

This Report has been cleared for submission to the Director by Senior Inspector Marie O Connor
 Signed *Joe Kelly* Date *23/10/12*



OFF LICENSING & RESOURCE USE

INSPECTORS REPORT ON A LICENCE REVIEW

To:	Directors	
From:	ORLA HARRINGTON	- Licensing Unit
Date:	22 ND OCTOBER 2012	
RE:	REVIEW OF AN IPPC LICENCE WELLMAN INTERNATIONAL LIMITED, MULLAGH, KELLS, CO.MEATH. LICENCE REGISTER P0236-02	

Review Details	
Licensee:	Wellman International Limited
Location of Installation:	Mullagh, Kells, Co Meath.
Class of activity:	8.4: The manufacture of synthetic fibres, not included in paragraph 5.12.
Category of Activity under IPPC Directive (2008/1/EC):	4.1(h) Chemical installations for the production of basic organic chemical's such as: (h) basic plastic materials (polymers, synthetic fibres and cellulose-based fibres)
Section 87(1)b notice sent:	29 th September 2011
Review form received:	13 th January 2012
Notices under Article 90 issued:	6 th March 2012, 5 th June 2012
Information under Article 90 received:	10 th April 2012, 10 th July 2012
Submissions received:	One (22 nd February 2012)

1.0 Reason for Licence Review

Wellman International Limited (WIL) produces polyester which is sold for a variety of uses such as furniture and bedding. WIL employs approximately 270 people on a 27 acre site. The installation was granted a licence by the Agency on the 8th October 1998 and was technically amended on the 26th August 2008. A number of minor modifications were made as part of the technical amendment (TA) in order to bring, the provisions of the licence into line with the requirements of the IPPC Directive (Glossary entries for BAT & Incident and a condition on Energy Efficiency). The TA also involved the insertion of one new condition relating to a production trial for the manufacture of microcellular polyester (MCP) fibre. The licensee is a legal entity of normal status and the associated company's registration office (CRO) number is 31341.

On the 29th September 2011, the Environmental Protection Agency initiated a review of the IPPC licence held by Wellman International Limited for the installation located at Mullagh, Kells, Co. Meath, IPPC licence register number P0236-01. The review was initiated by writing to the licensee and placing a newspaper notice in the Irish Independent. The reasons for initiating the review are in light of the requirements under the following regulations:

- (1) The European Communities Environmental Objectives (Surface Waters) Regulations 2009; and
- (2) The European Communities Environmental Objectives (Ground Water) Regulations 2010.

2.0 Emissions to Surface Waters

All process wastewater from the activity is treated at the wastewater treatment plant (WWTP). Treatment consists of a balance tank, biotower, aeration tanks, settlement tanks and a clarifier. The treated effluent (SW1) from the WWTP is then mixed with both:

- Non-contact cooling water and
- Storm water run-off.

The non-contact cooling water is from an overflow drain from a closed loop system on an air wash chamber. The licensee stated (as part of additional information received on the 10th April 2012) that '...flows from this drain are sporadic and volumes are insignificant...' The cooling water then flows into the storm water system, is monitored at M/014/S and eventually discharges along with the treated effluent to the Moynalty River via SWDP1.

The treated effluent (SW1) from the WWTP is limited and monitored in accordance with the current licence register number P0236-01 before it combines with the storm water and cooling water. Nitrification / denitrification occurs within the WWTP. Ortho P removal is to less than the emission limit value of 2mg/l by polyelectrolyte addition. The annual environmental report (AER) 2011 for the installation showed 100% compliance for all licensed parameters at SW1. The sludge from the WWTP is dried using a de-watering press, loaded into a skip and removed off site for composting.

Priority substances are not limited in the discharge.

In the current licence (Reg No. P0236-01) there were three licenced storm water emission points (SWDP2, SWDP3 and SWDP4), all of which have now been amalgamated into one storm water emission point (SWDP2) that discharges into a road gully, south west of the installation.

Sanitary effluent is also treated at the WWTP.

2.1. Receiving waters and impact

The current licence (Reg. No. P0236-01) refers to the Barora River as the receiving water. The receiving water is both named and classified as the Moynalty River under the Water Framework Directive (WFD). This will be reflected in the recommended determination (RD). The Barora River becomes the Moynalty River 1km downstream of the installation at Mullagh Bridge according to the discovery map.

The following table summarises the main considerations in relation to the Moynalty River downstream of the process effluent discharge. The Moynalty River rises in Co. Cavan and flows southwest through Moynalty before joining the River Backwater east of Kells. It eventually flows out to the Irish Sea at the Boyne Estuary.

Table 1.0 Receiving waters

Characteristic	Information	Comment
Receiving water name and code	Moynalty River (WFD Code : IE_EA_07_940)	The Moynalty River flows for 16km before it meets the River Blackwater (Kells) (WFD Code : IE_EA_07_1536_2)
EPA monitoring stations	RS07M030100 RS07M030200	On the Moynalty River 2.5km upstream of the installation 0.2km downstream
Biological quality rating (Q value)	Q3-4 -2006 (RS07M030100) Q3-4 -2006 (RS07M030200)	Upstream downstream
WFD Status	Moderate (2011)	Objective is to restore to good status by 2021 ^{Note 1}
WFD Risk	1a, at risk of not achieving good status.	
WFD Protected Areas	River Boyne and River Blackwater SAC (Code: 002299)	The SAC is located 16km downstream of the installation.
WMU Action plan	Blackwater North Water Management Unit Action Plan	Municipal and industrial discharges have been identified as pressures on the Blackwater North.

Note 1: Eastern River Basin Management Plan (2009-2015) www.wfdireland.ie/maps.html

The pressures in the Blackwater North Water Management Unit Action Plan have been identified as coming predominantly from agriculture (60%) and municipal/industrial discharges (30%). Monitoring undertaken by the Agency indicates that both upstream and downstream of the installation has a Q3-4 biological quality rating. Following consultation with the Office of Environmental Assessment (OEA) the main cause for concern regarding the Moynalty River is diffuse pollution from agriculture. The Moynalty River has a water quality status rating of moderate and the eastern river basin management plan has set the water quality objective as 'restore to good status by 2021'.

Chemical monitoring data taken from the *Water Quality in Ireland 2007 -2009* report indicates that quality standards for orthophosphate and total ammonia are being observed 2.5km (RS07M030200) downstream from the installation.

Process water for the installation is supplied by the Moynalty River. Water is abstracted approximately 50m upstream of the process effluent emission point (SWDP1). The average daily abstraction rate in 2011 was 232m³ per production day. There is no information on the registration of this abstraction point with Cavan County Council.

The licensee reported the 95%ile flow of the receiving water as 0.075m³/sec. The HydroStats¹ Model gives a 95%ile flow reading of 0.079m³/sec which will be used in this assessment. The flow upstream of the installation is 12 times greater than the maximum discharge flow (0.0067m³/sec).

The calculations in Table 2 are based on the maximum flow rates from SWDP1 which is 580m³/day (0.0067m³/sec) and 95%ile flow in the Moynalty River (0.079m³/sec). The licensee proposed the use of 'notional clean water' values as a background concentration in their assessment of the impact of discharges from installation. However the Agency has not accepted the use of 'notional clean water' values for discharges from industrial installations. The adjusted background values were used in the following table and are in accordance with the criteria set out in the *Guidance, Procedures and Training on the Licensing of Discharges to Waters and to Sewer for Local Authorities* issued by the Water Services Training Group. Ambient monitoring submitted as part of the review exceeded the requirements of the *Surface Waters Regulations 2009, as amended* upstream of final effluent discharge point for ortho p.

Table 2: Mass Balance

Parameter	Background Conc. (mg/l)	Current ELVs (mg/l)	Proposed ELVs (mg/l)	Contribution from the discharge Note 1 (mg/l)	Predicted downstream concentration Note 1 (mg/l)	95%ile standard (mg/l) (good) ^{Note 2}
BOD	1.4	18	15	1.06	2.46	≤2.6
PO ₄ -P	0.03	2	0.60	0.070	0.073	≤0.075
Total Ammonia - N	0.053	8	1	0.075	0.128	≤0.140

Note 1: Based on proposed ELVs.

Note 2: European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended.

Table 2 demonstrates that a reduction in BOD, total ammonia and ortho p is required in order to comply with the requirements of the *European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended*.

Nitrification/denitrification occurs within the WWTP. Nutrient removal is provided for at the installation and consequently the discharge concentrations are less than the limits specified in the current licence.

Monitoring results 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 ELVs for total ammonia and ortho p can be met. These results were calculated as maximum daily averages, with a maximum concentration of 0.23mg/l given for ortho p and 0.59mg/l for total ammonia over that three week period. The 2011 AER indicates that the limit for BOD can be met, with 3.5kg/day (6mg/l) BOD reported as an average reading for 2011.

¹ EPA's system for Estimating Flow Duration Curve ordinates for ungauged catchment.

All mass emission limits from *Schedule 2(i) Emissions to Water* in the current licence have been removed from the RD as they are all simple multiples of the concentration limits and the daily discharge volume limit. The current licence allows the concentration limit to be increased pro-rata for effluent flows from the WWTP below 580m³/day. This will not be brought forward in the RD as it effectively removes the requirement to meet concentration limits when discharging volumes below 580m³/day.

The RD specifies the proposed ELV's will not be effective until the 22nd December 2015 which will give the licensee time to improve the control of all parameters and facilitate the Moynalty River reaching its good status objective by 2021.

The treated effluent (SW1) is mixed with storm water and some cooling water before discharging via emission point SWDP1 (monitoring point M/000/S) to the Moynalty River. Cooling water discharges have an associated thermal load and is considered under the *Surface Waters Regulations 2009, as amended*. The RD requires that the discharge will not result in a temperature increase at the edge of the mixing zone of greater than 1.5 °C in the receiving system to ensure compliance with the Environmental Objectives Regulations and that the mixing zone shall not exceed 25% of the cross sectional area of the river at any point (Condition 5.7).

The RD removes the requirement to limit for nitrates and nitrites (as N) and replaces it with a requirement to limit for total nitrogen (15mg/l) in line with the BAT Guidance Note for the Organic Chemical Sector. Monitoring data indicates this proposed ELV can be met.

Specific pollutants and Priority substances

WIL uses a range of chemical fibre treatments during fibre processing to act as aides for static control, fibre to fibre cohesion and fibre to metal lubrication. These chemical treatments are all water soluble.

The licensee assessed additional identified parameters characteristic of the process effluent in line with the *BATNEEC Guidance Note for the Manufacture of Synthetic Fibres* for phenol, cyanide and mineral oil and no exceedences were highlighted. The *BAT Guidance Note for the Organic Chemical Sector* now applies to this installation and all monitoring results submitted in the review for the above mentioned parameters also comply with the ELVs specified in this BAT note.

Heavy metal monitoring is carried out on the treated effluent (SW1) from the WWTP on an annual basis as required under the current licence (register number P0236-01). The last set of heavy metal results were included in the 2011 AER for the treated effluent and the limit of detection of the monitoring data submitted exceeded, in some cases, the environmental quality standard (EQS) in the *Surface Waters Regulations 2009 as amended*. This heavy metal monitoring data also highlighted exceedences in the regulations with 413µg/l and 474µg/l being reported for copper and zinc respectively. The RD requires the licensee to carry out a risk assessment to identify the relevant priority substances or pollutants as per the *Surface Waters Regulations 2009, as amended*. Monitoring for these identified pollutants shall be carried out on an annual basis unless a case for less frequent monitoring can be demonstrated by the licensee.

2.2 Specific Standards or Objectives for Protected Areas

In considering the application regard was had to the requirements of standards or objectives laid down for protected areas specifically the following:

Habitats and Species of European Sites directly dependant on water

The River Moynalty is part of the River Boyne and River Blackwater Special Area of Conservation (SAC 002299). The installation discharges 16Km upstream of this SAC. The objectives for the SAC are to maintain at, or restore to, favourable conservation status the Annex I habitats and Annex II species for which the SAC has been selected.

As previously highlighted, this review is for the purposes of assessing existing discharges in the context of new environmental quality standards and objectives and does not consider any further increase in the ELVs for emissions to waters. The Agency has examined the scope of the European Communities (Birds and Natural Habitats) Regulations 2011 and, within the limited scope of this review; the Agency is satisfied that the discharge is not likely to have a significant effect on the River Boyne and River Blackwater SAC. With respect to water quality, the ELVs in the RD aim to achieve good status in the River Boyne and River Blackwater SAC, and hence, will contribute to the favourable conservation objectives for the area.

2.3 Emission controls and environmental quality standards

The ELV's specified in the RD have been established according to the combined approach whereby the stricter of the requirements which would result from the application of limits which aim to achieve the quality standards and the application of limits based on BAT.

The ELVs specified in the RD aim to achieve the environmental objectives and standards established in the *European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended*.

3.0 Emissions to Groundwater

Groundwater is monitored at locations GW1 and GW2 biannually. GW1 is located at the southwest boundary of the site and is used for cooling water purposes and GW2 is located at the northeast boundary of the site and is used for drinking water. There is a third well on-site GW3, which is used as a backup for GW2. The use of GW2 and GW3 is interchangeable. The licensee currently carries out a groundwater monitoring programme which is detailed in their AER. There does not appear to be any contamination at these borehole sites.

A fuel oil spill occurred in the 1970's and the extent of subsurface contamination was investigated in 1996. The investigation report concluded that there was a high level of hydrocarbon contamination (previous inspector's report 1998). Condition 9.3.2 of the current licence required further investigation and a proposal for remediation.

The Agency received the soil and groundwater contamination report (requested under the current licence register number P0236-01) from the licensee on the 15/4/99 and as a response to this information OEE sent a letter (Ref: M236/RF/04) on the 19/1/00 requiring the following additional information 'Proposals for future soil water/ groundwater monitoring in the light of the conclusions of the report'. A response to this request is not on the Agency's database.

A site inspection was carried out at the installation on the 9th December 2005. One of the inspection findings was '*The recommendations contained in the report on groundwater monitoring received by the Agency on 29/9/04 should be implemented, in particular groundwater monitoring of BH1, BH2, BH3, BH4, SB2 and SB16 should be undertaken at a minimum of every three years unless otherwise agreed with the Agency*'. The OEE have reviewed all files relating to this installation as far back as 2004 and there is no record of a response being received to this inspection was found on the OEE database. It is understood that these boreholes were never installed.

The RD requires the licensee to 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.I. No 9 of 2010, as amended. 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

The requirements specified in the RD aim to achieve the environmental objectives and standards set out in the European Communities Environmental Objectives (Ground Water) Regulations 2010, as amended.

4.0 Updating the existing licence

The RD has transposed all relevant existing licence conditions from P0236-01 into the Agency's current licence format. Consequently the RD specifies amendments and additional requirements.

Table 3 summarises the amendments made to the existing licence as a result of changes to the following;

- Adjustments approved by the OEE
- Once off assessments and reports being closed out
- Statutory and format updates of conditions
- conformity with Part V of the EPA act 1992 to 2007 (IPPC)

Table 3: List of new or amended conditions proposed in the RD

Condition or Schedule No.	Reason for change	Description
Condition 1.1, 2.1, 2.2, 3.1, 3.2, 3.4, 3.5, 3.6, 3.8, 3.9, 3.12, 4.3.2, 6.2, 6.3, 6.6, 6.10, 6.11, 6.15, 6.17, 7.3, 7.4, 8.3, 8.4, 8.6, 8.8, 8.9, 9.1, 10.2, 10.3, 10.4, 11.5, 11.6, 11.7, 11.9, 12.2,	Update licence, statutory requirement, timeline exceeded.	Scope, installation management, maintenance programme, efficient process control, infrastructure, notice board, composite sampling, labelling, storage areas, oil separators, firewater retention, protect wellheads, interpretation, control & monitoring, groundwater sampling equip., integrity of pipes, drainage system, Noise survey, energy audit, waste handling, accident prevention procedure, DMP, notification & reports, environmental liabilities,
Condition 1.7, 5.7, 6.12, 6.15, Schedule B.2, Schedule C.2, C.6.	EO Regs	Revised licence, thermal load to receiving water, storm water, emission limits to water, groundwater, control/monitoring of emissions to water, storm water emissions, groundwater.

5.0 Cross Office Liaison

The OEE inspector for Wellman International, Maeve O'Reilly, was consulted in relation to current compliance, historical issues and timeframes relating to the site. OEE is satisfied that the following conditions from the current licence (register number P0236-01) can be amended or removed to update the RD:

Condition/ Schedule	Reasons for change / removal
Condition 4.6	Condition was removed and requirement to notify MPWS included into condition 11.3 in the RD
Condition 5.8	Condition was removed. An alternative cleaning system was approved in 1999.

Condition 5.10	A partial trial went ahead back in 2008/2009 and was not successful. The licensee will not be conducting such a trial in the future.
Condition 6.5, 6.6, 6.7	Condition 6.5 was removed and replaced with a requirement to monitor SW1 for priority substances on an annual basis. Condition 6.6, 6.7 removed from the RD, this testing was approved by the Agency in 1999. The option to monitor for toxicity in the schedules will be left as is.
Condition 8.2, 8.4	Condition 8.2 removed to update the licence and transposed under schedules in the RD. Condition 8.4 removed. Report approved in 1999. Latest noise monitoring reports complaint.
Condition 9.3	Condition 9.3.1, 9.3.2, 9.3.3, 9.3.5 can be removed. Reports have been submitted, monitoring requirements transposed into the schedules in the RD.
Schedule 1, 4	Emission point reference no A2-14 under emissions to atmosphere removed as timeline exceeded. 3 storm water emission points reduced to 2 following discussions with the licensee, due to pipe work completed on site.

A residuals management plan (RMP) was submitted in 2007. The RD requires the licensee to submit a decommissioning management plan (DMP). Any works carried out as part of RMP can form the basis of the DMP.

There is a requirement to monitor SW1 for total heavy metals under the current licence; this will be replaced with priority substances as THM is not directly comparable with a quality standard.

The monitoring frequency for temperature at monitoring point M/000/S has been increased from monthly to weekly as this combined discharge contains cooling water and therefore carries a thermal load. All parameters under monitoring of storm water emissions will be included at monitoring point M/000/S also as this combined discharge includes storm water. The RD also replaces the requirement to monitor the storm water for TN with total ammonia which is a good indicator of pollution.

Submission

One submission was received from Mr Brian McKeever, Principal Environmental Health Officer, HSE Dublin/North East, Cavan and Monaghan, Main Street; Cavan and he has no comment to make in relation to this review.

Charges

The charge specified in the Rd is €6,996.36, the same as the invoice for 2012.

Recommendation

I recommend that a Proposed Determination be issued subject to the conditions and for the reasons as drafted in the RD.

Signed

Orla Harrington

Orla Harrington

Procedural Note

In the event that no objections are received to the Proposed Determination, a licence will be granted in accordance with Section 87(4) of the Environmental Protection Agency Acts 1992 and 2012 as soon as may be after the expiration of the appropriate period.

Appendix 1 Wellman International Limited



