

Environmental Protection
Agency
26 NOV 2012

Rowan
Engineering
Consultants Ltd.

Office of Climate, Licensing and Resource Use
EPA Headquarters,
PO Box 3000,
Johnstown Castle Estate,
Co. Wexford.

23rd November 2012

Licensee: Wellman International Limited, Mullagh, Kells, County Meath
License No.: P0236-02
Objector: Wellman International Limited, Mullagh, Kells, County Meath
Objection type: Licensee against some proposed Conditions and Schedules
Fee due: €253 (cheque attached)

Dear Sir/Madam,

This is in relation to the Proposed Determination under IPPC Reg No. P0236-02 issued to Wellman International Limited on 31st October 2012. Wellman International Limited objects in accordance with Section 87 of the Environmental Protection Agency Acts 1992-2012 to the following licence elements:

- Condition 6.12
- Condition 6.15.1
- Condition 6.15.2
- Condition 9.1
- Schedule B.1
- Schedule B.2
- Schedule B.4
- Schedule C.1.1
- Schedule C.2.1
- Schedule C.2.2
- Schedule C.5

Rowan Engineering Consultants Ltd on behalf of Wellman International Limited provides the grounds for the objection and the reasons, considerations and arguments on which they are based in the various sections below. We have attached the appropriate fee of €253 with this objection.

58 Academy Street, Navan, Co. Meath, Ireland

Tel: +353 46 9030102/3 Mob: +353 868327792 Email: info@rec.ie Web: www.rec.ie

VAT No: 8282592C Registered in Ireland No: 282592

Directors: Tom Rowan, Barry Rowan

1. Condition 6.12

“Within eighteen months of the date of this licence, the licensee shall, in line with the criteria set out in the Guidance on the Authorisation of Discharges to Groundwater, published by the Environmental Protection Agency, review the most relevant hydrogeological assessment report for the installation or where relevant, arrange for an assessment of the installation, by an appropriately qualified consultant/professional, to demonstrate compliance with the European Communities Environmental Objectives (Groundwater) Regulations 2010, S.1. No 9 of 2010. A report on the review or assessment report with recommendations shall be included in the next AER. Further to the hydrogeological review or assessment, any actions (including the setting of groundwater compliance values, if appropriate) required to demonstrate compliance with the European Communities Environmental Objectives (Groundwater) Regulations 2010, shall be implemented before the 22nd December 2015’.

Note:

Wellman International Limited considers that this condition should be reviewed.

Reasoning:

Contrary to the Inspectors Report, Wellman International Limited has installed 6 No. boreholes. The groundwater in these boreholes has been monitored every 3 years as requested by the Agency.

2. Condition 6.15.1

“A visual examination of the storm water discharges shall be carried out daily. A log of such inspections shall be maintained”.

Objection:

Wellman International Limited considers that this condition should be revised in the licence to:
“A visual examination of the storm water discharges shall be carried out weekly. A log of such inspections shall be maintained.

Reasoning:

It is considered that the condition should be revised to be in keeping with existing licence (P0236-01) and Schedule C.2.3 ‘Monitoring of Storm Water Emissions’ of P0236-02 which requires weekly visual inspection of the storm water emission. In addition, Wellman International Limited has not had any issues with their storm water emission.

3. Condition 6.15.2

“The licensee shall establish suitable trigger levels for pH, Conductivity, COD and TOC in storm water discharges, such that storm waters exceeding these levels will be diverted for retention and suitable disposal. The licensee shall have regard to the Environmental Protection Agency “Guidance on the setting of trigger values for storm water discharges to off-site surface waters at EPA IPPC and Waste licensed facilities” when establishing the suitable trigger levels”.

Objection:

Wellman International Limited considers that this condition should be revised in the licence to:

“The licensee shall establish suitable trigger levels for pH, temperature, conductivity, COD and total ammonia in storm water discharges, such that storm waters exceeding these levels will be diverted for retention and suitable disposal. The licensee shall have regard to the Environmental Protection Agency “Guidance on the setting of trigger values for storm water discharges to off-site surface waters at EPA IPPC and Waste licensed facilities.” when establishing the suitable trigger levels”.

Reasoning:

It is considered that TOC should be removed from the condition given it is not a parameter the site is required to monitor monthly in Schedule C.2.3 ‘Monitoring of Storm Water Emissions’ of P0236-02. It is recommended that temperature and total ammonia are added to parameters in the condition given they are included in Schedule C.2.3.

4. Condition 9.1

“The licensee shall, within six months of date of grant of this licence, ensure that a documented Accident Prevention Procedure is in place that addresses the hazards onsite, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary”.

Objection:

Wellman International Limited considers that this condition should be revised in the licence to:

“The licensee shall maintain a documented Accident Prevention Procedure that addresses the hazards onsite, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary”.

Reasoning:

Wellman International Limited has an existing documented Accident Prevention Procedure.

5. Schedule B.1 Emissions to Air (A2-13)

Emission Point Reference No.:	A2-13					
Location :	Roof of Sort and Prep Department					
Volume to be emitted:	Maximum in any one day :	87,384 m ³				
	Maximum rate per hour :	3,641 m ³				
Minimum discharge height:	6.33 m above ground					
<table border="1"> <thead> <tr> <th>Parameter</th> <th>Emission Limit Value</th> </tr> </thead> <tbody> <tr> <td>General Dusts</td> <td>150 mg/m³ (at mass flows < 0.5 kg/h) 50 mg/m³ (at mass flows > 0.5 kg/h)</td> </tr> </tbody> </table>			Parameter	Emission Limit Value	General Dusts	150 mg/m ³ (at mass flows < 0.5 kg/h) 50 mg/m ³ (at mass flows > 0.5 kg/h)
Parameter	Emission Limit Value					
General Dusts	150 mg/m ³ (at mass flows < 0.5 kg/h) 50 mg/m ³ (at mass flows > 0.5 kg/h)					

Objection:

Wellman International Limited considers that the emission limit values for A2-13 should be removed from the proposed final licence.

Reasoning:

Air emission location A2-13 was decommissioned in January 2005 and the Agency were notified prior of the decommissioning.

6. Schedule B.1 Emissions to Air (A2-27)

Emission Point Reference No.:	A2-27	
Location :	Rosin Dryers Scrubber Exhaust	
Volume to be emitted:	Maximum in any one day :	144,000 m ³
	Maximum rate per hour :	6,000 m ³
Minimum discharge height:	20 m above ground	

Objection:

Wellman International Limited considers that the maximum flow rate per hour for A2-27 should be increased from 6,000 m³ to 10,000 m³.

Reasoning:

The scrubber was installed in 2002 with an operation flow of 10,000m³. The Agency was notified prior and following the commissioning of the new scrubber (refer to correspondence and commissioning report in Appendix A).

The commissioning report (Appendix A) shows that concentrations and mass emission are significantly below licensable limit. This air emission point has been monitored bi-annually since the installation of the new scrubber and the concentrations and mass emission results have always been well below the licence mass emission limits.

Year	Flowrate (m3/hr)	TA Luft Organics Class 1 (mg/m3)	TA Luft Organics Class 2 (mg/m3)	TA Luft Organics Class 3 (mg/m3)
2011	9608	1.1 x 10 ⁻²	<3.8 x 10 ⁻³	<3.8 x 10 ⁻³
2011	10130	2.5 x 10 ⁻²	<3.7 x 10 ⁻³	<3.7 x 10 ⁻³
2010	7045	<LOD	<LOD	<LOD
2010	6867	<LOD	<LOD	<LOD
2009	6935	<LOD	<LOD	<LOD
2009	9300	<LOD	<LOD	<LOD
2008	8686	<3.2 x 10 ⁻³	4.9 x 10 ⁻²	6.1 x 10 ⁻²
2008	9394	<0.37	<0.37	5.38
2007	7961	<0.37	<0.37	1.83
2007	9394	<0.37	<0.37	<0.37

Table 1 Summary of A-27 monitoring results 20017-2011

7. Schedule B.2 Emission to Water

B.2 Emissions to Water		
Monitoring Location:	SW1 (treated effluent prior to mixing with storm water and cooling water)	
Discharge Location:	SWDP1	
Name of Receiving Waters:	Moynalty River	
Volume to be emitted:	Maximum in any one day:	580 m ³
	Maximum in any one hour:	25 m ³
Parameter	Emission Limit Value ^{Note 1}	
Temperature	20°C °C (max)	
pH	6 – 8.5	
Toxicity	5 TU	
	Emissions limit values will apply until the 22 nd December 2015 (mg/l)	Emissions limit values will apply from the 22 nd December 2015 (mg/l)
BOD	18	15
Suspended Solids	18	18
Total Nitrogen	15	15
Total Ammonia (as N)	8	1
Ortho Phosphate (as P)	2	0.60
Detergents	4	4
Oil, fats and greases	10	10

Note 1: All emission limit values refer to the treated effluent as sampled at monitoring point SW1

Objection:

Wellman International Limited considers the existing licence provision that allows 'The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/d and 25 m³/h' should be retained in the new licence.

Reasoning:

a. The Proposed new ELV's for SW-1 cannot be met

As part of the sites existing IPPC licence Wellman International Limited and the Agency monitor the treated effluent emission SW-1 from the site. A summary of the Wellman SW-1 results from January 2011 to September 2012 as submitted to the Agency is provided in Table 2 below while the full data set may be seen in Appendix B.

SW-1 Analysis	2012^{Note 1} Mean	2011 Mean	2012^{Note 1} Max	2011 Max	*Limit
COD, mg/l	1196	1031	1950	1950	None
Flow rate, m3/d	103	114	205	228	580
CBOD5, mg/l	43	30	78	49	18
CBOD5, kg/d	4.36	3.50	8.31	7.44	10.44
SS, mg/l	40	25	82	43	18
SS, kg/d	4.19	2.86	10.27	6.20	10.44
OFG, mg/l	8.2	4.5	16.5	16.1	10
OFG, kg/d	0.85	0.50	1.82	2.00	5.8
Total Ammonia (as N), mg/l	0.94	0.3	6.30	0.8	8
Total Ammonia (as N), kg/d	0.05	0.11	0.20	1.01	4.64
Ortho-phosphate mg/l	0.88	1.2	3.3	4.9	2
Ortho-phosphate kg/d	0.09	0.11	0.33	0.29	1.16

Table 2 Wellman SW-1 analysis summary 2012 & 2011 (as submitted to the Agency)

Note 1: 2012 results Jan-Sept

Note 2: Results compliant based on mass emission

* The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/d and 25 m³/h'

A summary of the Agency's monitoring 2010-2012 at SW-1 is also provided in Table 3 below.

SW-1 Analysis Note 1	05/05/2010	02/11/2010	23/02/2011	12/10/2011	19/04/2012	*Limit
BOD mg/l	24	50	31.54	83.5	57	18
SS mg/l	34	36	39	38	98	18
Ammonia mg/l	0.07	0.05	0.04	0.04	0.08	8
Ortho-P mg/l	0.04	0.57	0.04	0.14	0.15	2

Table 3 Agency monitoring at SW-1 2010-2012

Note 1: Results compliant based on mass emission

* The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/d and 25 m³/h'

It is apparent from the sites and the Agency's monitoring data at SW-1 that the concentration emission limit values for BOD and suspended solids are not being met on a consistent basis. At present the emission is compliant based on the mass emission limit only.

Table 4 below compares the existing and the proposed emission limit values for SW-1. The proposed new emission limit values represent a substantial decrease in existing emission limit values of 82.3%.

SW-1 Analysis	2012 ^{Note 1} Mean	*Existing IPPC Limit	**Proposed Limit until 22 nd December 2015	**Reduction in ELV kg/d	** % Reduction in ELV
CBOD5, kg/d	4.36	10.44	1.85	-8.59	-82.3%
SS, kg/d	4.19	10.44	1.85	-8.59	
OFG, kg/d	0.85	5.8	1.03	-4.77	
Total Ammonia (as N), kg/d	0.05	4.64	0.824	-3.82	
Ortho-phosphate kg/d	0.09	1.16	0.2	-0.95	

Table 4 Comparison of mass emission reduction in the existing & proposed IPPC licences

Note¹: SW-1 2012 results Jan-Sept

* The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/d and 25 m³/h'.

**Proposed limit mass emission calculated on 2012 mean flow rate of 103m³/day.

It appears that the Agency as part of the review were not fully aware of the characteristics of the final treated effluent as detailed in Table B.1(ii) of the IPPC review application. The Inspectors Report states 'monitoring data based on 12 samples taken over a three week period between 27th June 2011 and the 15th July 2011, submitted as part of the review indicate that the proposed ELV's for total ammonia and ortho p can be met... for... the 2011 AER indicates that the limit for BOD can be met, with 3.5kg/day (6mg/l) BOD reported as an average reading in 2011'.

The BOD 3.5kg/day as submitted in the 2011 AER equates to mean flow rate of 114m³ and a mean BOD concentration of 30mg/l as detailed in Table 2 above. The 6mg/l BOD calculated by the Agency is based on a max discharge of 580m³/day. There is no the reference in the Inspectors Report to the BOD monitoring data for SW-1 submitted in Table B.1(ii) of the IPPC review application which detailed an average BOD of 34.4mg/l and a max BOD of 45mg/l over the three week period between 27th June 2011 and the 15th July 2011.

Similarly, there is no mention of the suspended solids data for SW-1 submitted in Table B.1(ii) of the IPPC review application which detailed an average suspended solids of 21mg/l and a max suspended solids of 41mg/l over the three week period between 27th June 2011 and the 15th July 2011.

It is unreasonable to expect Wellman International Limited to comply with the proposed new stringent concentration emission limit values for BOD and suspended solids in the new licence when they are not currently achievable without any time period for upgrades.

b. Assimilation Capacity Calculation Methodology

The assimilation capacity calculation/mixing calculation methodology adopted by the Agency are based on mass emissions based on a maximum permitted flow of 580m³/day that demonstrate compliance to the European Communities Environmental objectives (Surface Waters) rather than

just the individual concentration limits (ELV's). Given this, it is reasonable to assume that the concentration limit can continue to be increased pro-rata for treated effluent flows from the WWTP below 580m³/day.

c. Recent Investment in the Wastewater Treatment Plant

Wellman International Limited has invested in the Wastewater Treatment Plant (WWTP) in 2012. Over €200,000 has been invested in diffused aeration in 2012. The new WWTP has been designed to meet the emission limit values based on the pro-rata basis that pertains at present.

d. Moynalty River

The Inspectors Report for the IPPC review states, *'the Moynalty River has a water quality status rating of 'moderate' and the eastern river basin management plan has set the water quality objectives as restore to 'good status' by 2021'*.

From a review of the EPA published Moynalty River chemical monitoring data (Table 5 below) c.100m downstream of the Wellman International Ltd. SW-1 discharge, it is evident that the river is currently meeting the required 'good status' chemical standard outlined in the European Communities Environmental Objectives (Surface Waters) Regulation 2009, as amended.

Parameter	No. Samples	Min	Mean	Max	**95%ile good status standard mg/l
BOD - 5 days (Total) (mg/l O₂)	4.00	1.17	1.39	1.79	≤2.6
Ammonia-Total (mg/l N)	12.00	0.01	0.04	0.08	≤0.075
ortho-Phosphate (mg/l P)	12.00	0.01	0.03	0.07	≤0.140

Table 5 EPA Monitoring data 2007-2009 c.100m downstream of SW-1 (station RS07M030200)

*Monitoring data abstracted from Appendix 3.3 in the 'Water Quality in Ireland 2007-2009'.

**European Communities Environmental Objectives (Surface Waters) Regulation 2009, as amended.

The EPA's Moynalty River chemical monitoring data downstream of the Wellman International Ltd. SW-1 discharge (Table 5) indicates that the Moynalty River can accept the existing discharge based on the existing mass emission limit.

It is also noted in the Inspectors Report that *'the main cause for concern regarding the Moynalty River is diffuse pollution from agriculture'* and not IPPC licensed industrial sources such as Wellman International Ltd. SW-1 discharge.

e. Dilution of final effluent

Furthermore, consideration must be given that the SW-1 effluent discharge gets further dilution when it combines with a proportion of storm water prior to discharging to the Moynalty River.

8. Schedule B.4 Noise Emissions

B.4 Noise Emissions	
Daytime dB(A) L_{Aeq} (30 minutes)	Night-time dB(A) L_{Aeq} (30 minutes)
55 ^{Note 1}	45 ^{Note 1}

Note 1: There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity of any noise-sensitive location (with the exception of the noise sensitive location at N2).

Objection:

Wellman International Limited considers that the proposed noise emission limits should be based on the existing duration of 15 minutes.

Reasoning:

The existing IPPC licence Condition 8.2 sets the noise emission limits based on a duration of 15 minutes rather than the proposed new 30 minutes duration.

The proposed new noise duration limit would have implications for the annual noise monitoring survey. During the annual noise survey, the monitoring periods at each monitoring location would have to be increased by 15 minutes to reflect the proposed new condition. This is onerous and unnecessary.

Wellman International Limited has implemented a continuous noise reduction programme. The site has been very successful with reducing environmental noise emissions from the plant since the granting of the original IPC Licence. The site has not received any noise complaints from any third parties in over five years and the recent annual noise monitoring surveys have demonstrated that the site is compliant with the existing noise emission limits.

9. Schedule C.1.1 Control of Emissions to Air

Emission Point Reference No.:		A2-13
Description of Treatment:		Water spray scrubbing
Monitoring:		
Control Parameter	Monitoring	Monitoring Equipment
Liquid flow	Visual check	Not applicable
Equipment:		
Control Parameter	Equipment	Backup Equipment
Liquid circulation	Circulation pump	Spares for pump

Objection:

Wellman International Limited considers that the control of emission requirements for A2-13 should be removed from the proposed final licence.

Reasoning:

Air emission location A2-13 was decommissioned in January 2005 and the Agency were notified prior of decommissioning.

10. Schedule C.1.1 Monitoring of Emissions to Air

Emission Point Reference No's.:		A2-13, A2-14
Parameter	Monitoring Frequency	Analysis Method/Technique
Total Particulates	Bi-annually	Iso-kinetic Gravimetric Analysis

Objection:

Wellman International Limited considers that the monitoring requirements for A2-13 should be removed from the proposed final licence.

Reasoning:

Air emission location A2-13 was decommissioned in January 2005 and the Agency were notified prior of decommissioning.

Air emission location A2-14 was discontinued within 12 months of grant of licence, as required by the Agency.

11. Schedule C.2.1 Control of Emissions to Water

C.2.1. Control of Emissions to Water

Monitoring Point Reference No.: SW1 (treated effluent prior to mixing with storm water and cooling water)

Description of Treatment: Biological Waste Water Treatment

Monitoring:

Monitoring to be Carried Out	Monitoring Frequency	Monitoring Equipment/Method
pH (ex Balance Tank)	Weekly	pH Meter/Recorder
BOD (ex Balance Tank)	Weekly	Standard Method
BOD (ex Biotower)	Weekly	Standard Method
Dissolved Oxygen (Aeration Basin)	Continuous	DO Meter/Recorder
BOD (Final Effluent)	Weekly	Standard Method
Flow (Final Effluent)	Continuous	Flow Meter/Recorder
pH (Final Effluent)	Continuous	pH Meter/Recorder
Mixed Liquor Suspended Solids	Daily	Standard Methods
Sludge Volume Index	Daily	Standard Methods

Equipment:

Control Parameter	Equipment	Backup Equipment
Effluent Transfer	Submersible Pump	Standby pump and spare held on site
Dissolved Oxygen	Aerator Fixed DO Meter	Spare parts held on site Portable DO Meter
Suspended Solids	Sludge transfer pumps	Spare held on site
Sludge Dewatering	Belt hydropress	Spare parts held on site

Objection:

Wellman International Limited consider that weekly monitoring BOD (ex biotower) should be removed from the licence. Wellman International Limited consider the 'aerator' from equipment section should be removed. The 'standby blower' should be included in the backup equipment.

Reasoning:

The weekly monitoring BOD (ex biotower) should be removed from the licence given the fact the biotower was decommissioned as agreed with the Agency (Agency approval letter dated 26/10/12 and reference P0236-01/ak19ec). The 'aerator' from equipment section should be removed given that dissolved oxygen is provided by diffused aeration system. The existing 'standby blower' is the back up equipment for the diffused aeration system.

12. Schedule C.2.2 Monitoring of Emissions to Water

Monitoring Point Reference No.:	M/000/S (Combined discharge- SWDP1)
Monitoring location:	271561E, 285137N

Objection:

The grid reference for M/000/S (combined discharge SWPD1) should be updated to- 271541E, 285130N.

Reasoning:

Wellman International Limited considers that the grid reference should be updated as per the verified grid reference submitted as part of the IPPC review application.

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13. Schedule C.5 Noise Monitoring

<p>C.5 Noise Monitoring</p> <p>No additional noise monitoring is required in this schedule.</p>

Objection:

Wellman International Limited consider that this schedule should include reference to the annual noise monitoring requirement.

Reasoning:

The Schedule contradicts Condition 6.16 of the proposed new licence- *'The licensee shall carry out a noise survey of the site operations annually. The survey programme shall be undertaken in accordance with the methodology specified in the Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)' as published by the Agency*.

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Summary

Wellman International Limited feel that the conditions highlighted above should be removed, amended or replaced as suggested in this letter. Wellman International Limited looks forward to continuing our good working relationship with the Agency and endeavour to minimise their environmental impact.

In the meantime, if you have any queries or require any clarification about this objection, please contact us.

Yours Sincerely,



John Lynch
BSc MSc AIEMA

On behalf of Wellman International Limited

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Appendix A A2-27 Commissioning report & correspondence

posted 29/03/02.

A. Slender

WELLMAN INTERNATIONAL LIMITED

Mullagh, Kells, County Meath, Ireland

Telephone +353 46 80278; Fax +353 46 80300



Dr. Maria Martin,
EPA Regional Inspectorate,
Richview,
Clonskeagh Road,
Dublin 14.

29.03.02

Notification under condition 1.2 of IPC licence 236

Dear Maria,

I refer to previous correspondence on 20.12.01 in relation to notification in relation to the proposed replacement of the rosin dryer scrubber at emission point reference A2-27.

As stated in that letter, the scrubber operating at this emission point is required to operate almost continuously. Maintenance work can only be carried out during the two shutdown periods during August and December each year.

It is therefore proposed to commission an additional scrubber to provide 'back-up' and to facilitate essential maintenance outside the two annual shutdown periods.

The new scrubber will operate on the same principles as the existing scrubber (i.e. water spray scrubbing). A new stack is required of diameter 500 mm and height 5.5 m. The existing stack will be removed.

Diversion from one scrubber to another will be electrically controlled and will involve two slide valves on the ductwork for each scrubber. Only one scrubber will be operational at any one time.

The maximum flow rate through the proposed new scrubber is 10,000 m³/hr.



Confidential Report

Customer: Wellman International Ltd
Mullagh
Co. Meath


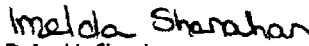
Customer Ref:

F.T.A.O.: Caitriona McGuirk

TMS Environment Ref: 5428

Order No.	Commencement Date: 29/11/2002	Completion Date: 17/12/2002
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Report title: Emissions Survey, at Wellman International, Mullagh, Co. Meath.

Report by:	 Colm Staunton	Adrian McLoughlin	Leona Mulvey
Approved by:	 Dr Imelda Shanahan		

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TMS Environment Ltd., 53 Broomhill Drive, Tallaght, Dublin 24.

Tel: 252 1 462 6714 Fax: 252 1 462 6714 E-mail: info@tmsenv.com

1.0 Scope

This report deals with the monitoring of emissions to atmosphere from 1 emission source at the Wellman International plant at Mullagh, Co. Meath.

2.0 Methodology

TMS Environment Ltd personnel conducted the survey during a one day visit to the site on the 29th November 2002. Samples were collected using a heated filter and heated filter probe at A2-27 (LESNI Scrubber Exhaust). Some of the samples for TA Luft Class I organics were collected using an absorption sampling technique – the absorption reagent contained a DNPH derivatising reagent. The analysis was by HPLC and also by GCMS. Other Class I organics were also determined using an adsorption sampling technique and GCMS analysis. The methodology was based on US EPA sampling methodologies. TA Luft Class II and Class III organics were also determined by GCMS following sampling on to adsorption tubes. Particulate emissions were monitored by isokinetic sampling and gravimetric determination of total particulate. A summary of the sampling and analysis techniques employed during the survey is presented in Table 1.

3.0 Results

The monitoring results are summarised in Table 2, together with the IPC Licence Limits.

4.0 Evaluation of Results

The flow rate at A2-27 outlet exceeds the limit specified in the IPC Licence. The results of all other measurements for TA Luft Classes I, II and III are in compliance with the conditions of the IPC Licence.

Table 1 Scope of emissions monitoring survey

SOURCE	PARAMETER	SAMPLING METHODOLOGY	ANALYSIS METHODOLOGY
A2-27 LESNI SCRUBBER EXHAUST	TEMPERATURE	<i>In situ</i>	Thermocouple
	VELOCITY, FLOW	<i>In situ</i>	Pitot tube
	T A LUFT CLASS I	ABSORPTION	HPLC, GCMS
	TA LUFT CLASS II	ADSORPTION	GCMS
	TA LUFT CLASS III	ADSORPTION	GCMS
		ADSORPTION	GCMS

NOTES

1. T A Luft Class I organics are assumed to consist mainly of aldehydes at A2-27.

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Table 2 Emissions to atmosphere Wellman International, Mullagh, Co. Meath.

EMISSION SOURCE	A2-27 Outlet	
MEASURED EMISSIONS		
TEMPERATURE, °C	24.4	
VELOCITY, m/sec	12.44	
FLOW RATE, Nm ³ /hr	8,653	
	CONCENTRATION, mg/Nm ³	MASS EMISSION RATE, kg/hr
TA LUFT CLASS I ORGANICS		
Propionaldehyde	< 0.03	< 2.9 x 10 ⁻⁴
Formaldehyde	< 0.10	< 8.9 x 10 ⁻⁴
Acrolein	0.05	4.0 x 10 ⁻⁴
Acetaldehyde	13.0	0.112
Butyaldehyde	< 0.03	< 2.9 x 10 ⁻⁴
TOTAL TA LUFT CLASS I Relative to acetaldehyde-24-DMPH	13.0	0.112
TA LUFT CLASS II ORGANICS		
TOTAL TA LUFT CLASS II	< 0.36	< 3.1 x 10 ⁻³
TA LUFT CLASS III ORGANICS		
TOTAL TA LUFT CLASS III	< 0.36	< 3.1 x 10 ⁻³
TOTAL ORGANIC CARBON (Relative to Chloroform)	18.0	1.6 x 10 ⁻¹
IPC LICENCE LIMITS		
	CONCENTRATION, mg/Nm ³	MASS EMISSION RATE, kg/hr
TA LUFT CLASS I ORGANICS	20	> 0.1
TA LUFT CLASS II ORGANICS	100	> 2.0
TA LUFT CLASS III ORGANICS	150	> 3.0
FLOW RATE, Nm ³ /hour	6,000	

**Appendix B SW-1 Monitoring Data submitted to the Agency January
2011- September 2012**

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SW-1 2012

2012

Date	01-Aug	08-Aug	15-Aug	22-Aug	29-Aug	05-Sep	12-Sep	19-Sep	26-Sep	*Limit
COD, mg/l	445	313	415	702	736	731	980	990	976	None
Flow rate, m3/d	32	29	100	100	130	99	105	100	131	580
CBODs, mg/l	35	14.8	20.7	24.4	22.6	16	36.5	35.3	33.6	18
CBODs, kg/d	1.12	0.43	2.07	2.44	2.94	1.58	3.83	3.53	4.40	10.44
SS, mg/l	19	1	14	5	27	34	29	20	48	18
SS, kg/d	0.61	0.03	1.40	0.50	3.51	3.37	3.05	2.00	6.29	10.44
OFG, mg/l	0.74	1.6	0.75	1.66	1.75	0.98	0.92	13.27	5.76	10
OFG, kg/d	0.02	0.05	0.08	0.17	0.23	0.10	0.10	1.33	0.75	5.8
Total Ammonia (as N), mg/l	6.30					<0.27				8
Total Ammonia (as N), kg/d	0.20					<0.03				4.64
Ortho-phosphate (as P), mg/l	0.08					3.30				2
Ortho-phosphate (as P), kg/d	0.003					0.33				1.16

*Note: The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/day

Date	06-Jun	13-Jun	20-Jun	27-Jun	04-Jul	11-Jul	18-Jul	25-Jul	*Limit
COD, mg/l	1650	1460	1100	1650	890	1216	953	575	None
Flow rate, m3/d	129	88	121	158	121	79	205	126	580
CBODs, mg/l	54	53.1	20.8	22.3	68.7	50	36.7	2.1	18
CBODs, kg/d	6.97	4.67	2.52	3.52	8.31	3.95	7.52	0.26	10.44
SS, mg/l	67	70	50	65	72	82	27	24	18
SS, kg/d	8.64	6.16	6.05	10.27	8.71	6.48	5.54	3.02	10.44
OFG, mg/l	14.1	4.8	9	9.6	5	0.39	0.88	1.18	10
OFG, kg/d	1.82	0.42	1.09	1.52	0.61	0.03	0.18	0.15	5.8
Total Ammonia (as N), mg/l	<0.27								8
Total Ammonia (as N), kg/d	<0.03					<0.03			4.64
Ortho-phosphate (as P), mg/l	0.24				0.19				2
Ortho-phosphate (as P), kg/d	0.03				0.02				1.16

*Note: The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/day

Date	04-Apr	11-Apr	18-Apr	25-Apr	02-May	09-May	16-May	23-May	30-May	*Limit
COD, mg/l	1500	1510	1000	1300	1680	1460	1800	1850	550	None
Flow rate, m3/d	124	106	107	94	95	108	88	75	82	580
CBODs, mg/l	53	54	53	63	62	51	56	58	78	18
CBODs, kg/d	6.57	5.72	5.67	5.92	5.89	5.51	4.93	4.35	6.40	10.44
SS, mg/l	58	75	41	70	68	60	51	72	75	18
SS, kg/d	7.19	7.95	4.39	6.58	6.46	6.48	4.49	5.40	6.15	10.44
OFG, mg/l	14	16.5	16.2	15.8	14.5	10.3	11.7	14.2	12.4	10
OFG, kg/d	1.74	1.75	1.73	1.49	1.38	1.11	1.03	1.07	1.02	5.8
Total Ammonia (as N), mg/l	>0.27				<0.27					8
Total Ammonia (as N), kg/d	>0.03				<0.03					4.64
Ortho-phosphate (as P), mg/l	1.22				0.12					2
Ortho-phosphate (as P), kg/d	0.10				0.01					1.16

*Note: The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/day

Date	01-Feb	08-Feb	15-Feb	22-Feb	29-Feb	07-Mar	14-Mar	21-Mar	28-Mar	*Limit
COD, mg/l	1550	1570	1600	1700	1500	1350	1300	1370	1430	None
Flow rate, m3/d	113	91	89	107	80	132	87	129	100	580
CBODs, mg/l	59	52	66	55	47	37	56	56	46	18
CBODs, kg/d	6.67	4.73	5.87	5.89	3.76	4.88	4.87	7.22	4.60	10.44
SS, mg/l	10	31	31	31	21	30	31	25	22	18
SS, kg/d	1.13	2.82	2.76	3.32	1.68	3.96	2.70	3.23	2.20	10.44
OFG, mg/l	6.9	14.4	13.8	14	12.7	6.2	12.2	13.1	12.7	10
OFG, kg/d	0.78	1.31	1.23	1.50	1.02	0.82	1.06	1.69	1.27	5.8
Total Ammonia (as N), mg/l	<0.27					<0.27				8
Total Ammonia (as N), kg/d	<0.03					>.03				4.64
Ortho-phosphate (as P), mg/l	<1.2					>1.2				2
Ortho-phosphate (as P), kg/d	<0.1					<0.2				1.16

*Note: The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/day

Date	04-Jan	11-Jan	18-Jan	25-Jan	*Limit
COD, mg/l	790	1200	900	1950	None
Flow rate, m3/d	90	90	72	98	580
CBODs, mg/l	24	29	33	33	18
CBODs, kg/d	2.16	2.61	2.38	3.23	10.44
SS, mg/l	26	20	27	27	18
SS, kg/d	2.34	1.80	1.94	2.65	10.44
OFG, mg/l	2.6	7.7	1.9	5.4	10
OFG, kg/d	0.23	0.69	0.14	0.53	5.8
Total Ammonia (as N), mg/l	<0.19				8
Total Ammonia (as N), kg/d	<0.01				4.64
Ortho-phosphate (as P), mg/l	0.4				2
Ortho-phosphate (as P), kg/d	0.03				1.16

*Note: The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/day

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Date	02-Nov	09-Nov	16-Nov	23-Nov	30-Nov	07-Dec	14-Dec	21-Dec	28-Dec	*Limit
COD, mg/l	940	888	880	786	800	1300	1300	1500	1200	None
Flow rate, m3/d	155	138	228	136	169	157	112	150	11	580
CBODs, mg/l	36	45	27	29	44	47	30	38	25	18
CBODs, kg/d	5.58	6.21	6.16	3.94	7.44	7.38	3.36	5.70	0.28	10.44
SS, mg/l	40	14	21	22	31	36	31	30	31	18
SS, kg/d	6.20	1.93	4.79	2.99	5.24	5.65	3.47	4.50	0.34	10.44
OFG, mg/l	4.45	2.06	3.25	3.42	3.81	12.4	8.5	6.9	9.6	10
OFG, kg/d	0.69	0.28	0.74	0.47	0.64	1.95	0.95	1.04	0.11	5.8
Total Ammonia (as N), mg/l	<0.3					<0.19				8
Total Ammonia (as N), kg/d	<0.04					<0.03				4.64
Ortho-phosphate (as P), mg/l	<0.08					<1.2				2
Ortho-phosphate (as P), kg/d	<0.01					<0.2				1.16

*Note: The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/day

Date	07-Sep	14-Sep	21-Sep	28-Sep	05-Oct	12-Oct	19-Oct	26-Oct	*Limit
COD, mg/l	900	1156	990	910	980	916	1400	1350	None
Flow rate, m3/d	103	102	98	91	124	143	143	154	580
CBODs, mg/l	26	32.3	15.1	38	28.6	27	18	30	18
CBODs, kg/d	2.68	3.29	1.48	3.46	3.55	3.86	2.57	4.62	10.44
SS, mg/l	21	18	21	31	19	39	26	18	18
SS, kg/d	2.16	1.84	2.06	2.82	2.36	5.58	3.72	2.77	10.44
OFG, mg/l	0.76	5.1	3.7	4	2	2.2	13	13	10
OFG, kg/d	0.08	0.52	0.36	0.36	0.25	0.31	1.86	2.00	5.8
Total Ammonia (as N), mg/l	<.19				<0.19				8
Total Ammonia (as N), kg/d	<0.02				<0.03				4.64
Ortho-phosphate (as P), mg/l	1.28				<1.2				2
Ortho-phosphate (as P), kg/d	0.13				<0.2				1.16

*Note: The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/day

Date	06-Jul	13-Jul	20-Jul	27-Jul	03-Aug	10-Aug	17-Aug	24-Aug	31-Aug	*Limit
COD, mg/l	610	678	810	1000	650	710	700	1000	800	None
Flow rate, m3/d	107	91	80	84	28	71	49	109	117	580
CBODs, mg/l	40	48	36	32	14	25	18	17	23	18
CBODs, kg/d	4.28	4.37	2.88	2.69	0.39	1.78	0.88	1.85	2.69	10.44
SS, mg/l	12	31	32	21	10	21	23	28	21	18
SS, kg/d	1.28	2.82	2.56	1.76	0.28	1.49	1.13	3.05	2.46	10.44
OFG, mg/l	5.5	7.8	11.9	16.1	3.9	0.97	4.47	2.03	1.43	10
OFG, kg/d	0.59	0.71	0.95	1.35	0.11	0.07	0.22	0.22	0.17	5.8
Total Ammonia (as N), mg/l	>0.01				>0.2					8
Total Ammonia (as N), kg/d	>0.01				>0.01					4.64
Ortho-phosphate (as P), mg/l	2.70				4.90					2
Ortho-phosphate (as P), kg/d	0.29				0.14					1.16

*Note: The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/day

Date	04-May	11-May	18-May	25-May	01-Jun	08-Jun	15-Jun	22-Jun	29-Jun	*Limit
COD, mg/l	850	950	1200	810	960	986	910	900	950	None
Flow rate, m3/d	116	111	130	152	141	109	112	84	111	580
CBOD ₅ , mg/l	38	30	30	30	48.8	31	30	24	39.7	18
CBOD ₅ , kg/d	4.41	3.33	3.90	4.56	6.88	3.38	3.36	2.02	4.41	10.44
SS, mg/l	13	31	18	12	31	19	19	21	19	18
SS, kg/d	1.51	3.44	2.34	1.82	4.37	2.07	2.13	1.76	2.11	10.44
OFG, mg/l	<1	0.78	0.87	0.78	0.6	5.3	5.9	4.8	8.4	10
OFG, kg/d	<0.1	0.09	0.11	0.12	0.08	0.58	0.66	0.40	0.93	5.8
Total Ammonia (as N), mg/l	0.84				0.30					8
Total Ammonia (as N), kg/d	0.10				0.04					4.64
Ortho-phosphate (as P), mg/l	0.71				0.90					2
Ortho-phosphate (as P), kg/d	0.08				0.13					1.16

*Note: The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/day

Date	02-Mar	09-Mar	16-Mar	23-Mar	30-Mar	06-Apr	13-Apr	20-Apr	27-Apr	*Limit
COD, mg/l	938	1100	1140	900	880	1460	1080	1239	1000	None
Flow rate, m3/d	104	105	111	103	141	130	147	129	121	580
CBOD ₅ , mg/l	41.8	33.7	32	36	37	37	40	18	23	18
CBOD ₅ , kg/d	4.35	3.54	3.55	3.71	5.22	4.81	5.88	2.32	2.78	10.44
SS, mg/l	38	43	41	31	39	21	18	28	37	18
SS, kg/d	3.95	4.52	4.55	3.19	5.50	2.73	2.65	3.61	4.48	10.44
OFG, mg/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	10
OFG, kg/d	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5.8
Total Ammonia (as N), mg/l	0.10					0.01				8
Total Ammonia (as N), kg/d	0.01					0.00				4.64
Ortho-phosphate (as P), mg/l	0.24					<0.1				2
Ortho-phosphate (as P), kg/d	0.02					<0.01				1.16

*Note: The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/day

Date	05-Jan	12-Jan	19-Jan	26-Jan	02-Feb	09-Feb	16-Feb	23-Feb	*Limit
COD, mg/l	900	1160	1780	1370	1950	980	1208	876	None
Flow rate, m3/d	42	53	122	122	134	139	131	98	580
CBOD ₅ , mg/l	16	6	17	12	31	15	17	34.8	18
CBOD ₅ , kg/d	0.67	0.32	2.07	1.46	4.15	2.09	2.23	3.41	10.44
SS, mg/l	26	9	33	21	18	10	16	27	18
SS, kg/d	1.09	0.38	4.03	2.56	2.41	1.39	2.10	2.65	10.44
OFG, mg/l	<10	<10	<10	<10	<1	<1	<1	<1	10
OFG, kg/d	<0.4	<0.5	<1.2	<1.2	<0.1	<0.1	<0.1	<0.1	5.8
Total Ammonia (as N), mg/l	0.8				<0.1				8
Total Ammonia (as N), kg/d	0.03				<1.01				4.64
Ortho-phosphate (as P), mg/l	0.2				0.53				2
Ortho-phosphate (as P), kg/d	0.01				0.1				1.16

*Note: The concentration limit may be increased pro-rata for effluent flows from the WWTP below 580 m³/day