwch yn cyflawni trosedd. Os bydd gennych unrhyw ymholiadau a fydddech gystal â chysylltu â'ch swyddfa Asiantaeth yr Amgylchedd lleol, gan ddyfynnu Cyfeirnod y Caniatâd.

-torrwrch yma -

Rhan B

Llenwch mewn priflythrennau bras neu deipio

At: Deddf Adnoddau Dwr 1991 : Hysbysiad am drosglwyddo Caniatâd Gollwng

Cyfeirnod y Caniatâd : CG0341601

Enw : DWR CYMRU CYFYNGEDIG

**Cyhoeddwyd y 6 Chwefror 2003
Caniatâd :**

Cyfeiriad : PENTWYN ROAD

NELSON

TREHARRIS

MID GLAMORGAN CF46 6LY

Yr wyf fi / Yr ydym ni drwy hyn yn hysbysu'r Asiantaeth nad fi / ni mwyach yw* Daliwr / Deiliaid y caniatâd uchod a fydd yn cael / cafodd ei drosglwyddo i*

** dilêr fel yn briodol*

Enw(au) y Daliwr / Deiliaid newydd :

Côd Post :

Dyddiad Trosglwyddo i'r Daliwr / Deiliaid newydd :

Llofnodwyd :

Dyddiedig :

Enw (priflythrennau bras) :

Swydd (os yn briodol) :

(i'w lenwi pan yn llofnodi ar ran corfforaethau corfforedig)

COPY



ASiantaeth YR
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

Ein cyf/Our ref. RP/WP/CG0341601

Dyddiad/Date: 6th February 2003

Environment Quality Scientist
Dwr Cymru Cyfyngedig
Pentwyn Road
Nelson
Treharris
Mid Glamorgan
CF46 6LY

Dear Sir/Madam,

RE: WATER RESOURCES ACT 1991, SCHEDULE 10 (AS AMENDED BY THE ENVIRONMENT ACT 1995) MODIFICATION OF CONSENT TO DISCHARGE NO.CG0341601

Further to our recent correspondence concerning the consent to discharge sewage effluent from Criccieth Sewage Treatment Works, I enclose the Agency's formal notice of the modifications made to the conditions of the consent.

Under the present Scheme of Charges for Discharges to Controlled Waters an annual charge will be made for all consents to discharge, except where the discharge is of sewage effluent of five cubic metres or less per day. The charge is based on information derived from the conditions attached to the consent to discharge, as outlined in the enclosed leaflet. A change in conditions may therefore result in a change in annual charge, you may therefore receive a revised bill in due course.

If you are not satisfied with the new conditions of the consent you may appeal against the decision to The National Assembly for Wales at Cathays Park, Cardiff CF10 3NQ.

Please take careful note that if the holder of the consent changes, you must inform the Agency IN WRITING as soon as possible of the name of the new holder. This is to ensure that the rights and charges associated with the Consent are transferred to the holder. A Certificate of Holder notice will be sent to you shortly which is designed for this purpose, and should be kept safely with the Consent until required.

Asiantaeth yr Amgylchedd Cymru
Ffordd Caer, Bwcle, Sir y Fflint CH7 3AJ
Ffon 01244 550124 Ffacs 01244 550144

Environment Agency Wales
Chester Road, Buckley, Flintshire CH7 3AJ
Tel 01244 550124 Fax 01244 550144





ASiantaeth yr
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

If you have any queries regarding the enforcement of this consent, please do not hesitate to contact Iwan Thomas, Team Leader Environment Protection, Environment Agency Wales, Chester Road, Buckley, Flintshire, CH7 3AJ.

Yours sincerely,

R. Richard

☐ **Kelvin Graham**
Team Leader Customer Contact & Authorisations

Asiantaeth yr Amgylchedd Cymru
Ffordd Caer, Bwele, Sir y Fflint CH7 3AJ
Ffon 01244 550124 Ffacs 01244 550144

Environment Agency Wales
Chester Road, Buckley, Flintshire CH7 3AJ
Tel 01244 550124 Fax 01244 550144



R. 0124 550124



ASiantaeth YR
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

Ein cyf/Our ref. WP/GW/CG0341601

Dyddiad/Date: 20th December 2002

Environment Quality Scientist
Dŵr Cymru Cyfyngedig
Pentwyn Road,
Nelson, Treharris,
Mid Glamorgan CF46 6LY

COPY

Dear Sir/Madam,

RE: WATER RESOURCES ACT 1991, SCHEDULE 10 (AS AMENDED BY THE ENVIRONMENT ACT 1995) MODIFICATION OF CONSENT TO DISCHARGE NO.CG 0341601

Further to our recent correspondence concerning the consent to discharge sewage effluent from Criccieth Sewage Treatment Works, I enclose the Agency's formal notice of the modifications made to the conditions of the consent.

Under the present Scheme of Charges for Discharges to Controlled Waters an annual charge will be made for all consents to discharge, except where the discharge is of sewage effluent of five cubic metres or less per day. The charge is based on information derived from the conditions attached to the consent to discharge, as outlined in the enclosed leaflet. A change in conditions may therefore result in a change in annual charge, you may therefore receive a revised bill in due course.

If you are not satisfied with the new conditions of the consent you may appeal against the decision to The National Assembly for Wales at Cathays Park, Cardiff CF10 3NQ.

Please take careful note that if the holder of the consent changes, you must inform the Agency IN WRITING as soon as possible of the name of the new holder. This is to ensure that the rights and charges associated with the Consent are transferred to the holder. A Certificate of Holder notice will be sent to you shortly, which is designed for this purpose, and should be kept safely with the Consent until required.

If you have any queries regarding the enforcement of this consent, please do not hesitate to contact Iwan Thomas, Team Leader Environment Protection, Environment Agency Wales, Chester Road, Buckley, Flintshire, CH7 3AJ.

Yours sincerely,

[Signature of Kelvin Graham]

pp. **Kelvin Graham**
Team Leader Customer Contact & Authorisations

Asiantaeth yr Amgylchedd Cymru
Ffordd Caer, Bwcle, Sir y Fflint CH7 3AJ
Ffon 01244 550124 Ffacs 01244 550144

Environment Agency Wales
Chester Road, Buckley, Flintshire CH7 3AJ
Tel 01244 550124 Fax 01244 550144



Date: 14th March 2000

100 - 5 APR 2000
BUCKLEY

Environment Agency Wales
 10th Floor, 100 St. Vincent Street, Cardiff CF3 0EY

CONSENT NO.	CGC341601
SCHEDULE NO.	

ANNEX

- | | |
|--|------------------------------|
| 1. Mercury and its compounds | 2. Cadmium and its compounds |
| 3. Hexachlorocyclohexane
(lindane and related compounds) | 4. Carbon tetrachloride |
| 5. DDT (the isomers of 1,1,1-trichloro-2,2 bis{p-chlorophenyl} ethane) | |
| 6. Pentachlorophenol (PCP) | 7. Aldrin |
| 8. Dieldrin | 9. Endrin |
| 10. Isodrin | 11. Hexachlorobenzene (HCB) |
| 12. Hexachlorobutadiene (HCBd) | 13. Chloroform |
| 14. Polychlorinated biphenyls | 15. Dichlorvos |
| 16. 1,2-Dichloroethane | 17. Trichlorobenzene |
| 18. Atrazine | 19. Simazine |
| 20. Tributyltin compounds | 21. Triphenyltin compounds |
| 22. Trifluralin | 23. Fenitrothion |
| 24. Azinphos-methyl | 25. Malathion |
| 26. Endosulfan | 27. Lead |
| 28. Chromium | 29. Zinc |
| 30. Copper | 31. Nickel |
| 32. Arsenic | 33. *Iron |
| 34. *pH outside range 5.5 to 9.0 | 35. *Boron |
| 36. Vanadium | 37. PCSD'S |
| 38. Cyfluthrin | 39. Sulcofuron |
| 40. Flucifuron | 41. Permethrin |
| 42. 4-Chloro-3-methyl-phenol | 43. 2-Chlorophenol |
| 44. 2,4-Dichlorophenol | 45. 2,4-D (ester) |
| 46. 2,4-D (non ester) | 47. 1,1,1-Trichloroethane |
| 48. 1,1,2-Trichloroethane | 49. Bentazone |
| 50. Benzene | 51. Biphenyl |
| 52. Chloronitrotoluenes | 53. Demeton |
| 54. Dimethoate | 55. Linuron |
| 56. MCPA | 57. Mecoprop |
| 58. Mevinphos | 59. Napthalene |
| 60. Omethoate | 61. Toluene |
| 62. Triazophos | 63. Xylene |
| 64. Cyanide | 65. Azinphos-ethyl |
| 66. Fenthion | 67. Parathion |
| 68. Parathion-methyl | 69. Trichloroethylene |
| 70. Tetrachloroethylene | 71. Dioxins |
| 72. PAHs | 73. Nonyl phenol |
| 74. Nonyl phenyl ethoxylate | 75. Di-ethylhexyl phthalate |
| 76. Bisphenol-A | 77. Diazinon |
| 78. Chlorfenvinphos | 79. Chlorotoluron |
| 80. Isoproturon | 81. Diuron |
| 82. Propetamphos | 83. Flumethrin |
| 84. Amitraz | 85. High-Cis Cypermethrin |
| 86. Cyromazine | 87. Deltamethrin |
| 88. Cypermethrin | |

This list is applicable as at 1 December 1998 and will be updated as and when changes to the relevant legislative requirements occur.

*Notification to the Agency by the Consent holder is only required in respect of changes to trade effluents likely to cause significant changes to the pH value, and/or iron or boron concentrations, of the crude sewage.

Water Resources Act 1991
as amended by the Environment Act 1995
Consent to Discharge
Certificate of Holder



**ENVIRONMENT
AGENCY**

Part A

To: DWR CYMRU CYFYNGEDIG
CONSENTS REGULATION OFFICER
PLAS-Y-FFYNNON
CAMBRIAN WAY
BRECON LD3 7HP

The **Environment Agency** ("the Agency") hereby confirm that the above named person is a/the registered holder of consent CG0341601

Nature of Discharge(s); SEWAGE EFF/TREATED EFF/CONTINUOUS
at
CRICCIETH STW

Note: This certificate should be kept with the consent document for future reference. If you transfer responsibility for the discharge to somebody else you must pass the consent to them and tell the Agency within 21 days. **Responsibility for the consent cannot be disclaimed by the holder but the registration of holder may be transferred to a successor.** To do this please complete the form below, then tear it off and return it to the address shown. If you fail to transfer the consent, even though you are no longer on the site, you may still be liable for prosecution for pollution. If you transfer the consent but do not tell us, you will be committing an offence. In case of any queries please contact your local Environment Agency office.

Part B Please complete in block capitals or type.

To:

Water Resources Act 1991: Notice of transfer of consent to discharge

Consent:

Name:
Address:

I/We* hereby serve notice on the Agency that I/we* am/are* no longer a/the* Holder of the above consent which will be/was* transferred to:

* delete as appropriate

Name(s) of new holder(s):

Address:

Post Code:

Date of Transfer to new Holder(s);

Signed: **Dated:**

Name (block capitals): **Position:**

(to be completed when signing
on behalf of corporate bodies)



CG0341601

SAMPLING POINT → S-1W

X ← DISCHARGE POINT

COPY

CONSENT NO.

CG0341601



ASiantaeth yr
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

ENVIRONMENT AGENCY

**WATER RESOURCES ACT 1991
(As amended by the Environment Act 1995)**

NOTICE OF MODIFICATION OF CONSENT TO DISCHARGE

TO: Environment Quality Scientist
Dwr Cymru Cyfyngedig
Pentwyn Road
Nelson
Treharris
Mid Glamorgan CF46 6LY

WHEREAS the Agency in pursuance of its powers under the Water Resources Act 1991 (as amended by the Environment Act 1995) **MODIFIED ITS CONSENT** to the making of a discharge of **SEWAGE EFFLUENT** on the 19th day of December 2002

FROM Criccieth Sewage Treatment Works

the Agency in pursuance of its powers under the Water Resources Act 1991 (as amended by the Environment Act 1995) hereby **GIVES NOTICE** that **CONSENT** CG0341601 is hereby modified as follows:

Secondary Treated Sewage Effluent with Ultraviolet Disinfection

FROM: Criccieth Sewage Treatment Works

AT: Criccieth, Gwynedd

TO: Tremadog Bay

The conditions of Consent number CG0341601 dated 19th day of December 2002 are modified as detailed in this notice.

Subject to the provisions of Paragraphs 7 and 8 of Schedule 10 of the Water Resources Act 1991, no notice shall be served by the Agency which alters the effect of modifications made by this notice, without the agreement in writing of the Consent Holder, during a period of 4 years from the date this notice is served.

Dated this 6th day of February 2003

Signed

IWAN THOMAS

Environment Management Team Leader





ASiantaeth YR
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

CONSENT NO.	CG0341601
SCHEDULE NO.	CG0341601 01
DATED	6th February 2003

Conditions to be modified

Annex 4, Condition 3 (c) is hereby modified to read as follows:

The measured UV transmittance (at 254 nm) at the inlet shall be measured by laboratory analysis of samples collected from sample point B.

Other conditions of the consent

All other conditions of the consent remain in force. Consent CG0341601 is updated accordingly.



Water Resources Act 1991

as amended by the Environment Act 1995

Consents to Discharge

Certificate of Holder



ASiantaeth Yr
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

Part A

To : **DWR CYMRU CYFYNGEDIG**
PENTWYN ROAD
NELSON
TREHARRIS
MID GLAMORGAN CF46 6LY

NB: For a body corporate the job title is a point of contact.

Holder Start Date : 19 December 2002

The Environment Agency ("the Agency") hereby confirm that the above named person (or organisation) is a / the registered Holder of the Consent : CG0341601 Consent Issued : 19 December 2002

Nature of Discharge(s) **STEC Treated sewage Effluent - Continuous**
at **SH4864036850 CRICCIETH STW (SETTLED STORM) , ,**

Note : This certificate should be kept with the consent document for future reference. If you transfer responsibility for the discharge to somebody else, you must pass the consent to them and tell the Agency within 21 days. Responsibility for the consent cannot be disclaimed by the Holder but the registration of Holder may be transferred to a successor. To do this, please complete the form below (Part B), then tear it off and return it to the address shown. If you fail to transfer the consent, even though you are no longer on the site, you will still be liable for prosecution for pollution. If you transfer the consent but do not tell us, you will be committing an offence. In case of any queries, please contact your local Environment Agency office, quoting the Consent Reference.

----- cut here -----

Part B

Please complete in block capitals or type

To : **Water Resources Act 1991 : Notice of transfer of Consent to Discharge**

Consent Reference : CG0341601

Name : **DWR CYMRU CYFYNGEDIG**

Consent Issued : 19 December 2002

Address : **PENTWYN ROAD**

NELSON

TREHARRIS

MID GLAMORGAN CF46 6LY

I / We* hereby serve notice on the Agency that I / we* am / are* no longer a / the* Holder of the above consent which will be / was* transferred to :

* delete as appropriate

Name(s) of the new Holder(s) :

Post Code :

Date of Transfer to new Holder(s)

Signed :

Dated :

Name (block capitals) :

Position (if appropriate) :

(to be completed when signing on behalf of corporate bodies)



Caniatâd Gollwng

Tystysgrif Daliwr

Rhan A

**At : DWR CYMRU CYFYNGEDIG
PENTWYN ROAD
NELSON
TREHARRIS
MID GLAMORGAN CF46 6LY**

DS: I gorfforaeth gorfforedig mae teitl y swydd yn bwynt cysylltu.

Dyddiad Cychwyn y Daliwr : 19 December 2002

Mae Asiantaeth yr Amgylchedd ("yr Asiantaeth") yn cadarnhau drwy hyn mai / bod y sawl (neu sefydliad) a enwyd uchod yw / yn ddaliwr cofrestredig y caniatâd : CG0341601

Cyhoeddwyd y Caniatâd : 19 December 2002

**Natur y Gollyngiad(au) : STEC Treated sewage Effluent - Continuous
yn SH4864036850 CRICCIETH STW (SETTLED STORM) , ,**

Noder : Dylid cadw'r dystysgrif hon gyda'r ddogfen ganiatâd i gyfeirio ati yn y dyfodol. Os byddwch yn trosglwyddo cyfrifoldeb am y gollyngiad i rywun arall, rhaid i chi drosglwyddo'r caniatâd iddo ef neu hi a dweud wrth yr Asiantaeth cyn pen 21 diwrnod. Ni all y Daliwr wadu cyfrifoldeb am y caniatâd, ond gall cofrestrriad y Daliwr gael ei drosglwyddo i olynnydd. I wneud hynny, byddwch gystal â llenwi'r ffurflen isod (Rhan B), yna'i dychwelyd i'r cyfeiriad a nodir. Os fethwch â throsglwyddo'r caniatâd, hyd yn oed os nad ydych ar y safle mwyach, gallwch gael eich erlyn am achosi llygredd. Os trosglwyddwch y caniatâd ond heb ddweud wrthym, yna byddwch yn cyflawni trosedd. Os bydd gennych unrhyw ymholiadau a fydddech gystal â chysylltu â'ch swyddfa Asiantaeth yr Amgylchedd lleol, gan ddyfynnu Cyfeirnod y Caniatâd.

---torrwrch yma---

Rhan B

Llenwch mewn priflythrennau bras neu deipio

At : Deddf Adnoddau Dwr 1991 : Hysbysiad am drosglwyddo Caniatâd Gollwng

Cyfeirnod y Caniatâd : CG0341601

Enw : DWR CYMRU CYFYNGEDIG

**Cyhoeddwyd y 19 December 2002
Caniatâd :**

Cyfeiriad : PENTWYN ROAD

NELSON

TREHARRIS

MID GLAMORGAN CF46 6LY

Yr wyf fi / Yr ydym ni drwy hyn yn hysbysu'r Asiantaeth nad fi / ni mwyach yw* Daliwr / Deiliaid y caniatâd uchod a fydd yn cael / cafodd ei drosglwyddo i*

** dilêer fel yn briodol*

Enw(au) y Daliwr / Deiliaid newydd :

Côd Post :

Dyddiad Trosglwyddo i'r Daliwr / Deiliaid newydd :

Llofnodwyd :

Dyddiedig :

Enw (priflythrennau bras) :

Swydd (os yn briodol) :

(i'w lenwi pan yn llofnodi ar ran corfforaethau corfforedig)



DŴR CYMRU
WELSH WATER

Dinas
Llanwnda
Caernarfon
Gwynedd LL54 5UD

Tel: 0800 052 0130
Ffôn: +44(0)1286 832227
Safon gwa: www.dwrcymru.com

Dinas
Llanwnda
Caernarfon
Gwynedd LL54 5UD

Tel: 0800 052 0130
Ffôn: +44(0)1286 832227
Web site: www.dwrcymru.com

Ms Sian Owens
Team Leader (Water Quality)
Environment Agency
Chester Road
Buckley
Flintshire
CH7 4AJ

Dyddiad/Date:
24 January 2003

Ymholiadau/Enquiries:
JP Edwards
Tel: 01244 661628

Ein Cyf./Our Ref:
UV Consent modifications

Eich Cyf./Your Ref:

Dear Sian

Re: Agreement to modify UV Consents within the 4 year hands off period

I hereby write to inform you that Dwr Cymru Cyf are agreeable to you modifying the UV Consent in situ clause as detailed in the e-mail from Wendy Price dated 24 January (16:03 hrs).

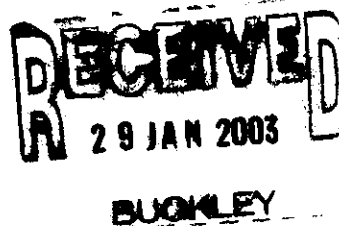
The proposed condition being as follows:

The measured UV transmittance at 254 nm at the inlet shall be measured by laboratory analysis of samples collected from sample point B.

Yours sincerely

JP Edwards

JP EDWARDS
Area Regulation Scientist



glas

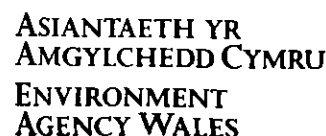
Glas Cymru Cyfyngedig

We welcome correspondence in Welsh and English
Rydym yn croesawu gohebiaeth yn y Gymraeg neu yn Saesneg

Dŵr Cymru Cyf, a limited company registered in
Wales no. 2366777. Registered office: Pentwyn Road,
Nelson, Trehamis, Mid Glamorgan CF46 6LY

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Nghymru rhif 2366777. Swyddfa golfrestredig: Heol Pentwyn,
Nelson, Trehamis, Morgannwg Ganol CF46 6LY



CG0341601

SECTION 88 - SCHEDULE 10

NOTICE OF MODIFICATION OF CONSENT TO DISCHARGE

TO DISCHARGE

COPY

with respect to Consent No. CG0341601 issued on the 26th day of May 1994

AT: Criccieth, Gwynedd

TO: Tremadog Bay

Secondary Treated Sewage Effluent with ultraviolet disinfection Schedule No. CG0341601 01
Urban Wastewater Treatment Regulations 1994 Schedule no CG0341601 01/U

Subject to the provisions of Paragraphs 7 and 8 of Schedule 10 of the Water Resources Act 1991, no notice shall be served by the Agency, which alters the effect of modifications made by this notice, without the agreement in writing of the Consent Holder, other than for the purposes described in Condition 30 of the attached schedule, during a period of 4 years from the date this notice is served.

Dated this 19th day of December 2002

Signed

John Thomas

IWAN THOMAS

Environment Management Team Leader

CONSENT NO.	CG0341601
SCHEDULE NO.	CG0341601 01
DATE	19 th December 2002



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CONDITIONS OF CONSENT TO DISCHARGE

Secondary Treated Sewage Effluent with ultraviolet disinfection ("the Discharge")

FROM: Criccieth Sewage Treatment Works

NATURE

- 1 (a) The Discharge shall consist solely of secondary treated sewage effluent which, during the periods specified in condition 1(b) of this consent has been disinfected by means of ultra violet (UV) irradiation.

For the purpose of this consent, disinfection is defined as the use of a process designed specifically to reduce the number of viable, potentially infectious micro-organisms in the effluent.

- (b) The disinfection of the effluent by means of UV irradiation is required for the period 30th April to 30 September inclusive each year.
- (c) The discharge shall be disinfected by means of UV irradiation from an artificial source with at least 85% of the available radiation emitted in the wavelength range 250 to 260 nm. An applied UV dose of 32 mJ/cm² (calculated at a UV transmittance of 45%) must be exceeded subject to conditions 1 (d) and 1 (e) during the period specified in condition 1(b) above of this consent.
- (d) The applied UV dose must exceed the limit set out in condition 1(c) for at least 99% of the measurements as required by condition 24 (a)(ii) in the time period specified in condition 1(b).
- (e) No more than 10% of measurements taken consecutively during any 24 hour period from midnight to midnight shall fall below 16 mJ/cm².
- (f) The period when the applied UV dose limit is less than the limit set out in condition 1 (c) shall not be used by the Consent Holder for the maintenance of the UV plant. Maintenance is defined in the UV Code of Practice attached to this Consent.

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FAILURE OF UV MEASUREMENT SYSTEMS

2. In the event of failure of the flow monitor or UV meter used in the control of the UV dosing system
 - (a) the maximum available number of duty banks of UV lamps shall be automatically activated;
 - (b) the minimum applied UV dose, at maximum effluent flow rates at a calculated UV transmittance (at 254nm) of 45 % shall not be less than 12 mJ/cm².

LOCATION

3. The Discharge shall be made in the manner and at the place specified as:
 - (a) discharging via a 250 mm diameter pipe which extends to 674 metres below the high waters mean spring mark terminating with a diffuser section consisting of 4 ports (of sizes 95mm, 105mm, 115mm and 125mm increasing in diameter towards the end of the pipe) and spaced at 5.3 metre intervals;
 - (b) discharging to Tremadog Bay;
 - (c) at National Grid Reference SH 48640 36850
 - (d) shown marked 'Discharge Point' on Plan CG0341601 attached as Annex 3

SAMPLE POINT

4. An appropriately labelled sample point shall be provided and maintained at National Grid Reference SH 48814 37954 as shown marked 'Sample Point' on the attached Plan CG0341601, or some other point as agreed in writing with the Agency, so that a representative sample of the Discharge may be obtained. The Consent Holder shall ensure that all constituents of the Discharge pass through the said sampling point at all times and in any legal proceedings it shall, for the purposes of Section 10 of the Rivers (Prevention of Pollution) Act 1961, be presumed, until the contrary is shown that any sample of the Discharge taken at the said sampling point is a sample of what was discharging into controlled waters.





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VOLUME

5. The volume of the Discharge shall not exceed 2830 cubic metres per day.
6. The Dry Weather Flow of the Discharge shall not exceed 1387 cubic metres per day.

For the purpose of this condition Dry Weather Flow shall mean the average daily flow to the treatment works during seven consecutive days without rain (excluding a period which includes public holidays) following seven days during which the rainfall did not exceed 0.25 millimetres on any one day.

7. The rate of discharge shall not exceed 58 litres per second.

FLOW

8. A continuous flow monitoring and recording system, to a specification provided by the Agency, with on-site visual display from which readings can be readily obtained by the Agency, shall be provided and operated to record the daily volume and instantaneous flow of the discharge.
9. As soon as practicable after completion of the flow system installation the Consent Holder shall employ an independent expert to certify that the installation complies with the Agency's specification. The Consent Holder shall satisfy himself as to the professional competence of the expert. A copy of the certifier's report shall be provided to the Agency when it is available.
10. Records of the flow readings shall be maintained by the Consent Holder and shall be provided to the Agency when requested, in a format specified by the Agency.
11. The Consent Holder shall produce and maintain a quality control manual, approved by the independent expert and to the satisfaction of the Agency, specifying procedures for the calibration, operation and maintenance of the flow monitoring system. The flow system shall be calibrated, operated and maintained by the Consent Holder in accordance with the provisions of the manual. The Consent Holder shall keep a record of these procedures available for inspection by the Agency and provide a copy to the Agency on request.
12. The Consent Holder shall record all failures of the continuous flow system and any other breaks in the flow record. The reasons for these failures and breaks shall be recorded and all steps taken to prevent a re-occurrence. The Consent Holder shall ensure that as far as possible the recorder remains fully operational at all times. Any failures shall be remedied as soon as possible.





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13. Flows of the discharge shall be measured at National Grid Reference SH 48842 37980 or such other point as is agreed by the Agency.

COMPOSITION

14. (a) Subject to paragraph (b) below, the Discharge shall not contain more than;
- (i) 50 milligrammes per litre of biochemical oxygen demand (measured after 5 days at 20°C with nitrification suppressed by the addition of allyl-thiourea);
 - (iii) 60 milligrammes per litre of suspended solids (measured after drying at 105°C).
- (b) The limit for any of the relevant parameters set out in paragraph (a) above may be exceeded where, in any series of samples of the Discharge taken at regular but randomised intervals in any period of twelve consecutive months as listed in Column 1 of the table at Annex 1 to this consent, no more than the relevant number of samples, as listed in Column 2 of the said table, exceed the applicable limit for that relevant parameter.

WORKS OPERATION

15. The works shall be operated and the effluent shall be treated in a manner which, so far as reasonably practicable, minimises the polluting effects of the discharge made from the works on controlled waters.

This condition does not require -

- (a) any higher standard to be achieved in relation to any characteristic of the Discharge which is specifically regulated by condition 14 than is required by those conditions;
- (b) any alteration of the works or a change in the type of treatment used.





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MAINTENANCE

16. The works shall be operated and maintained in accordance with good operational practice such that:
- (a) it remains fully operational except at times of unavoidable mechanical or electrical breakdown which shall be attended to, and the Agency informed of the failure, as soon as practicable after the failure;
 - (b) following a failure all equipment shall be returned to normal operation as soon as practicable;
 - (c) tanks shall be desludged at sufficient frequency and in such a manner to prevent excessive carryover of suspended solids.
17. (a) The Consent Holder shall maintain the outfall pipe and diffusers in an efficient operational condition, so as to minimise the probability of blockages or other failures, and shall implement periodic inspections of the integrity and performance of the diffusers and outfall pipe.
- (b) On request the Consent Holder shall supply the Agency with a written report on the maintenance and all non-routine actions undertaken.

UNUSUAL WEATHER CONDITIONS

18. (a) No sample of the Discharge, taken at a time when unusual weather conditions are adversely affecting the operation of the sewage treatment works, shall be taken into account in deciding whether or not conditions 14 or 15 of this consent schedule have been complied with.
- (b) For the purpose of this condition "unusual weather conditions" shall include:
- (i) low ambient temperatures as evidenced by effluent temperatures of 5°C or less, or by the freezing of mechanical equipment in the works;
 - (ii) significant snow deposits;
 - (iii) tidal or fluvial flooding;



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- (iv) weather conditions causing unforeseen loss of power supply to the sewage treatment which could not be ameliorated by the reasonable provision and operation of standby generation facilities.
- (c) On any occasion where unusual weather conditions adversely affect the operation of the sewage treatment works, the Consent Holder shall use its best endeavours to mitigate that adverse effect.
- (d) For a sample of the Discharge to be considered for the purposes of (a) above, the Consent Holder shall notify the Agency by telefax or telephone as soon as unusual weather conditions are known to have adversely affected operations and shall confirm the circumstances in writing as soon as possible thereafter (and in any event within 14 days of the occurrence of such conditions). That notification shall include a full description of the unusual weather conditions and their impact on the operation of the works.

RECORDING AND REPORTING

- 19. (a) The Consent Holder shall establish and operate a documented maintenance programme and record all non-routine actions undertaken that may have adversely affected effluent quality. Copies of the programme shall be made available for inspection by the Agency's officers at all reasonable times.
- (b) On request the Consent Holder shall supply the Agency with a written report on the maintenance and all non-routine actions that may have adversely affected effluent quality.
- 20. The Consent Holder shall notify the Agency in writing if any known or planned introduction or material change in respect of discharges from trade premises to the sewerage system occurs, that may increase or introduce into the effluent any "dangerous substance" (set out in Annex 2 to this notice as updated from time to time and notified to the Consent Holder in writing), and any other substance considered by the Consent Holder as having or likely to have a significant effect on the receiving waters.

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SUBSTANTIAL CHANGE

21. (a) A Discharge shall not be made from the works if it would cause a significant increase in the polluting effects of the Discharge on controlled waters as a result of a new or altered discharge of trade effluent into the works.
- (b) A discharge of trade effluent into the works is new if -
- (i) it is made by the sewerage undertaker and is of a kind not made into the works by the undertaker immediately before the date of effect of this consent; or
 - (ii) it is made by a third party and the discharge is authorised on or after that date.
- (c) A discharge of trade effluent into the works is altered if -
- (i) it is made by the sewerage undertaker and its composition or quantity changes significantly on or after the date of effect of this consent; or
 - (ii) it is made by a third party and the alteration of the discharge is authorised on or after that date.
- (d) An increase in the polluting effects of the Discharge on controlled waters is not significant for the purposes of this condition if it relates to any characteristic of the Discharge which is specifically regulated by condition 14 of this consent but it may be significant if it is caused by a change in some other characteristic of the Discharge.
- (e) For the purposes of this condition "trade effluent" means -
- (i) any discharge by the sewerage undertaker other than
 - (1) domestic sewage from premises connected directly or indirectly to the works; or
 - (2) surface water run-off;
 - (ii) any discharge by a third party which is authorised under Chapter III or Part IV of the Water Industry Act 1991 or which is only accepted as a result of a contract with the sewerage undertaker.



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UNAUTHORISED DISCHARGES

22. (a) A Discharge made from the works shall not contain any poisonous, noxious or polluting matter or solid waste matter which is attributable to any unauthorised discharge into the works.
- (b) A Discharge into the works is unauthorised if it is made by a third party and either there is no obligation to receive it or conditions subject to which there is an obligation to receive it are not observed.
- (c) Nothing in this, or any other, condition of this consent prevents anyone from relying on any defence available to them under Section 87 of the Water Resources Act 1991.

REGULATION OF DISINFECTION MAINTENANCE PROGRAMME

- 23 (a) The Consent Holder shall establish and operate a documented maintenance programme including the method and frequency of cleaning and replacement of UV lamps and flow meters, and record all non-routine actions undertaken that may have adversely affected effluent quality. Details of the maintenance programme shall be provided to the Agency for agreement. Copies of the programme shall be made available for inspection by the Agency's officers at all reasonable times.
- (b) The Consent Holder shall keep records of the maintenance undertaken (both routine and non-routine). Copies of these records shall be maintained by the Consent Holder and kept available for inspection by the Agency's officers at all reasonable times.
- (c) On request, the Consent Holder shall supply the Agency with a written report on the maintenance, and all non-routine actions that may have adversely affected effluent quality.



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UV PROCESS MONITORING AND REPORTING

24. (a) Continuous recorders, with on-site visual display from which readings may be readily obtained, shall be provided and maintained by the Consent Holder enabling the following to be measured and recorded at 30 minute intervals:
- (i) the instantaneous flow rate through each UV irradiation channel
 - (ii) the instantaneous applied UV dose for each UV irradiation channel
 - (iii) any other parameters used in calculating the UV dose
- (b) Copies of the records shall be maintained by the Consent Holder for a minimum of 2 years or such longer time as the Agency may from time to time specify and be kept at a nominated place available for inspection by the Agency's officers at all reasonable times.
- (c) The Consent Holder shall supply to the Agency, 1 month in arrears, in a format specified by the Agency, on a monthly basis, the records of the readings specified in condition 24 (a).

EXCEPTION REPORTS

25. The Consent Holder shall supply to the Agency at monthly intervals, or upon request, a written report, detailing all occurrences where, at any time during the preceding disinfection period, as specified in condition 1 (b) above :
- (a) there were any failures of any measurement system used to control the UV dosing system
 - (b) the external power supply to the UV disinfection system was interrupted
 - (c) a Discharge of sewage effluent was made which had not been subjected to the required UV dose as specified in conditions 1 (e) and 2 of this consent
 - (d) The report shall detail the reasons why the situation occurred, and the actions taken by the Consent Holder. The report shall include an assessment of what measures can be adopted in the future to minimise such occurrences.
 - (e) The Agency, if satisfied that the cause is an emergency and outside the control of the Consent Holder, and that all possible measures were taken to minimise the impact of the discharge on controlled waters, shall exclude the measurements for the period for compliance purposes with condition 1 (e).



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DISINFECTION EFFICACY MONITORING

26. The Consent Holder shall carry out the monitoring programme as detailed in Annex 4, unless otherwise notified in writing by the Agency during the commissioning period and for the duration of the period as specified in condition 1 (b) of this consent. The results of the monitoring programme are to be supplied to the Agency in a format specified by the Agency on a monthly basis, two months in arrears.

TELEMETRY

27. A telemetry alarm system connected to a 24-hour manned station shall be provided and maintained by the Consent Holder to provide a warning in the event that:
- (a) the external power supply to the UV disinfection system has been interrupted;
 - (b) failure of any measurement system used to control the UV dosing system has occurred;
 - (c) a Discharge of sewage effluent has occurred which has not been subjected to the required UV dose as specified in conditions 1 (e) and 2 of this consent.

EMERGENCY NOTIFICATION

28. The Consent Holder shall notify the Agency in the event of a Discharge of sewage effluent which has not been subjected to the required UV dose as specified in conditions 1 (e) and 2 of this consent, or of power failure causing loss of secondary treatment. Such notification must be made as soon as practicable and no later than 24 hours after the event, and shall detail the reasons why the situation occurred, and the actions taken by the Consent Holder.

POWER

29. Full stand-by power generation facilities shall be provided and maintained by the Consent Holder in good working order to enable automatic resumption of power to the UV disinfection system in the event of external power supply failure to the UV disinfection plant.

HABITATS DIRECTIVE "EARLY REVIEW" CONDITION

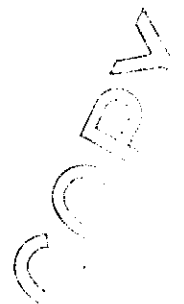
30. The Agency may alter any of the conditions of this Consent at any time within 4 years of the date of issue for the purposes of the Conservation (Natural Habitats & c.) Regulations 1994 as amended.



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ANNEX 1
TABLE

Column 1

Column 2

Number of samples
taken in any period
of 12 months

Maximum number of samples
Permitted to exceed limit
for given determinand

4-7	1
8-16	2
17-28	3
29-40	4
41-53	5
64-67	6
68-81	7
82-95	8
96-110	9
111-125	10
126-140	11
141-155	12
156-171	13
172-187	14
188-203	15
204-219	16
220-235	17
236-251	18
252-268	19
289-284	20
285-300	21
301-317	22
318-334	23
335-350	24
351-365	25



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ANNEX 2

- | | |
|--|------------------------------|
| 1. Mercury and its compounds | 2. Cadmium and its compounds |
| 3. Hexachlorocyclohexane
(lindane and related compounds) | 4. Carbon tetrachloride |
| 5. DDT (the isomers of 1,1,1-trichloro-2,2 bis(p-chlorophenyl) ethane) | |
| 6. Pentachlorophenol (PCP) | 7. Aldrin |
| 8. Dieldrin | 9. Endrin |
| 10. Isodrin | 11. Hexachlorobenzene (HCB) |
| 12. Hexachlorobutadiene (HCBd) | 13. Chloroform |
| 14. Polychlorinated biphenyls | 15. Dichlorvos |
| 16. 1,2-Dichloroethane | 17. Trichlorobenzene |
| 18. Atrazine | 19. Simazine |
| 20. Tributyltin compounds | 21. Triphenyltin compounds |
| 22. Trifluralin | 23. Fenitrothion |
| 24. Azinphos-methyl | 25. Malathion |
| 26. Endosulfan | 27. Lead |
| 28. Chromium | 29. Zinc |
| 30. Copper | 31. Nickel |
| 32. Arsenic | 33. *Iron |
| 34. *pH outside range 5.5 to 9.0 | 35. *Boron |
| 36. Vanadium | 37. PCSD'S |
| 38. Cyfluthrin | 39. Sulcofuron |
| 40. Flucifuron | 41. Permethrin |
| 42. 4-Chloro-3-methyl-phenol | 43. 2-Chlorophenol |
| 44. 2,4-Dichlorophenol | 45. 2,4-D (ester) |
| 46. 2,4-D (non ester) | 47. 1,1,1-Trichloroethane |
| 48. 1,1,2-Trichloroethane | 49. Bentazone |
| 50. Benzene | 51. Biphenyl |
| 52. Chlornitrotoluenes | 53. Demeton |
| 54. Dimethoate | 55. Linuron |
| 56. MCPA | 57. Mecoprop |
| 58. Mevinphos | 59. Napthalene |
| 60. Omethoate | 61. Toluene |
| 62. Triazophos | 63. Xylene |
| 64. Cyanide | 65. Azinphos-ethyl |
| 66. Fenthion | 67. Parathion |
| 68. Parathion-methyl | 69. Trichloroethylene |
| 70. Tetrachloroethylene | 71. Dioxins |
| 72. PAHs | 73. Nonyl phenol |
| 74. Nonyl phenyl ethoxylate | 75. Di-ethylhexyl phthalate |
| 76. Bisphenol-A | 77. Diazinon |
| 78. Chlorfenvinphos | 79. Chlorotoluron |
| 80. Isoproturon | 81. Diuron |
| 82. Propetamphos | 83. Flumethrin |
| 84. Amitraz | 85. High-Cis Cypermethrin |
| 86. Cyromazine | 87. Deltamethrin |
| 88. Cypermethrin | |

This list is applicable as at 1 December 1998 and will be updated as and when changes to the relevant legislative requirements occur.

*Notification to the Agency by the Consent Holder is only required in respect of changes to trade effluents likely to cause significant changes to the pH value, and/or iron or boron concentrations, of the crude sewage.

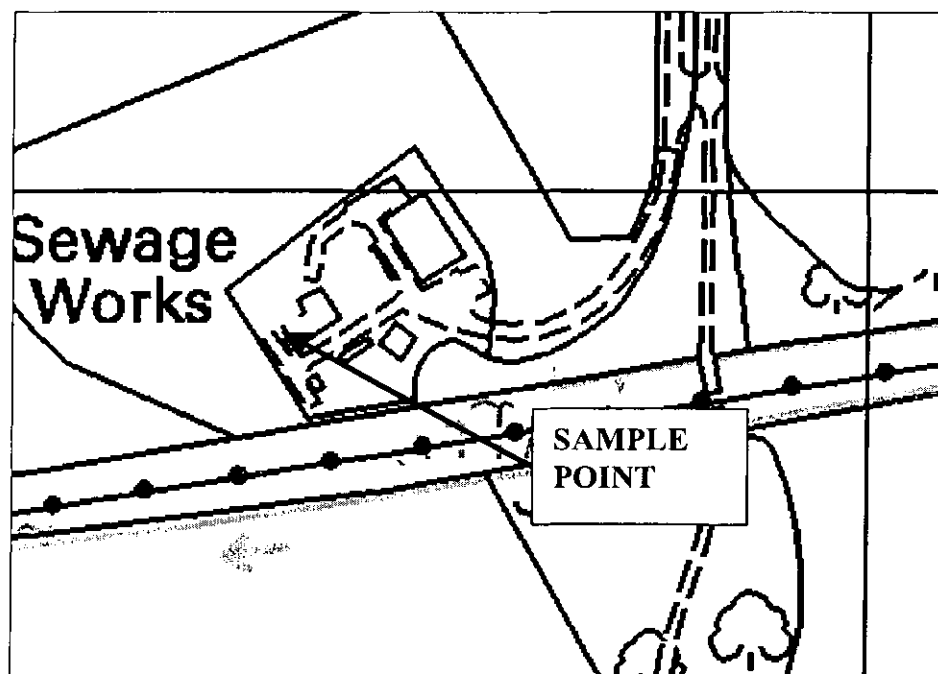
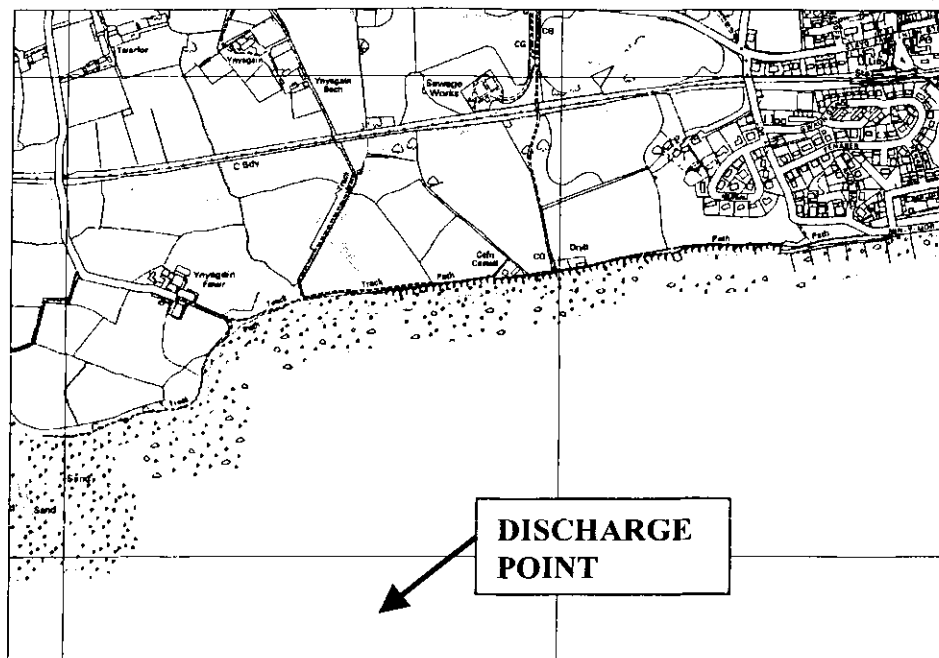


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ANNEX 3
PLAN CG0341601



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ANNEX 4 **MONITORING PROGRAMME**

Sample points as shown on attached plan:

1. SAMPLE POINTS (as shown on attached plan)

- A** Crude influent to sewage treatment works NGR SH 48841 37980
- B** Secondary treated sewage effluent before UV disinfection NGR SH 48821 37959
- C** Secondary treated sewage effluent after UV disinfection (prior to mixing with storm flows) NGR SH 48814 37954

2. MICROBIOLOGICAL DETERMINANDS AND FREQUENCIES (Agency Standard Analytical Methods to be employed, including AQC)

- (i) Faecal Coliforms - weekly, at sample points A, B and C;
- (ii) Total Coliforms – weekly, at sample points A, B and C;
- (iii) Faecal Streptococci – weekly, at sample points A, B and C;
- (iv) Salmonella – weekly, at sample points B and C;
- (v) Representative enteroviruses – weekly, at sample points B and C;
- (vi) F-specific bacteriophage – weekly, at sample points B and C.

Following two consecutive years of full consent compliance, the Agency will review the data annually and notify in writing the Consent Holder of any resulting change to the monitoring regime.

3. OTHER DETERMINANDS AND FREQUENCIES

The measurement of all determinands below shall coincide with the measurement of microbial determinands. At each sample point, samples for analysis should be sub-sampled from a single bulk sample. Where this cannot be achieved, the sampling regime shall be clearly recorded.

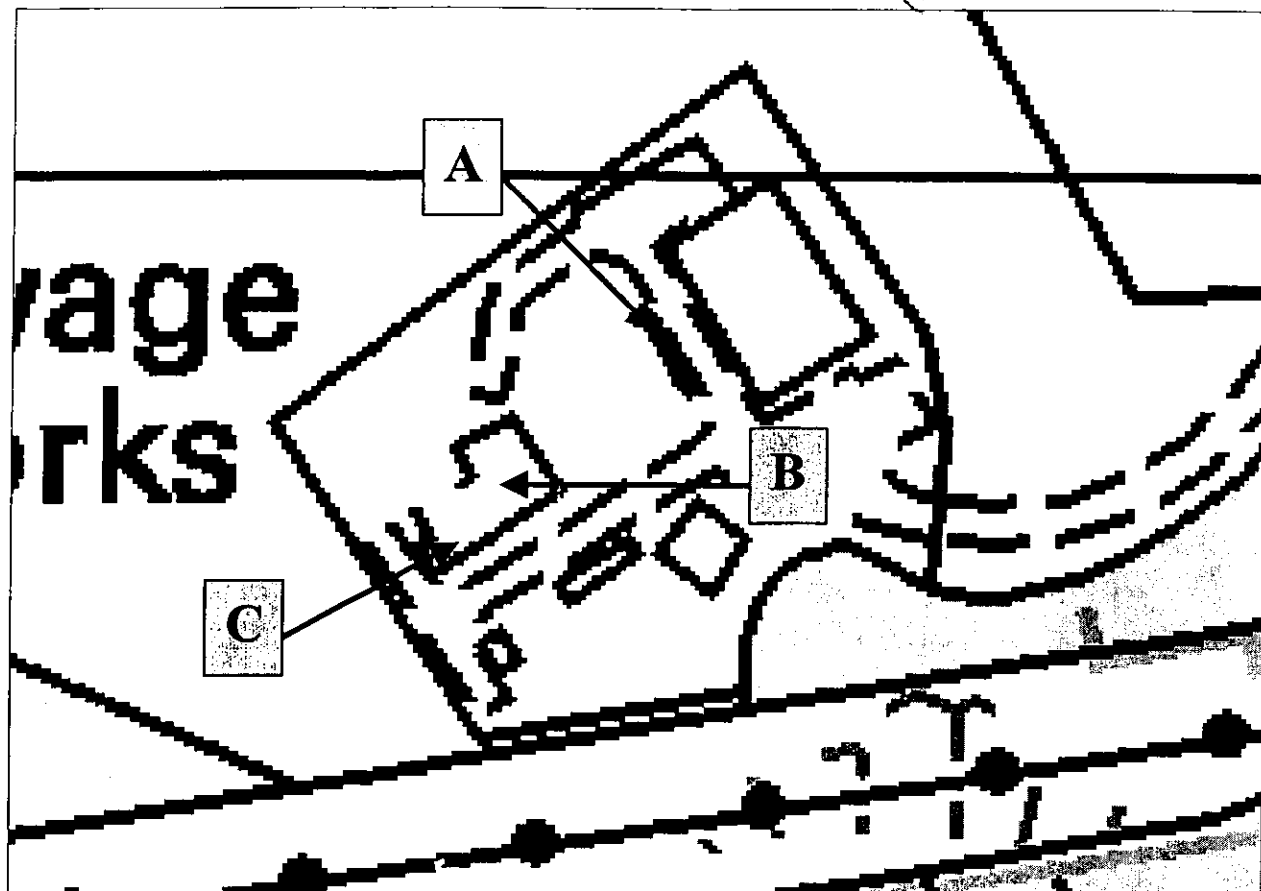
- a) The flow through each UV irradiation channel shall be measured
- b) The applied dose shall be recorded in each UV irradiation channel
- c) The measured UV transmittance at 254 nm at the inlet shall be measured by both in-situ meter and by laboratory analysis of samples collected from sample point B
- d) Suspended solids shall be measured at sample point B or C
- e) BOD (ATU) shall be measured at sample point B or C.

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MONITORING PROGRAMME LOCATION OF SAMPLE POINTS



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UV CODE OF PRACTICE

1. The UV disinfection system shall be provided and maintained to ensure that its hydraulic characteristics and the path length of UV irradiation are such that, during the required period of disinfection, the effluent is subjected to the UV dose rate specified in the consent.
2. The UV disinfection system and stand-by power facilities shall be operated so as to minimise the frequency and duration of an emergency discharge of sewage effluent which has not been subjected to the required UV dose (as specified in the consent).
3. The applied and received UV dose (as defined in the Calculation of UV dose) shall be determined from
 - (i) the flow rate of effluent through the UV disinfection system (l/s)
 - (ii) the reactor volume
 - (iii) the theoretical UV intensity at end of lamp life at an assumed transmittance for the effluent (at 254nm) of 45%
4.
 - (a) A maintenance programme, including the method and frequency of cleaning and replacement of the UV lamps / UV radiation monitors, shall be undertaken by the Consent Holder as agreed in writing with the Agency.
 - (b) Any failure to meet the requirements of the agreed maintenance programme shall be advised to the Agency as soon as practicable and a report providing an explanation of the circumstances provided to the Agency within 2 weeks.
 - (c) The consent holder shall keep records of the maintenance undertaken (both programmed and un-programmed) and shall include the measured UV intensity readings immediately before and immediately after each UV lamp / UV monitor cleaning or replacement. Copies of these records shall be maintained by the Consent Holder and kept available for inspection by the Agency's officers at all reasonable times.

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CALCULATION OF UV DOSE

Definitions

For each bank of UV lamps, UV dose is defined as the product of UV light intensity (impacting on wastewater passing through the bank) and the retention time (of wastewater passing through the bank).

For the purposes of consent, the following terms are defined for each UV irradiation bank.

“reactor volume”

is the volume of wastewater in the bank at any given time;

“adjusted retention time”

is the reactor volume divided by the measured rate of flow through the UV bank;

“measured UV intensity”

is the average UV intensity @ 254nm for the effluent measured (at positions within the reactors agreed with the Agency in writing) for each operating bank of UV lamps;

“theoretical UV intensity”

is the predicted average UV intensity across the reactor volumes, being delivered by the operating lamps at the UV transmittance of 45% (as agreed with the Agency in writing) for the effluent (at 254 nm) (predicted from the rated output (mW) of the UV lamps at end of lamp life (cleaned) which are energised;

Calculations

$$\begin{array}{lclcl} \text{Received UV dose} & = & \text{Measured UV} & & \text{Adjusted retention} \\ \text{Per Bank (mJ/cm}^2\text{)} & & \text{Intensity} & \times & \text{time (s)} \\ & & \text{(mW/cm}^2\text{)} & & \end{array}$$

$$\begin{array}{lclcl} \text{Applied UV Dose} & = & \text{Theoretical UV intensity} & \times & \text{Adjusted} \\ \text{Per bank (mJ/cm}^2\text{)} & & \text{(mW/cm}^2\text{)} & & \text{Retention time (s)} \end{array}$$

The UV dose (Applied or Received) for each channel is the sum of the UV doses for each operational bank in that channel.

The method of measuring / estimating UV intensity at this site must be clearly defined.

CONSENT NO.	CG0351401
SCHEDULE NO.	CG0351401 01/U



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CONDITIONS OF CONSENT TO DISCHARGE

Urban Waste Water Treatment Regulations 1994

AS APPLIED TO: Criccieth Waste Water Treatment Works

- U0** (a) The Consent Holder shall comply with the Urban Waste Water Treatment (England and Wales) Regulations 1994 ("the Regulations").
- (b) For the purpose of condition U1 below, interpretations and references to a numbered regulation or Schedule shall have the meaning as in the Regulations, unless otherwise indicated.
- U1** (a) The Discharge derives from an agglomeration with a population equivalent of less than 10,000 discharging to coastal waters.
- (b) The Consent Holder shall inform the Agency in writing of any change, or proposed change, to the population equivalent such as would make a material change to the application of the Regulations and shall, on request, inform the Agency in writing of the actual population equivalent.
- (c) The Discharge shall be subject to Regulation 5(7) and satisfy the requirements of Regulation 5 (8) (a).
- U4** (a) An appropriately labelled sample point shall be provided and maintained at National Grid Reference SH 48841 37980 as shown marked 'UWWTR Influent Sample point' on the attached Plan numbered CG0351401 01/U1, or some other point as agreed in writing with the Agency, so that a representative sample of the Influent may be obtained.
- (b) An appropriately labelled sample point shall be provided and maintained at National Grid Reference SH 48814 37954, as shown marked 'UWWTR Discharge Sample point' on the attached Plan numbered CG0351401 01/U1, or some other point as agreed in writing with the Agency, so that a representative sample of the Discharge may be obtained.

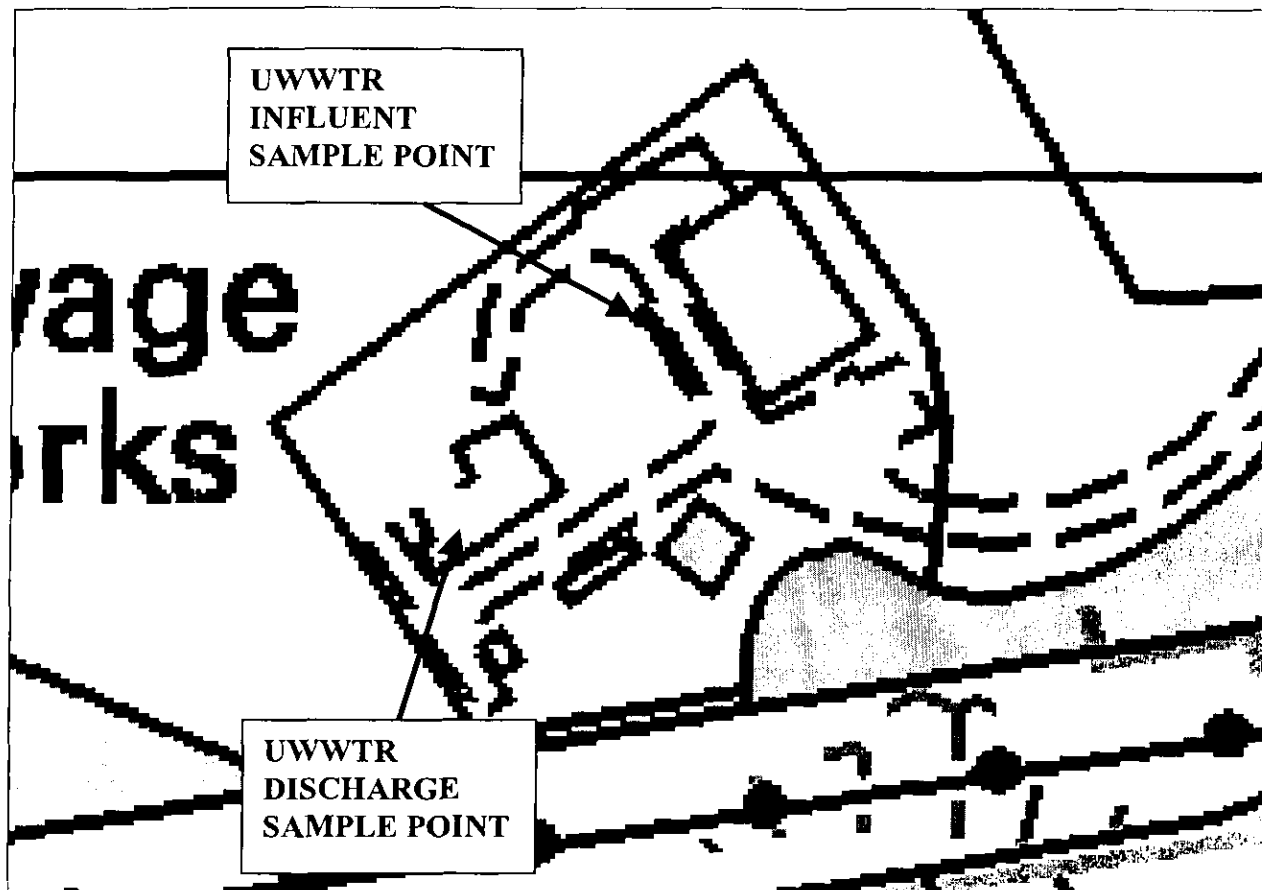
CONSENT NO.	CG0351401
SCHEDULE NO.	CG0351401 01/U



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Amgylchedd Cymru
Environment
Agency Wales

COPY

Location Plan CG0351401 01/U1



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Awdurdod Afonydd Cenedlaethol
Rhanbarth Cymru



National Rivers Authority
Welsb Region

WATER RESOURCES ACT 1991

Consent No. CG0341601

Under Section 88 and Schedule 10 of the Water Resources Act 1991 and all other enabling powers the National Rivers Authority hereby gives this

C O N S E N T

Page 1 of 5

To: Dŵr Cymru Cyfyngedig
Of: Plas-Y-Ffynnon, Cambrian Way, Brecon, Powys LD3 7HP
For: A discharge of treated sewage effluent
To: Tremadog Bay
From: Criccieth Sewage Treatment Works

CONDITIONS OF CONSENT

1. The discharge shall consist only of biologically treated sewage effluent which during periods specified in this consent, has received ultraviolet (UV) light disinfection.

For the purpose of this consent, disinfection is defined as the use of a process designed specifically to reduce the number of viable, potentially infectious micro-organisms in the effluent.

2. The discharge shall be made in the manner and at the place specified as follows:-

Discharging via : 250 mm diameter pipe which extends to 674 metres below the high waters mean spring mark, terminating in four diffuser ports (of sizes 95mm, 105mm, 115mm and 125mm increasing in diameter towards the end of the pipe) spaced 5.3 metres apart.

Discharging to : Tremadog Bay

At OS Grid Ref. : SH 4864 3685

As shown marked : 'Discharge Point' on the attached drawing/plan no. CG0341601.

continued

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Rhanbarth Cymru



National Rivers Authority
Welsh Region

WATER RESOURCES ACT 1991
Continuation Sheet

Consent No. CG0341601

page 2 of 5

3. Adequate facilities, approved in writing by the Authority, shall be provided to enable representative samples of the discharge to be safely and conveniently obtained at any time at a sampling chamber as shown marked 'Sampling Point' on the attached drawing/plan no. CG0341601.
4. The volume of effluent discharged under dry weather flow conditions shall not exceed 1387 cubic metres per day.
5. The maximum rate of flow of effluent discharged shall not exceed 58 litres per second.
6. The maximum volume of effluent discharged shall not exceed 2830 cubic metres per day.
7. Calibrated apparatus, approved in writing by the Authority, shall be provided and maintained in full working order, to permit the instantaneous rate of flow of effluent discharged to be measured accurately at any time.
8. The quality of the effluent discharged at all flow rates up to the maximum specified in condition 6 shall not be inferior to the following lower tier numerical limits, except as provided for in the Annex 1.
 - (a) The lower tier 5 day Biochemical Oxygen Demand (BOD ATU), determined at 20 degrees Celsius after suppression of nitrification using allyl thiourea, shall not exceed 50 milligrammes of Oxygen per litre of sample.
 - (b) The lower tier Suspended Solids concentration (dried at 105 degrees Celsius) shall not exceed 60 milligrammes per litre of sample.
9. The Authority shall be informed in writing as soon as reasonably practicable of any information received by Dŵr Cymru to the effect that there has been or is likely to be discharged into the sewerage system connected to the works, a significant increase in the quantity of any of the substances listed in the attached Annex 2.

continued.....

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Rhanbarth Cymru



National Rivers Authority
Welsh Region

WATER RESOURCES ACT 1991
Continuation Sheet

Consent No. GC0341601

page 3 of 5

10. For the purpose of this consent dry weather flow shall mean the average daily flow to the treatment works during seven consecutive days without rain (excluding a period which includes public holiday) following seven days during which the rainfall did not exceed 0.25 mm on one day.
11. The effluent shall at no time contain any matter other than matters specifically authorised or limited by numerical conditions in this consent, to such an extent as to cause the receiving waters to be poisonous or injurious to fish or the spawning ground, spawn or food of fish.
12. The disinfection of the effluent by means of UV irradiation is only required for the period 1st May to 30th September inclusive. Operation of the UV irradiation equipment outside of this time period is at the dischargers' discretion.
13. All of the effluent shall be disinfected by means of UV irradiation, of an appropriate wavelength, produced by means of an artificial source (at least 75% of the energy emitted in the wavelength range 250-260 nm).
14. The disinfection facility shall be constructed to ensure that its hydraulic characteristics and the path length of the UV irradiation are such that, during the required period of disinfection, the effluent receives the dose specified in condition '16' or '17', as appropriate.
15. The nominal dose rate shall take into account the flow rate of effluent through the disinfection facility (l/s), a UV transmission value for the effluent (at 254 nm) of 45% (or such higher value as is agreed with the NRA in writing) and the rated output (mW) of the UV lamps which are energised. If the UV transmission drops below 45% then the NRA will consider immediate introduction of additional conditions to ensure that the effluent is of adequate quality for effective disinfection.

continued.....

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National Rivers Authority
Welsh Region

WATER RESOURCES ACT 1991
Continuation Sheet

Consent No. CG0341601

page 4 of 5

16. If the works is commissioned (see '24' below) in the period March to September inclusive then, a nominal UV dose rate of 32 mW.s/cm^2 must be exceeded at all times, during the first bathing season. If the works is commissioned outside of this period then, prior to the start of the first bathing season following commissioning, after consideration of the initial results of the monitoring programme in Annex 3, by the NRA, a revised nominal dose rate may be specified, to be applied during the bathing season (1st May - 30th September inclusive).
17. In the event of failure of any measurement system used in the control of UV dosing equipment, the maximum available number of duty UV modules shall be automatically activated. The minimum design UV dose rate, at maximum effluent flow rates and 45% UV transmission (at 254 nm), shall not be less than 32 mW.s/cm^2 in this eventuality.
18. Hourly, or more frequent, values of the nominal and empirical UV dose rate (and the flow, measured UV intensity and other parameters, used in dose rate calculations) shall be recorded and supplied to the NRA on a monthly basis, in a format to be specified. The method of calculating the UV dose rates is specified in Annex 4.
19. The equipment for estimating the UV dose and measuring the instantaneous flow rate and received UV intensity must be made accessible to the NRA for inspection, whenever reasonably requested.
20. A standby generator shall be provided to enable automatic resumption of full biological treatment and UV disinfection in the event of external power supply failure.
21. Details of the maintenance of the disinfection equipment which is undertaken, to a programme agreed in writing with the NRA, shall be made available to the NRA on request. Any failure to meet the programme should be advised to the NRA as soon as is practicable.
22. The discharger shall carry out the monitoring programme as detailed in Annex 3 for the duration of the commissioning of the UV disinfection equipment and during the period specified in the consent, when the effluent receives UV disinfection.

continued.....

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Awdurdod Afonydd Cenedlaethol
Rhanbarth Cymru



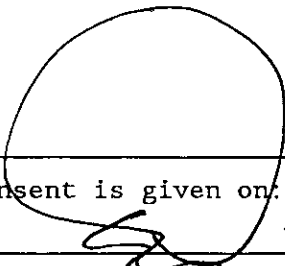
National Rivers Authority
Welsh Region

WATER RESOURCES ACT 1991
Continuation Sheet

Consent No. CG0341601

page 5 of 5

23. The terms and conditions of this consent shall come into force on May 1st, 1996 or on the date of the new works commissioning whichever is the sooner. The discharger shall give the Authority at least one month's written notice before making a discharge.
24. This consent will be reviewed 24 months from the works commissioning date. The works commissioning date is defined as the date on which Dwr Cymru begin operating the UV equipment continuously, for periods of greater than 8 weeks.
25. The outfall shall be maintained in an efficient operational condition at all times.

This Consent is given on: 26th May, 1994 on behalf of the Authority
by:  Area Environmental Quality Manager

During the period ending with the: 25th May, 1996 the terms of this
Consent will not be altered without the written agreement of the person
making the discharge.

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AAC



NRA

ANNEX 1.

*Awdurdod Afonydd Cenedlaethol
Rhanbarth Cymru*

*National Rivers Authority
Wales Region*

Where the number of samples taken in any period of twelve consecutive months falls within any of the ranges within Column 1 of the table below, the number of samples which are inferior to the numerical quality limit in force at the time for any determinand shall not exceed the appropriate permitted number as listed in Column 2. A sample shall only be considered as having failed in relation to the particular determinand(s) for which the specified quality limit is exceeded. A sample shall be considered to be satisfactory in relation to other determinands the concentration of which are equal to or lower than the specified limit. This annex shall not apply to the upper tier limits.

TABLE

<u>Column 1</u>	<u>Column 2</u>
Number of samples taken in any period of 12 months	Maximum number of samples permitted to exceed limit for given determinand
4-7	1
8-16	2
17-28	3
29-40	4
41-53	5
54-67	6
68-81	7
82-95	8
96-110	9
111-125	10
126-140	11
141-155	12
156-171	13
172-187	14
188-203	15
204-219	16
220-235	17
236-251	18
252-268	19
269-284	20
285-300	21
301-317	22
318-334	23
335-350	24
351-365	25

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ANNEX 2.



*Awdurdod Afonydd Cenedlaethol
Rhanbarth Cymru*

SUBSTANCE

*National Rivers Authority
Welsh Region*

Mercury	Fenthion
Cadmium	Parathion
g-Hexachlorocyclohexane	Parathion-methyl
DDT	Tetrachloroethylene
Pentachlorophenol	Trichloroethane
Hexachlorobenzene	Dioxins
Hexachlorobutadiene	Isodrin
Aldrin	
Dieldrin	
Endrin	
Polychlorinated Biphenyls	
Dichlorvos	
1,2 Dichloroethane	
Trichlorobenzene	
Atrazine	
Simazine	
Tributyltin compounds	
Triphenyltin compounds	
Trifluralin	
Fenitrothion	
Azinphos-methyl	
Malathion	
Endosulphan	
Carbon tetrachloride	
Chloroform	
Trichloroethylene	
Perchloroethylene	
Lead	
Chromium	
Zinc	
Copper	
Nickel	
Arsenic	
Iron	
pH	
Boron	
Vanadium	
PCSDs	
Cyfluthrin	
Sulcofuron	
Flucofuron	
Permethrin	
Cyanide	
Azinphos-ethyl	

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A N N E X 3.



*Awdurdod Afonydd Cenedlaethol
Rhanbarth Cymru*

*National Rivers Authority
Wales Region*

M O N I T O R I N G P R O G R A M M E

A). SAMPLE POINTS.

- i) Crude influent to sewage treatment works
 - ii) Effluent after UV disinfection
- Locations to be agreed in writing with the Authority.

B). MICROBIOLOGICAL DETERMINANDS AND FREQUENCIES AT ALL SAMPLE POINTS.

(NRA Standard Analytical Methods to be employed, including AQC)

- i) Faecal Coliforms - weekly.
- ii) Faecal Streptococci - weekly.
- iii) Representative enteroviruses - weekly.
- iv) F-specific bacteriophage - weekly.

D.) UV TRANSMISSION

The UV transmission (at 254 nm) will be measured on the final effluent, weekly.

C.) REPORTING.

Results of the monitoring programme are to be supplied to the NRA via a data report every 3 months following the works commissioning date with a final report 24 months after commissioning.

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**AAC****A N N E X 4****CALCULATION OF UV DOSE RATE****NRA**

*Audurdod Afonydd Cenedlaethol
Rhanbarth Cymru*

*National Rivers Authority
Welsh Region*

(1) UV DOSE = AVERAGE INTENSITY x RETENTION TIME

AVERAGE INTENSITY is affected by sleeve and effluent transmission and lamp output. DESIGN AVERAGE INTENSITY requires assumptions to be made on all of these parameters.

RETENTION TIME is defined as FLOW RATE divided by REACTOR VOLUME. REACTOR VOLUME is the volume of effluent at any given time flowing within the usable reactor volume. FLOW RATE can be directly stated and measured as a process variable.

It is impracticable to measure actual retention time, but ADJUSTED RETENTION TIME can be derived from expected actual retention time and measured flow rate.

NOMINAL UV DOSE can be calculated and recorded. It is based upon THEORETICAL AVERAGE INTENSITY at a DESIGN UV TRANSMISSION and does not take into account sleeve fouling. ADJUSTED RETENTION TIME is used in the calculation :-

(2) NOMINAL UV DOSE = THEORETICAL AVERAGE INTENSITY x ADJUSTED RETENTION TIME

EMPIRICAL UV DOSE is based on the UV sensor reading of intensity. It therefore takes into account sleeve and effluent transmission and lamp output. ADJUSTED RETENTION TIME is used in the calculation.

(3) EMPIRICAL UV DOSE = MEASURED INTENSITY x ADJUSTED RETENTION TIME

NB DESIGN AVERAGE INTENSITY takes lamp ageing into account.
THEORETICAL AVERAGE INTENSITY does not

NOTE - See manufacturer's technical specification for further information.

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Mr. Selwyn Lewis,
 Consents Officer,
 Dwr Cymru,
 Cambrian Way,
 Brecon,
 POWYS

9th February 1994

Dear Selwyn,

UV DISINFECTION CONSENTS

At the meeting held in Swansea on 27th January the following represents my understanding of what was agreed in relation to UV disinfection schemes :-

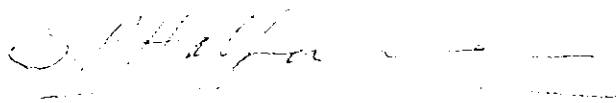
1. The NRA would not impose BOD and suspended solids conditions in order to protect the performance of the UV disinfection process. The safeguarding of disinfection, against inadequate secondary treatment performance, would be addressed by UV transmission measurements, which would be incorporated in the monitoring programme and undertaken by the NRA during consent compliance monitoring.

2. Dwr Cymru would state, in writing, that, if compliance with the default UV transmission value of 45% was problematic, then they would accept additional appropriate conditions at any time during the duration of the consent. Appropriate conditions would be the subject of negotiation if a problem became apparent, but might include BOD and/or suspended solids limits.

3. Effluent UV transmission values below 45% would not constitute a breach of consent but would invoke the negotiations described in '2' above.

I would be grateful if you would indicate whether you agree that 1-3 accurately represent our agreement and if you would provide the written undertaking, described in '2' above, to cover any Dwr Cymru UV disinfection schemes, for the period where disinfection is mandatory in the consent.

Regards,



Simon Halfacree
 (Consents and Environment Officer)



Mr S Halfacre
Consents & Environment Officer
National Rivers Authority
Plas-yr-Afon
St Mellons Business Park
St Mellons
Cardiff
CF3 0LT

Dyddiad/Date:

10 March 1994

Ymholiadau/Enquiries:

Ein Cyf/Our Ref:

SHL/CJW/CO2(Gen)

Eich Cyf/Your Ref:

Dear Simon

UV Disinfection Consents

Thank you for your letter of 9th February concerning the above matter which does, in principle, represent our discussions on the 27th January.

The one issue that we would like to expand upon is what in practice is meant by problematic compliance with the 45% UV transmission value. In particular we would hope that an occasional or marginal infraction of the 45% value would not trigger a consent review, assuming that there was no incidence of adverse environmental effect.

We therefore propose the following:

"If the compliance with the default UV transmission value of 45% becomes problematic such that the efficiency of the UV treatment process is reduced to an extent that threatens the quality objectives of the receiving waters then Dŵr Cymru will accept the additional appropriate conditions within the 2 year period during which conditions could not normally be changed."

"Appropriate conditions would be the subject of negotiation if problems become apparent and might include biochemical oxygen demand and or suspended solids".

Yours sincerely

Selwyn Lewis
Consents Regulation Officer

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Dŵr Cymru Cyf, cwmni cyfyngedig wedi'i gofrestru yng Nghymru Rhif 2366777 Un o grŵp cwmnïau Welsh Water PLC
Swyddfa Gofrestredig: Plas y Ffynnon Ffordd Cambria Aberhonddu Powys LD3 7HP

Dŵr Cymru Cyf, a limited company registered in Wales No 2366777 One of the Welsh Water PLC group of companies
Registered Office: Plas y Ffynnon Cambrian Way Brecon Powys LD3 7HP



Mr. S. Lewis,
Consents Regulation Officer,
Dwr Cymru,
Cambrian Way,
Brecon,
POWYS
LD3 7HP

14th March 1994
Your ref: SHL/CJW/CO2(Gen)
Our ref : SPH/D11

Dear Selwyn,

UV DISINFECTION CONSENTS

In reply to your letter of the 10th March, we have considered your proposed ammendment to the wording of my letter of the 9th February and would like to propose a further ammendment. The following is proposed to replace section '2' and '3' of my original letter:-

"If the compliance with the default UV transmission value of 45% becomes problematic the NRA will consider reviewing the consent, but will bear in mind the extent to which the reduced efficiency of the UV treatment process might affect the water quality objectives of the receiving waters. Dwr Cymru will accept additional appropriate conditions within the 2 year period during which conditions could not normally be changed."

"Appropriate conditions would be the subject of negotiation if problems become apparent and might include biochemical oxygen demand and/or suspended solids limits."

The change of emphasis is due to the need for the consent to guarantee, as far as possible, compliance of the receiving water with relevant water quality objectives. Your proposed wording implies a need for the NRA to prove that these objectives are threatened before acceptance of changes to the consent.

With regard to occasional or marginal infraction of the 45% value, the NRA will consider the available data, including that from the monitoring programme, in interpreting the significance of such events.



DŴR CYMRU
WELSH WATER

Mr S Halfacre
Consents Officer
National Rivers Authority
Plas-yr-Afon
St Mellons Business Park
St Mellons
Cardiff
CF3 0LT

Dyddiad/Date:

14 March 1994

Ymholiadau/Enquires:

Ein Cyt/Our Ref:

SHL/CJW/C02(Gen)

Eich Cyt/Your Ref:

Dear Simon

UV Disinfection Consents

I refer to your faxed letter of 14th March and confirm that we accept the amendment.

Yours sincerely

Selwyn Lewis
Consents Regulation Officer

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Registered Office Plas y Ffynnon Cambrian Way Brecon Powys LD3 7HP**

Your ref.: various
Our ref.: N/WQConsents/DSAnnex

Date: 14th March 2000



ASiantaeth YR
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

Mr A. Andrews
Dŵr Cymru cyf.
Plas Y Fynnon
Cambrian Way
Brecon
LD3 7HP

RECEIVED
14 - 5 APR 2000
BUCKLEY

Dear Sir

DISCHARGE CONSENTS - NOTIFICATION OF CHANGE TO DANGEROUS SUBSTANCES ANNEX

According to our records, you have a Consent to discharge trade or sewage effluent. The Discharge Consent contains the following condition or one that is similar: -

"The discharger shall notify the Agency in writing if any known introduction or material change in respect of discharges from trade premises...occurs that may increase or introduce into the effluent any "dangerous substance" included on List I, List II, or Red List (set out in Annex ...to this notice as updated from time to time and notified to the discharger in writing)..."

Owing to Regulations issued by DETR, the Environment Agency has reviewed the listing of substances in the Annex to this condition.

The Surface Waters (Dangerous Substances) (Classification) Regulations (SI No 2560 (1997) and SI No 389 (1998)) have made some substances, which had previously been identified in Government circular 7/89, statutory and have added 20 new substances to this list. The Annex listing has also been revised to reflect the additional substances in the Regulations and to include other substances that have become a cause for concern since 1989 when the listing was first issued.

This letter and the attached revised listing serves as the required Notification, referred to in the Consent condition. The change takes immediate effect. Please replace the old list with the new one. Please contact your local Environment Agency office and write or speak to Alun Davies if you have any queries about this letter.

Thank you for your help in this important matter.

Yours faithfully

B. Williams

PP. **KEVIN THOMAS**
WATER QUALITY MANAGER WALES

Asiantaeth yr Amgylchedd Cymru
Plas-yr-Afon, Parc Busnes Llancirwg, Llancirwg, Caerdydd, CF3 0EY
Ffon: 029 20770088 Ffacs: 029 20798555

Environment Agency Wales
Rivers House, St Mellons Business Park, St Mellons, Cardiff, CF3 0EY

CONSENT NO.	CGO341501
SCHEDULE NO.	

ANNEX

- | | |
|--|------------------------------|
| 1. Mercury and its compounds | 2. Cadmium and its compounds |
| 3. Hexachlorocyclohexane
(lindane and related compounds) | 4. Carbon tetrachloride |
| 5. DDT (the isomers of 1,1,1-trichloro-2,2 bis{p-chlorophenyl} ethane) | |
| 6. Pentachlorophenol (PCP) | 7. Aldrin |
| 8. Dieldrin | 9. Endrin |
| 10. Isodrin | 11. Hexachlorobenzene (HCB) |
| 12. Hexachlorobutadiene (HCBd) | 13. Chloroform |
| 14. Polychlorinated biphenyls | 15. Dichlorvos |
| 16. 1,2-Dichloroethane | 17. Trichlorobenzene |
| 18. Atrazine | 19. Simazine |
| 20. Tributyltin compounds | 21. Triphenyltin compounds |
| 22. Trifluralin | 23. Fenitrothion |
| 24. Azinphos-methyl | 25. Malathion |
| 26. Endosulfan | 27. Lead |
| 28. Chromium | 29. Zinc |
| 30. Copper | 31. Nickel |
| 32. Arsenic | 33. *Iron |
| 34. *pH outside range 5.5 to 9.0 | 35. *Boron |
| 36. Vanadium | 37. PCSD'S |
| 38. Cyfluthrin | 39. Sulcofuron |
| 40. Flucifuron | 41. Permethrin |
| 42. 4-Chloro-3-methyl-phenol | 43. 2-Chlorophenol |
| 44. 2,4-Dichlorophenol | 45. 2,4-D (ester) |
| 46. 2,4-D (non ester) | 47. 1,1,1-Trichloroethane |
| 48. 1,1,2-Trichloroethane | 49. Bentazone |
| 50. Benzene | 51. Biphenyl |
| 52. Chloronitrotoluenes | 53. Demeton |
| 54. Dimethoate | 55. Linuron |
| 56. MCPA | 57. Mecoprop |
| 58. Mevinphos | 59. Napthalene |
| 60. Omethoate | 61. Toluene |
| 62. Triazophos | 63. Xylene |
| 64. Cyanide | 65. Azinphos-ethyl |
| 66. Fenthion | 67. Parathion |
| 68. Parathion-methyl | 69. Trichloroethylene |
| 70. Tetrachloroethylene | 71. Dioxins |
| 72. PAHs | 73. Nonyl phenol |
| 74. Nonyl phenyl ethoxylate | 75. Di-ethylhexyl phthalate |
| 76. Bisphenol-A | 77. Diazinon |
| 78. Chlorfenvinphos | 79. Chlorotoluron |
| 80. Isoproturon | 81. Diuron |
| 82. Propetamphos | 83. Flumethrin |
| 84. Amitraz | 85. High-Cis Cypermethrin |
| 86. Cyromazine | 87. Deltamethrin |
| 88. Cypermethrin | |

This list is applicable as at 1 December 1998 and will be updated as and when changes to the relevant legislative requirements occur.

*Notification to the Agency by the Consent holder is only required in respect of changes to trade effluents likely to cause significant changes to the pH value, and/or iron or boron concentrations, of the crude sewage.