
Interim status report on the
Assessment of Emissions to Air at
ENVA Ireland Limited, Portlaoise
(EPA Licence Reg. No. W0184-01)



ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

The work of the EPA can be divided into three main areas:

Regulation: *We implement effective regulation and environmental compliance systems to deliver good environmental outcomes and target those who don't comply.*

Knowledge: *We provide high quality, targeted and timely environmental data, information and assessment to inform decision making at all levels.*

Advocacy: *We work with others to advocate for a clean, productive and well protected environment and for sustainable environmental behaviour.*

Our Responsibilities

Licensing

We regulate the following activities so that they do not endanger human health or harm the environment:

- waste facilities (*e.g. landfills, incinerators, waste transfer stations*);
- large scale industrial activities (*e.g. pharmaceutical, cement manufacturing, power plants*);
- intensive agriculture (*e.g. pigs, poultry*);
- the contained use and controlled release of Genetically Modified Organisms (*GMOs*);
- sources of ionising radiation (*e.g. x-ray and radiotherapy equipment, industrial sources*);
- large petrol storage facilities;
- waste water discharges;
- dumping at sea activities.

National Environmental Enforcement

- Conducting an annual programme of audits and inspections of EPA licensed facilities.
- Overseeing local authorities' environmental protection responsibilities.
- Supervising the supply of drinking water by public water suppliers.
- Working with local authorities and other agencies to tackle environmental crime by co-ordinating a national enforcement network, targeting offenders and overseeing remediation.
- Enforcing Regulations such as Waste Electrical and Electronic Equipment (WEEE), Restriction of Hazardous Substances (RoHS) and substances that deplete the ozone layer.
- Prosecuting those who flout environmental law and damage the environment.

Water Management

- Monitoring and reporting on the quality of rivers, lakes, transitional and coastal waters of Ireland and groundwaters; measuring water levels and river flows.
- National coordination and oversight of the Water Framework Directive.
- Monitoring and reporting on Bathing Water Quality.

Monitoring, Analysing and Reporting on the Environment

- Monitoring air quality and implementing the EU Clean Air for Europe (CAFÉ) Directive.
- Independent reporting to inform decision making by national and local government (*e.g. periodic reporting on the State of Ireland's Environment and Indicator Reports*).

Regulating Ireland's Greenhouse Gas Emissions

- Preparing Ireland's greenhouse gas inventories and projections.
- Implementing the Emissions Trading Directive, for over 100 of the largest producers of carbon dioxide in Ireland.

Environmental Research and Development

- Funding environmental research to identify pressures, inform policy and provide solutions in the areas of climate, water and sustainability.

Strategic Environmental Assessment

- Assessing the impact of proposed plans and programmes on the Irish environment (*e.g. major development plans*).

Radiological Protection

- Monitoring radiation levels, assessing exposure of people in Ireland to ionising radiation.
- Assisting in developing national plans for emergencies arising from nuclear accidents.
- Monitoring developments abroad relating to nuclear installations and radiological safety.
- Providing, or overseeing the provision of, specialist radiation protection services.

Guidance, Accessible Information and Education

- Providing advice and guidance to industry and the public on environmental and radiological protection topics.
- Providing timely and easily accessible environmental information to encourage public participation in environmental decision-making (*e.g. My Local Environment, Radon Maps*).
- Advising Government on matters relating to radiological safety and emergency response.
- Developing a National Hazardous Waste Management Plan to prevent and manage hazardous waste.

Awareness Raising and Behavioural Change

- Generating greater environmental awareness and influencing positive behavioural change by supporting businesses, communities and householders to become more resource efficient.
- Promoting radon testing in homes and workplaces and encouraging remediation where necessary.

Management and structure of the EPA

The EPA is managed by a full time Board, consisting of a Director General and five Directors. The work is carried out across five Offices:

- Office of Climate, Licensing and Resource Use
- Office of Environmental Enforcement
- Office of Environmental Assessment
- Office of Radiological Protection
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.



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ENVA Ireland Limited,
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Portlaoise,
Co. Laois
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Executive Summary

The EPA has completed a comprehensive review of air emissions from the ENVA Ireland Ltd. facility in Portlaoise in response to concerns raised about the quality, associated impact and risk posed by air emissions from the facility. This review included assessment of historical information and the completion of additional measurements, and assessment of air emissions and ambient air quality.

The facility carries out a range of waste activities, the primary focus of the review, however, related to the reprocessing of waste oil to produce a fuel oil. This activity is carried out under the EPA licence. No significant changes to this process at the facility have occurred since the assessment and granting of the licence by the EPA.

This review process covered the following areas:

- Review of existing information:
 - Original Integrated Pollution Control (IPC) licence application data (1999);
 - Compliance history of the site;
 - Complaints received by the EPA¹;
- Additional assessments:
 - EPA air emissions monitoring (2012);
 - Dispersion modelling of emissions (2012);
 - Benchmarking against regulatory practices in the waste oil reprocessing industry in England (2014/2015);
 - EPA ambient air monitoring in Portlaoise Town (2014);
 - EPA ambient air monitoring adjacent to the site (March 2015)²;
 - Independent Odour Surveys (September 2014);
 - ENVA Ireland Ltd. Portlaoise emissions flow monitoring (2012);
 - ENVA Ireland Ltd. Portlaoise assessment of emissions using the USEPA TANKS Model, carried out at the request of the EPA (2013);
 - ENVA Ireland Ltd. estimation of emissions of volatile organic compounds (2014).

Assessment of all of the above information found no evidence of environmental impact as a result of air emissions from the facility, and in particular found that:

- Air quality in the vicinity of the ENVA Ireland Ltd. Portlaoise facility and in Portlaoise Town is within ambient air quality guideline values;
- Odour nuisance was not identified during independent and EPA odour surveys in 2014 and 2015.

On the basis of these findings, the EPA is satisfied that emissions from the waste oil reprocessing activity have not changed since the licence was granted and the facility is operating in compliance with the requirements of its licence. There is currently no requirement to place any further mandatory controls or monitoring requirements on the emissions from ENVA Ireland Ltd., Portlaoise.

The EPA will continue to enforce the requirements of the licence and, as with all EPA licensed sites, will respond appropriately to any compliance issues at the facility.

¹ 13 complaints have been received since 2009.

² Monitoring at this location is ongoing and this report will be updated accordingly.

1 Introduction & Scope

This interim status report outlines the Environmental Protection Agency's (EPA's) review of air emissions from the ENVA Ireland Ltd. facility in Portlaoise. This report has been produced in response to concerns raised about the quality, associated impact and risk posed by air emissions from ENVA Ireland Ltd., Portlaoise and the EPA's associated approach to environmental regulation and enforcement including its dealing with complaints from members of the public. The main emissions of concern are hydrocarbons³, which can result in odour impact as well as specific human health impact if present in the atmosphere in sufficient concentrations.

ENVA Ireland Ltd. Portlaoise is an EPA licensed hazardous waste facility since 1999. It has an Industrial Emissions Licence Reg. Number W0184-01 which is enforced by the EPA.

The facility carries out a range of waste activities; however the primary focus of this review related to air emissions from the reprocessing of waste oil to produce a fuel oil and this report addresses the following:

- Relevant environmental regulations and controls;
- EPA enforcement activities and the compliance history;
- Review of existing air emissions information, including the data provided in the original licence application documentation; and
- Completion of additional measurements and assessments by the EPA and ENVA Ireland Ltd.

The primary objective of this review is to determine if emissions from the ENVA Ireland Ltd facility are resulting in impact on air quality, including odour impact, in the vicinity of the site.

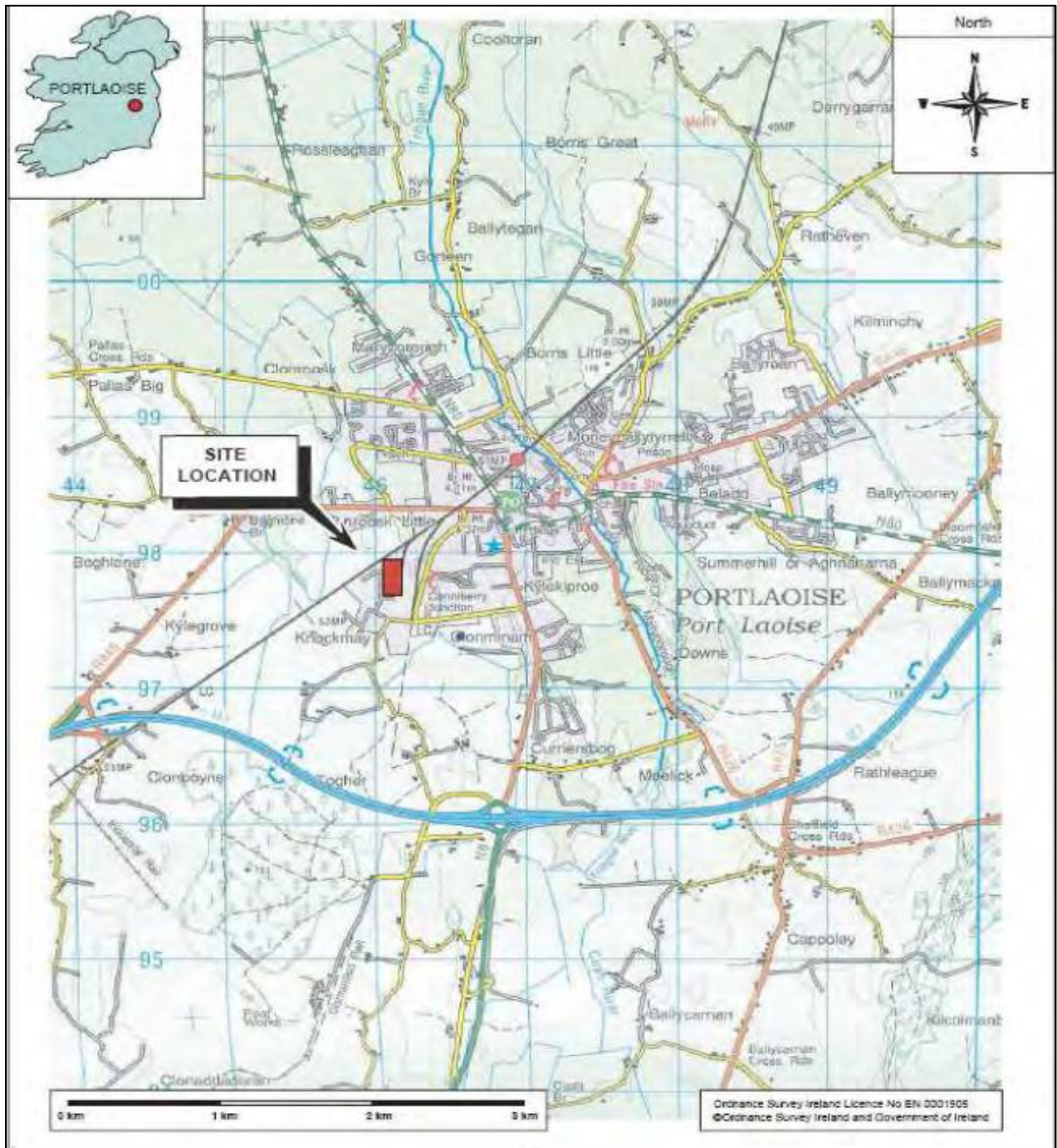
³ Also commonly referred to as volatile organic compounds (VOCs).

2 The Facility

2.1 Location

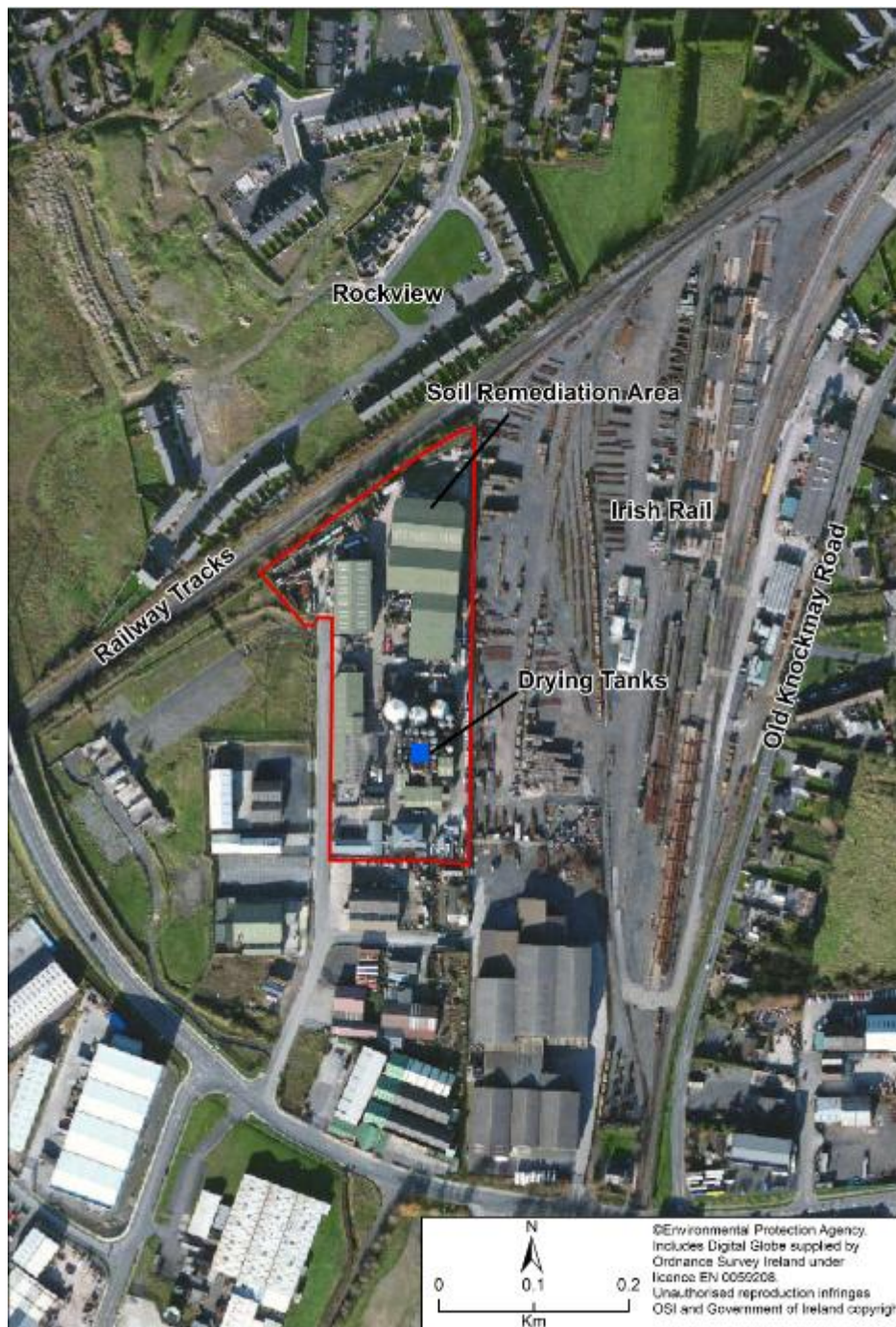
The ENVA Ireland Ltd. facility is located on a 2 hectare site at Clonminam Industrial Estate, Portlaoise, Co. Laois, an industrial estate surrounded by a railway yard, vehicle repair & panel beaters, commercial units and oil storage. The nearest residential area is situated approximately 30m north of the facility boundary.

Figure 1 Site location map⁴.



⁴ Source ENVA Ireland Ltd. AER 2014

Figure 2. Aerial Photograph of the ENVA Ireland Ltd. Portlaoise and environs

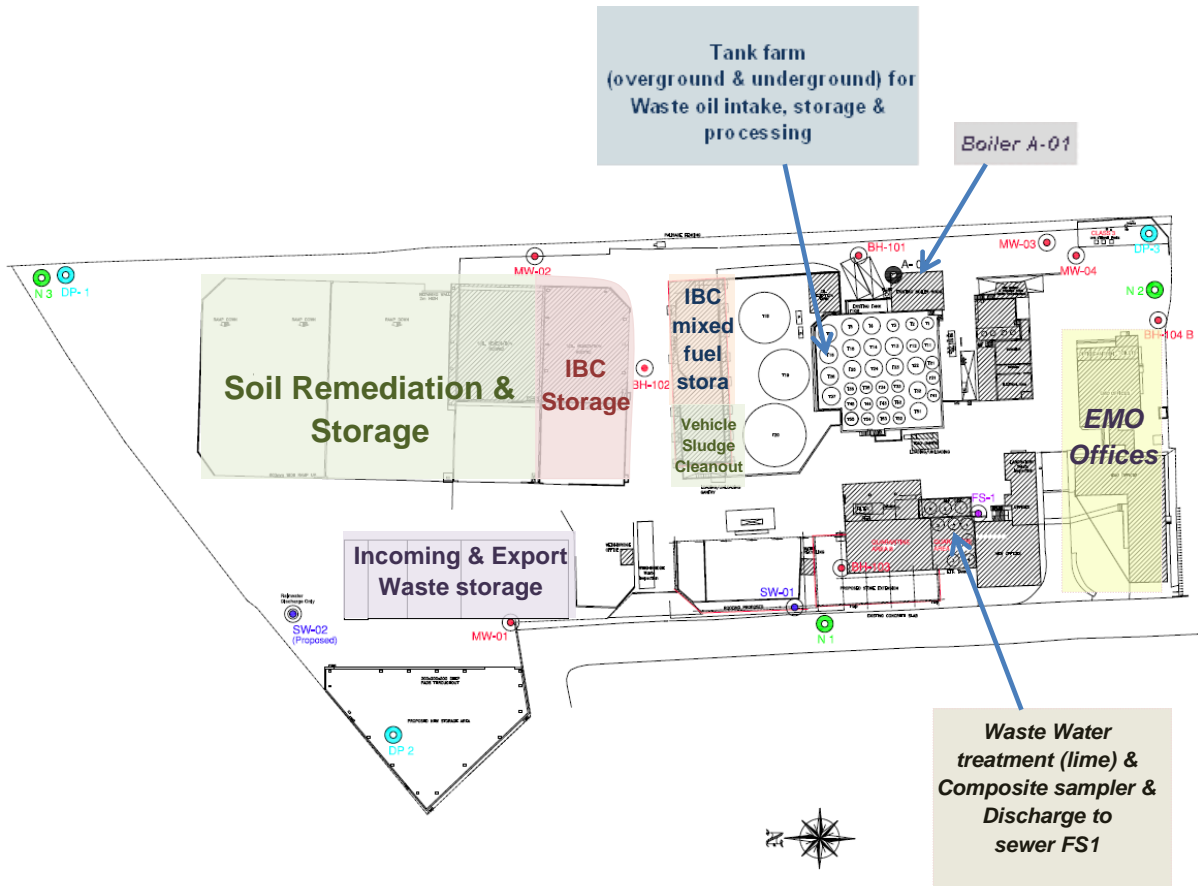


2.2 Site History

Waste oil processing and storage activities have been carried out at the ENVA Ireland Ltd. facility since the late 1970's. From 2004 Atlas Environmental Ireland Ltd. expanded activities on-site to include the processing of additional wastes including the treatment of contaminated soil, repacking of oily contaminated wastes, and recovering paint wastes. The facility also stores waste in containers prior to transfer offsite for recovery or disposal. In 2006 the operating company's name was changed to ENVA Ireland Limited. Details of environmental authorisations and controls are dealt with in Section 4.

2.3 Infrastructure

The infrastructure consists of a tank farm (45 tanks heated and unheated) for the processing and storage of waste and virgin hydrocarbon fuels, waste processing and storage buildings, a roofed concrete soil remediation area, and associated office buildings. A number of storage tanks belong to and are used by EMO oil and are not associated with the licensed activity.



One dual fuel process boiler is operated on-site that is fuelled on natural gas or kerosene gas oil, typically natural gas, to provide heat for waste oil processing tanks.

3 Waste Activities

ENVA Ireland Ltd., Portlaoise is licensed by the EPA to accept a total of 110,000 tonnes of waste annually comprising of hazardous and non-hazardous waste.

Waste activities currently include waste oil reprocessing (approximately 20,000 tonnes in 2014), treatment of contaminated soil, repacking of oily contaminated wastes, and recovery of paint wastes. The facility also stores contained waste from various additional (non-automotive) sectors prior to transfer offsite for recovery or disposal.

Reprocessing of waste oil is undertaken on a batch basis as part of a multi-stage process. The stages of this reprocessing activity are briefly summarised below:

- Pre-acceptance – prior to waste oil being accepted for recovery processing it is subjected to a number of waste acceptance controls and testing.
- Preliminary Dewatering – this stage involves the separation of oil and water. The waste oil is typically heated to temperatures between 50-80°C to improve the viscosity of the oil. Heating the waste oil also improves the rate of separation of oil from water.
- Pre-processing – waste oils suitable for processing are filtered and demulsifying chemicals are added. High specification fuels are also de-metallised, heated up to 80°C, and filtered/centrifuged prior to the drying stage.
- Drying – waste oils that still have a high water content are heated to temperatures between 90-102°C (max). Water content is typically reduced from 5% to less than 2% in the drying tanks – this occurs in three process tanks at the site. Part of the drying process includes ‘air sparging’ where air is passed through the waste oil from the base of the tank to improve mixing and speed up the drying process;
- Blending/Finishing – reprocessed oils are tested to ensure they meet limits specified in their licence conditions. Then reprocessed oils are blended with virgin oil and additives (as necessary) to meet customer specification requirements.

The frequency of waste oil reprocessing activity occurring is dependent on the quantity of waste oil collected and the level of water content in the oil. The water content in the oil can vary - from circa 45% in ship oils to circa 15% in garage and interceptor oils.

4 Environmental Regulation and Controls

From the commencement of activities until 2000 activities were carried out under the environmental enforcement remit of Laois County Council.

In 2000, Atlas Oil Laboratories Ltd. was granted an Integrated Pollution Control (IPC) licence (IPC Reg. No. 472) by the EPA to carry on the activity of the use of heat for the manufacture of fuel from waste, the refining and reuse of waste oils, recovery of waste oil filters, treatment of oily solid wastes and treatment/bioremediation of contaminated soils.

IPC Licence Reg. No. 472 was reviewed and in early 2004 Waste Licence Reg. No. W0184-01 was granted in substitution to Atlas Environmental Ireland Ltd.

Since 2004, the licence has been amended by the EPA on four occasions by way of technical amendment.

Technical Amendments:

- Technical Amendment A (2005) inserted additional conditions relating to Resource Use and Energy Efficiency, Accident Prevention and Decommissioning & Residuals Management.
- Technical Amendment B (2011) replaced and inserted conditions and schedules relating to Reprocessed Oil Quality, Monitoring and Input Restrictions.
- Technical Amendment C (2013) as required by the provisions of the European Communities Environmental Objectives (Groundwater) Regulations 2010, as amended.
- Technical Amendment D (2014) IED amendment to achieve conformity of the licence with the Industrial Emissions Directive.

The licence is now referred to as an Industrial Emissions licence. The Industrial Emissions Directive brings together Directive 2008/1/EC (the 'IPPC Directive') and six other directives in a single directive on industrial emissions. This amendment requires the Licensee to:

- Notify the EPA of any breach of a licence condition or of an incident or accident that significantly affects the environment;
- Without delay take measures to limit the environmental consequences of incidents/accidents and to prevent further possible incidents/accidents;
- Restore compliance with the conditions of the licence within the shortest possible time;
- Ensure generated waste is reused, recycled or recovered, or where that is not possible, disposed of in a manner which minimises impact on the environment.

The Industrial Emissions (IE) licence W0184-01 is a single integrated licence comprising conditions and associated schedules that deal with emissions to environmental media and the environmental management of the facility.

The licence can be viewed on the EPA's website at: <http://www.epa.ie/terminalfour/ippc/ippc-view.jsp?regno=W0184-01>

5 Enforcement Activities and Compliance

The licence controls the carrying out of the activity and the operational measures required on-site to ensure the environment is protected. The Licensee is required to comply with licence emission limits, carry out monitoring, maintain records of activities and make periodic reports to the EPA. The Licensee is also required to report incidents and complaints to the EPA. Compliance with licence requirements is assessed through site visits and monitoring carried out by the EPA.

5.1 Site Visits

The EPA has completed site visits⁵ to this facility at least annually since the EPA granted its original IPC licence in 2000. Since 2009, 35 site visit assessments have been undertaken, 22 of which were odour survey assessments of the surrounding area. All site visits are listed in Appendix A.

Since 2009, EPA site visit assessments have found the facility to have a high level of compliance with the conditions of the licence. Three non-compliances have been issued to ENVA Ireland Ltd. Portlaoise in response to issues identified during site visits;

- Two non-compliances were issued in 2011 relating to off-site odours experienced during odour assessments in the area. These were conducted in response to complaints received regarding off-site odour and are discussed further below.
- In August 2013 a non-compliance regarding waste soil classification was detected and a compliance investigation was initiated by the EPA.

5.2 Compliance Investigations

A Compliance Investigation Ref. CI000459 was initiated in September 2013 to investigate a non-compliance regarding waste soil classification identified by the EPA during an assessment of on-site waste management paperwork. Following investigation the EPA is satisfied that although the waste was misclassified, it was managed as hazardous waste and sent to appropriately authorised offsite destinations. Revised waste acceptance and paperwork auditing procedures have been put in place at the facility as a result of the EPA compliance investigation.

5.3 Incidents

Incidents as defined in EPA licences cover a wide variety of occurrences on licensed sites, from minor incidents with no contamination or with a minor effect on the environment, through to uncontrolled emissions with limited and localised offsite impacts, up to site emergencies or accidents with a significant impact on the environment.

⁵ 'Site Visits' are a subset of actions referred to as 'Environmental inspections' under Article 3 (22) of the Industrial Emissions Directive. 'Environmental Inspection' means all actions (including site visits, monitoring of emissions and checks of internal reports and follow-up documents, verification of self-monitoring, checking of the techniques used and adequacy of the environment management of the installation) undertaken by or on behalf of the competent authority to check and promote compliance of installations with their permit conditions and, where necessary, to monitor their environmental impact.

As described in the EPA's [*Guidance on the notification, management and communication of Environmental Incidents*](#), the EPA employs the Major Emergency Management system of categorising incidents that is used by the national emergency services.

Between 2009 and April 2015, 18 incidents were reported to the EPA in relation to ENVA Ireland Ltd. Portlaoise, outlined in Appendix B. All of these were within the lowest incident category which means that they had minor, localised or no impact on the environment.

The circumstances of these incidents are as follows:

- 6 incidents related to breach of limit values (5 waste water, 1 dust);
- 9 incidents related to monitoring equipment malfunctions;
- 2 incidents related to administrative errors;
- 1 incident related to waste classification.

5.4 Complaints

Complaints regarding this facility have been infrequent and sporadic. A total of 13 complaints have been received by the EPA about odour and air emissions from the ENVA Ireland Ltd. Portlaoise facility since 2009, with no complaints received in some years. The EPA has acted on all complaints, as outlined in Table 1 below, and has advised individuals, who have approached the Agency, of its openness to such communication so that any concerns can be thoroughly investigated and addressed.

Table 1: Complaints received by the EPA since 2009

Year	No. of Complaints	Complaint Type	Actions
2009	1	1-odour	<ul style="list-style-type: none"> • In August 2009 Irish Rail submitted a written complaint summarising odours on multiple days in January, June, July & August 2009, stating that staff had experienced headaches and were apprehensive of emissions from the ENVA Ireland Ltd. facility and seeking independent assessment of emissions. • The EPA contacted the Licensee and following an investigation it found that nozzles in its odour suppression unit were corroded and blocked. Repairs were undertaken to address this. • No further complaints were received from Irish Rail.
2010	0	-	
2011	5	3-odour; 2-Air Pollution	<ul style="list-style-type: none"> • Complaints of odour nuisance were received on the 4th, 8th and 19th July 2011. The EPA conducted a site visit on 19th July 2011 during which the EPA Inspector detected moderate intermittent oily odours that could give rise to odour-related nuisance issues offsite. A notification of non-compliance was issued to the Licensee. In response to these complaints a neutralising product designed to combat odour issues in the asphalt industry was implemented on-site. • On three dates in October and November 2011 an independent odour assessment agent conducted assessments as part of the EPA investigations into complaints received in August and October 2011. A notification of non-compliance was issued to the facility for odours detected off-site on 8th November 2011. On other occasions during these assessments odours which were likely to be attributable to other activities in the industrial estate were noted. • In December 2011 the EPA was advised by telephone call of a You Tube Video highlighting emissions from the ENVA Ireland Ltd. facility in Portlaoise. This video showed emissions from the facility at night time. This was viewed and it was observed that the video appeared to show steam emissions from a number of locations at the facility which was considered to be typical of this type of activity where emissions to air are expected to have high moisture content.
2012	5	4-odour; 1-Air Pollution	<ul style="list-style-type: none"> • In response to complaints and concerns in January and February 2012 regarding the potential impact of emissions to air from the oil reprocessing tanks, the EPA Regional Enforcement Team along with the EPA's specialist Air Thematic Unit (specialises in air emissions and air quality in relation to EPA licensed facilities), conducted an investigation into the complaints. • An air focused audit was conducted by two EPA Inspectors on 3rd February 2012. Odour was not detected and the odour neutralising system was in operation. • EPA and licensee monitoring and modelling of air emissions was undertaken, as outlined in Section 6.

Year	No. of Complaints	Complaint Type	Actions
2013	1	1-Air Emissions Concern	<ul style="list-style-type: none"> Addressed as part of the EPA's ongoing assessment of air emissions, outlined in Section 6.
2014	0	-	<ul style="list-style-type: none"> EPA inspectors met with a complainant in July 2014, in response to queries regarding the outcome of the EPA's investigation of the individual's complaints and queries about the ENVA Ireland Ltd. facility. During this meeting the complainant raised concerns regarding the data presented in the original IPC licence application (1999), EPA monitoring and modelling reports, ENVA Ireland Ltd. monitoring and modelling reports and the EPA's assessment of same. EPA inspectors were also shown previously unseen video footage of interviews with people reported to be existing and former residents within the locality of the facility. The video participants spoke about odours, their experience of odours when they are on their property and in their homes and concerns about the health impact of these odours. The timeframes referred to was not made clear in the video itself but it was stated that they ranged from pre-2002 to around June 2014. The EPA was not provided with the names or contact details of the video participants. The EPA considered these concerns as part of the process, outlined in Section 6.
2015	1	Odours	<ul style="list-style-type: none"> In April 2015, an EPA inspector was advised of odours and reported associated nausea and headaches experienced at an industrial site beside ENVA Ireland Ltd. Portlaoise. The inspector asked for details of this complaint to be submitted to the EPA and has advised that it will investigate upon receipt⁶. Ongoing Assessment of air emissions.

⁶This report will be updated upon receipt and investigation of same.

6 Review of Air Emissions Information

Emissions arise from the facility as a result of on-site activities – these include emissions to air from on-site boilers, waste oil processing tanks, vehicle movements, and material and waste handling activities within the site; emissions to sewer of waste water; and emissions to surface water from designated yards and roofs.

The conditions and schedules contained within the IE licence W0184-01 specify the environmental management controls in relation to facility activities. The conditions as set out under Conditions 6: Emissions; 7: Nuisance Control; 8: Monitoring and associated Schedules C and D of the licence specify the emission limit values and monitoring frequency of emissions from the facility.

6.1 Sources of Air Emissions

Reprocessing Tank Emissions

Emissions to air arise from tank vents from the waste oil reprocessing tanks. There are a number of heated tanks which are used for gross removal of water from waste oils, in addition to three specific 'drying' tanks used in the final processing steps. In addition to heating the oil, these drying tanks also sparge air through the oil (from the base of the tank) in order to aid the removal of any residual moisture from the waste oil.

The impact of emissions from the drying tank vents were assessed at the licence application stage; they were deemed emission points with no significant environmental impact and it was not considered necessary to impose limits or monitoring requirements on these tanks.

Boiler Emissions

Emissions to air arise from the operation of two on-site boilers. The process boiler is fuelled on natural gas or kerosene gas oil, it has a power rating of approximately 4.4MW which produces 7,000kg/hr of steam. The office heating boiler has a rating of 29-69KW and is powered by natural gas.

An assessment of the boiler emissions was carried out as part of the licence application. The licence requires annual monitoring of combustion gases sulphur dioxide, nitrogen oxides, carbon monoxide from the process boiler. Results are submitted annually as part of the Annual Environmental Report (AER) for review by the EPA. Recent monitoring data as reported in the 2013 Annual Environmental Report (available for public review at www.epa.ie) indicates satisfactory boiler efficiency and low emission concentrations of the measured pollutants. The boilers are not required to meet specific emission limit values.

Other Sources

Air emissions may also arise from sources such as vehicle movements and soil remediation and storage. The Licence contains conditions to control nuisance emissions from the facility, such as dust and odours.

6.2 Review of drying tank emissions

This review focused on emissions from the drying phase of the waste oil reprocessing activity due to the higher operating temperature compared to other heated tanks.

The main pollutants of interest from the oil drying activity are hydrocarbons, i.e. the constituent components of the oil itself. When measuring emissions of hydrocarbons from this type of activity, the measured parameter is normally referred to as volatile organic compounds (VOCs) as the hydrocarbons which are released are those which are more volatile (will form a gas at lower temperatures). VOC emissions are normally measured in units of milligrams of hydrocarbons contained in each cubic metre of air released (a milligram is 0.001 grams). As the temperature of the process increases some of these more volatile hydrocarbons will be discharged as gaseous emissions from the vent on the top of the drying tanks. Water vapour (steam) will also be a constituent of the emissions from the tank as the primary purpose of the drying activity is to remove any remaining water in the oil.

Due to the nature of the drying activity the actual quantity of gas released (known as the volumetric flow, and measured in cubic metres of gas released per second/minute/hour) is relatively low, however the actual concentration of hydrocarbons within the gas is relatively high compared to concentrations from other industrial sources such as solvent coating activities (which would tend to have much higher gas volumetric flows but lower concentrations of VOCs). Considering either the VOC concentration or the gas volumetric flow in isolation will not provide a representative indication of the overall VOC emissions, however by multiplying the two parameters together the mass emission of VOCs can be calculated, i.e. the kg of VOC released from the drying tanks over a given period of time.

In order to gain a thorough overview of the significance of VOC emissions from the drying activity, a range of historical information was reviewed, as well as the completion of additional measurements and assessments, as outlined below:

This review process covered the following areas:

- Review of existing information:
 1. Original IPC licence application data (1999);
 2. Compliance history of the site;
 3. Complaints received by the EPA;
- Additional assessments:
 4. EPA air emissions monitoring (2012);
 5. Dispersion modelling of emissions (2012);
 6. EPA ambient air monitoring in Portlaoise Town (2014);
 7. EPA ambient air monitoring adjacent to the site (March 2015);
 8. Independent Odour Surveys (September 2014);
 9. ENVA Ireland Ltd. Portlaoise emissions flow monitoring (2012);
 - ENVA Ireland Ltd. Portlaoise assessment of emissions using the USEPA TANKS Model, carried out at the request of the EPA (2013);
 - ENVA Ireland Ltd. estimation of emissions of volatile organic compounds (2014).

The findings from this assessment are presented below, with further detail provided in Appendix D.

Modelling and Monitoring of Drying Tank Emissions

Review of the original application documents indicated that a number of measurements on the emission vents from the drying tanks were undertaken, with variations in the level of emissions depending on whether or not the 'air sparging activity' was taking place. Dispersion modelling of emissions from the tanks indicated no impact on ambient air quality.

More recent monitoring of emissions from the same tanks in 2012 by the EPA found that the concentrations of VOCs in the emissions were of the same order of magnitude as measured in 1999. The volumetric flow rate could not be measured during this monitoring exercise as it was below the limit of detection of the equipment (there is no forced extraction from this vent hence the gas flow rate is low). The EPA then used the monitoring data gathered from this 2012 monitoring exercise (including an assumed worst-case volumetric flow of 3,052 m³/hour based on the limit of detection of the flow monitoring equipment) and carried out a dispersion modelling exercise to calculate ground level pollutant concentrations. This exercise found that the pollutant concentrations were within relevant air quality guideline values.

In order to determine a more accurate estimation of the gas volumetric flow from the drying tanks, the licensee carried out an additional monitoring exercise on the drying tank vents. Again the flow was below the limit of detection but did indicate that the flow was less than 191 m³/hour, which is more than 15 times lower than the flow assumed by the EPA modelled tank emissions i.e. the EPA modelling undertaken in 2012 was highly conservative.

The licensee also estimated emissions from the drying tanks based on two methodologies which use emission factors to estimate emissions, namely the USEPA TANKS model and a methodology proposed by EnviroLex consultants. Both methods produced significantly different results (3.18 kg/hour from the TANKS model and 0.077 kg/hour estimated from the Envirolex methodology), and these data were taken into consideration by the EPA as part of the overall assessment of emissions from the tanks.

Table D.1 in Appendix D provides a summary of the VOC concentration, volumetric flow and VOC mass flow based on different measurements and estimation techniques as described above. There are variations between the different sources of data, due in particular to the use of a conservatively assumed volumetric flow rate from the drying tank (which was assumed to be at the limit of detection of the monitoring equipment used). Based on this review of all available information, VOC emissions have been determined to be in the range of 0.4 to 2.0 kg/hour during the air sparging part of the oil drying activity. Dispersion modelling of emissions from the drying tanks carried out by the EPA at significantly higher emission rates (an assumed worst case of approximately 9 kg/hour per tank) indicates that pollutant levels are within relevant ambient air quality guideline values.

Further supporting information in relation to the above assessment is included in Appendix D.

Odour Nuisance Assessment

In September 2014 the EPA commissioned an independent Odour Agent to perform odour surveys in the environs of the ENVA Ireland Ltd facility. Nineteen odour assessments were carried out at different times during the day on seven days over a period of two weeks. These surveys coincided with various operational stages of the waste oil drying tanks and included

periods when air sparging was and was not occurring, when one and multiple tanks were operating and when there was no processing occurring, confirmed by EPA review of operational data from the Licensee SCADA system. Details of the weather conditions and the processing activities at the facility during these odour surveys are presented in Appendix E. Odour nuisance was not identified during these surveys.

The EPA conducted an odour survey on 20/01/2015 in the environs of the ENVA Ireland Ltd. facility. The EPA Inspector stated in the report that when an odour was detected, it was not considered to be at a level that would reasonably constitute nuisance. All odour survey reports are on the EPA public file.

Ambient Air Quality Monitoring

In addition to measurement of emissions and estimation of ground level pollutant concentrations, the EPA has undertaken monitoring of ambient air quality to provide actual information on the levels of VOCs (specifically benzene, toluene, xylene and ethylbenzene) in the atmosphere. Monitoring of ambient air quality at an EPA monitoring station in Portlaoise (Portlaoise fire station) and in the Clonminam area (150 metres from the ENVA oil reprocessing tanks) has indicated concentrations of VOCs which are within applicable standards/guidelines. Data from the Clonminam industrial location indicate that, as expected, concentrations of VOCs are higher at this location compared to the monitoring site at the fire station, however the measured concentrations remain within applicable ambient air quality standards/guidelines.

Benzene is the only measured pollutant which has a statutory ambient air quality limit value, which is determined as an annual average concentration of $5 \mu\text{g}/\text{m}^3$. The measured average concentration of benzene at the Clonminam site over the monitoring period is 25.8 % of this standard. Wind rose directional analysis of the benzene monitoring data (Figure C.9 in Appendix C) indicates that there are multiple sources of benzene around the monitoring location.

A summary table of results and relevant guideline values are presented in Tables 2 and 3 below. The long term guideline values in the tables are based on annual average exposure, however as a full years monitoring has not been completed, it is assumed that the average over the monitoring period is representative of the average that would be measured over a full year.

Monitoring at the Clonminam site is ongoing and further analysis of this data will be required. A detailed assessment of ambient air quality monitoring data is presented in Appendix C.

Table 2: Summary data for ambient monitoring – Portlaoise Town

Parameter	Benzene µg/m ³	Toluene µg/m ³	Ethylbenzene µg/m ³	m+p - Xylene µg/m ³	o-xylene µg/m ³
Average over monitoring period	0.33	0.65	0.08	0.23	0.08
Annual Average Guideline Value	5	1,910	4,410	2,200	2,200
% of Guideline Value	6.64	0.03	0.002	0.01	0.003
Maximum hour	17.6	26.4	3.5	16.3	5.0
Guideline Value	320	8,000	55,200	66,200	66,200
% of Guideline Value	5.51	0.33	0.01	0.03	0.01

Note: this monitoring location is approximately 2km from the drying tanks

Table 3: Summary data for ambient monitoring – Clonminam – March 2015

Parameter	Benzene µg/m ³	Toluene µg/m ³	Ethylbenzene µg/m ³	m+p - Xylene µg/m ³	o-xylene µg/m ³
Average over monitoring period	1.29	3.45	2.56	4.02	1.85
Annual Ambient Guideline Value	5	1,910	4,410	2,200	2,200
% of Guideline Value	25.8	0.18	0.06	0.18	0.08
Maximum hour	5.5	50.3	40.0	70.8	27.8
Guideline Value	320	8,000	55,200	66,200	66,200
% of Guideline Value	1.73	0.63	0.07	0.11	0.04

Note: this monitoring location is approximately 150 metres from the drying tanks

6.3 Key Findings of air emissions review

The key findings of the air emissions review can be summarised as follows:

- Air quality in the vicinity of the ENVA Ireland Ltd. Portlaoise facility and in Portlaoise Town is within ambient air quality guideline values;

- There has been no significant change in the magnitude of emissions from the drying tanks when comparing recent emissions data and the data submitted as part of the original licence application;
- Dispersion modelling of emissions from the drying tanks indicate that ground level concentrations are within ambient air quality guideline values;
- Odour nuisance was not identified during independent odour agent or EPA odour surveys in 2014 and 2015.

On the basis of these findings, the EPA is satisfied that emissions from the waste oil reprocessing activity have not changed since the licence was granted and that there is currently no requirement to place any further mandatory controls or monitoring requirements on the emissions from ENVVA Ireland Ltd., Portlaoise.

7 Regulatory Benchmarking

The EPA consulted with the Environment Agency (EA) in England in 2013 regarding monitoring of tank emissions and in 2014 to benchmark waste oil reprocessing activities and controls at ENVA Ireland Ltd. (Portlaoise) with those within the waste oil reprocessing sector in the UK. As part of this work the EPA also visited two Environment Agency permitted waste oil reprocessing sites in 2015 to review the regulatory requirements applied at these sites.

There are ten waste oil facilities under the enforcement remit of the Environment Agency, eight of which, similar to ENVA Ireland Ltd., produce Processed Fuel Oil (PFO) from waste oil, and four of which have tanks that vent directly to atmosphere. One of these 8 facilities is another waste facility within the DCC plc group, which owns ENVA Ireland Ltd. The scale of throughput at these facilities varies from 10,000 to 60,000 tonnes per year (ENVA Ireland Ltd. processed almost 20,000 tonnes in 2014). The remaining two facilities which are not part of this discussion are a waste oil storage facility and a waste oil distillation facility.

The EPA found that there is a significant variation in the processes used across all of these sites to treat the waste oil and the duration and temperature profile of the process also varies significantly from site to site. The likely impacts and regulatory requirements therefore need to be determined on a case-by-case basis at each site. The main process steps include a combination of separation of solids by way of one or more of the following; filtration/sedimentation/settlement by way of chemical and/or physical processes, dewatering by gravity and/or heating, mixing, addition of de-mulsifier and de-ashing compounds, further physical filtration/centrifuging and flash evaporation. Air sparging, which occurs at ENVA Ireland Ltd., does not occur at any of the facilities in the UK. The final oil quality standards applied at the EA permitted sites is the same as that applied at the ENVA facility.

Five facilities have abatement of emissions. A number of these abatement systems were installed to address emissions from other on-site activities such as solvent recovery rather than emissions from waste oil reprocessing, but all or part (depending on the site) of the waste oil processing emissions are discharged via the abatement systems at these sites. Abatement systems in use include carbon filters, a combination of carbon absorption beds and water jacket condensers, and a combination of condensers and wet scrubbers. No post abatement monitoring is required at any of these sites. Those facilities which do not have abatement are also not required by their Environment Agency permit to monitor emissions to atmosphere.

Odour complaints regarding these facilities are infrequent and, when received, the investigative approach by the EA has included odour surveys and ambient air monitoring. The findings of these follow up actions have generally found that where odours exist they tend not to be associated with the waste oil activities at the facilities in question. A number of facilities conduct routine sniff testing/odour inspections similar to ENVA Ireland Ltd. to monitor off-site odour. The two facilities visited by the EPA are typically inspected by an Environment Agency inspector on an annual basis.

Appendix A. Site Visits Licence Reg. No. W0184-01

Date	Announced	Compliance Status	Purpose
27/04/15	No	Report in preparation	Routine (including odour assessment)
20/01/15	No	Compliant	Odour assessment & inspection of operational data
16/12/14	No	Not assessed	Inspection of operational data
28/11/14	No	Compliant	Odour assessment
28/09/14	No	Compliant	Odour assessment
27/09/14	No	Compliant	Odour assessment
27/09/14	No	Compliant	Odour assessment
27/09/14	No	Compliant	Odour assessment
26/09/14	No	Compliant	Odour assessment
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25/09/14	No	Compliant	Odour assessment
17/09/14	No	Compliant	Odour assessment
17/09/14	No	Compliant	Odour assessment
17/09/14	No	Compliant	Odour assessment
16/09/14	No	Compliant	Odour assessment
16/09/14	No	Compliant	Odour assessment
16/09/14	No	Compliant	Odour assessment
15/09/14	No	Compliant	Odour assessment
14/08/14	Yes	Not assessed	On-site meeting
20/03/14	Yes	Compliant	Focus on Environmental Liability Risk Assessment/Closure Remediation Aftercare Management Plan, visit announced as this required necessary personnel from the company for detailed discussion. and Routine Visit
22/08/13	No	1 non-compliance re waste soil classification	Routine
08/11/12	No	Compliant	Routine
03/02/12	No	Compliant	Air Focused Visit
26/10/11, 28/10/11, 08/11/11	No	1 non-compliance re off-site odour (08/11/11)	Odour assessment (odour agent)
19/07/11	No	1 non-compliance re off-site odour	In response to odour complaint
29/06/11	No	Compliant	Routine
17/12/10	No	Compliant	Routine
11/03/10	No	Compliant	Focused on storage & analytical procedures
27/11/09	No	Compliant	Routine

Appendix B. Incidents notified to EPA since 2009

Date of notification	Incident Nature	Receptor	Comment
22/04/2014	Composite sampler malfunction	Sewer	Grab sample taken and compliant. Power outage caused sampling failure.
20/07/2013	Composite sampler malfunction	Sewer	Grab sample taken and compliant. Closure valve failure prevented sampling.
31/08/2012	Weather station software malfunction	None	Met Éireann data used.
21/03/2012	Dust monitoring exceedance	Air	Soil handling in proximity of dust monitoring gauge.
22/07/2011	Ammonia Emission Limit Value (ELV) exceedance to sewer	Sewer	Grab samples taken and compliant. Inadequate mixing of tank led to inaccurate representation of tank contents.
13/07/2011	Ammonia & suspended solids ELV exceedance	Sewer	Scada error caused release of batch. Laois CoCo notified.
12/07/2011	Suspended solids ELV exceedance	Sewer	Insufficient settlement of solids prior to release. Laois CoCo notified.
06/07/2011	Composite sampler malfunction	Sewer	Grab sample taken and compliant. Testing of generator resulted in power outage and caused sampling failure.
07/06/2011	Weather station data unretrievable	None	Met Éireann data used.
07/03/2011	No mineral oil analysis performed	Sewer	Administrative error by external lab.
21/10/2011	Suspended solids ELV exceedance	Sewer	Insufficient settlement of solids prior to release. Laois CoCo notified.
09/09/2010	Composite sampler malfunction	Sewer	No sample taken.
08/01/2010	Composite sampler pipework frozen	Sewer	Occurred during period of hard freeze and heavy snowfall
17/12/2009	Composite sampler malfunction	Sewer	Testing of generator resulted in power outage and caused sampling failure.
29/06/2009	Waste metal taken to wrong site by contractor	None	No impact – waste was redirected appropriately.
19/06/2009	Composite sampler malfunction	Sewer	Grab samples taken and compliant. Composite sampler pump malfunction.
04/06/2009	Sulphates ELV exceedance	Sewer	Duplicated incident – relates to incident notified on 03/06/2009.
03/06/2009	Sulphates ELV exceedance	Sewer	Inherent issue with waste oil processing.
20/03/2009	Mineral oil not analysed	Sewer	Administrative error – request for Mineral Oil analysis not requested.
26/01/2009	Weather station software malfunction	None	Met Éireann data used and on-site monitoring.

Appendix C. Ambient Air monitoring in Portlaoise

C.1 Introduction

Monitoring of hydrocarbons (benzene, toluene, xylene and ethylbenzene, known as BTEX) was carried out at a location in Portlaoise Town for the period from September to December 2014. In addition, monitoring commenced at a site directly adjacent to the ENVA site in Clonminam in March 2015 and this monitoring is ongoing at the time of preparation of this report. Monitoring of BTEX is a commonly used approach for determination of hydrocarbon concentrations in ambient air and is used by the EPA at other monitoring locations within the national ambient air quality monitoring network.

The assessment of the Clonminam data is considered preliminary as monitoring is ongoing and further data analysis will be completed on this data once additional data has been captured.

Table C.1 below presents a range of relevant air quality standards/guidelines for the measured pollutants which allow for assessment of the significance of the measured concentrations at the two monitoring sites.

Table C.1: Relevant Air Quality Limits and Guidelines

Parameter	Interpretation	Value ($\mu\text{g}/\text{m}^3$)	Source
Benzene	Annual average	5	EU Limit Value
	Short-term (1 hour)	320	Derived from US NIOSH 15 minute recommended exposure limit
Toluene	Annual average	1,910	UK Environment Agency
	Weekly Average	260	WHO Guideline Value
	Short-term (1 hour) Environmental Assessment Levels For Air (For The Protection Of Human Health)	8,000	WHO Guideline Value, UK Environment Agency
Ethylbenzene	Annual average	4,410	UK Environment Agency
	Short-term (1 hour) Environmental Assessment Levels For Air (For The Protection Of Human Health)	55,200	UK Environment Agency
Xylene	Annual Average	2,200	UK Environment Agency Guideline Value
	Short-term (1 hour) Environmental Assessment Levels For Air (For The Protection Of Human Health)	66,200	UK Environment Agency

C.2 Monitoring in Portlaoise Town

As part of the national ambient monitoring of air quality undertaken by the EPA, a monitoring station was placed in Portlaoise in early 2014. The facility location is on the Dublin Road at the Fire Station. The EPA commenced monitoring of ambient hydrocarbon concentrations from September 2014 at this location.

Monitoring of hydrocarbons was carried out at this location between September and December 2014 (inclusive). The relative locations of the ENVA facility and the monitoring location are shown in Figure C.1 below.

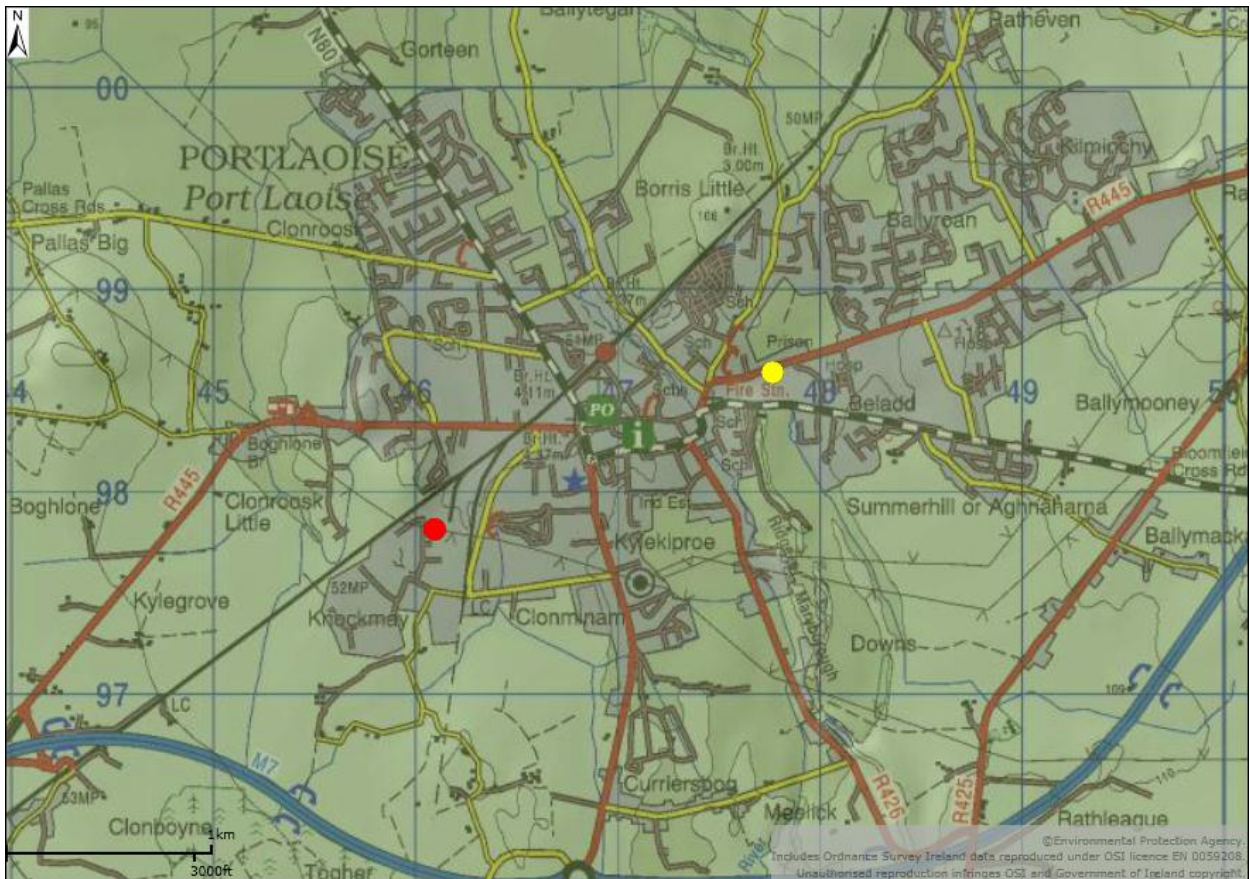


Figure C.1: Map showing location of ENVA facility (red dot) and EPA monitoring station (yellow dot) for September to December 2014 monitoring.

The distance between the locations is approximately 2km. The direction to the monitoring station from the ENVA facility is approximately 65 degrees from north, therefore winds from approximately 230 – 260 degrees would impact on the monitoring location. A wind rose for the period of monitoring is shown below (Met Eireann data for Oak Park, Carlow), showing that winds from the direction of the ENVA facility occurred during the period of monitoring.

The hydrocarbons measured by this monitoring equipment are benzene, toluene, xylene and ethylbenzene, and measurements are provided on an hourly average basis for each of these parameters.

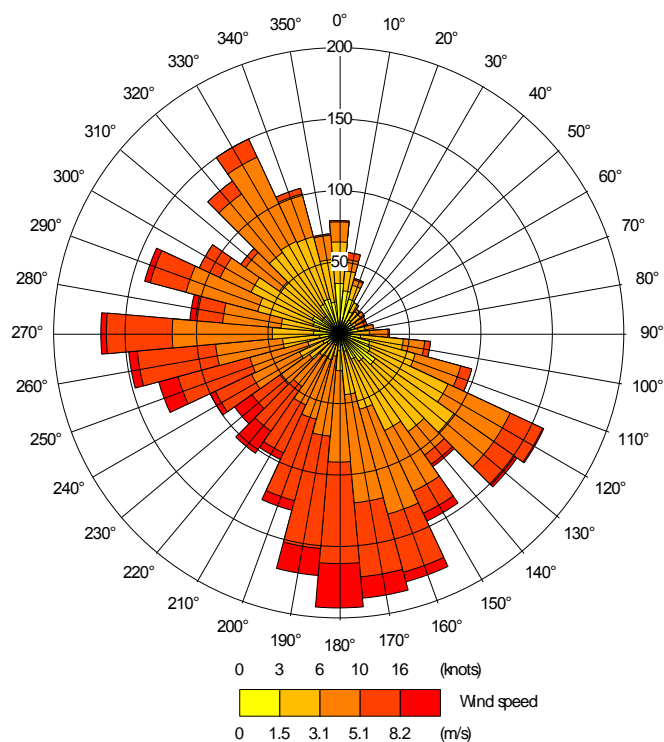


Figure C.2: Wind rose for Oak Park, Carlow, September to December 2014 (inclusive)

Results of Monitoring

Table C.2 provides summary results for the period of monitoring. Benzene (see Table C.1) is the only parameter which has a statutory air quality limit value, which is set at 5 µg/m³ as an annual average. The average benzene concentration over the 3 month monitoring period is an order of magnitude below the statutory limit. Comparison of the concentrations of the other hydrocarbon concentrations indicates that the measured results are also within the guideline values presented in Table C.1.

In terms of short-term elevated concentrations of each hydrocarbon, Table C.3 presents the 10 highest measured hydrocarbon concentrations for each parameter, along with the associated wind direction data from the Met Eireann Oak Park monitoring station. The majority of these highest measured concentration values are associated with wind directions from 110 to 150 degrees, which is not related to the ENVA installation. There are a small number of short-term benzene 'spikes' in Table C.3 related to wind directions of approximately 130 – 150 degrees. This suggests a localised source of hydrocarbon emissions. The magnitude of these 1-hour spikes is within the guideline value presented in Table C.1.

Table C.2: Summary data table for VOC monitoring data

Parameter	Benzene µg/m³	Toluene µg/m³	Ethylbenzene µg/m³	m+p - Xylene µg/m³	o-xylene µg/m³
Average over monitoring period	0.332	0.654	0.075	0.231	0.076
Guideline Value	5	1,910	4,410	2,200	2,200
% of Guideline Value	6.64	0.03	0.002	0.01	0.003
Maximum hour	17.634	26.389	3.451	16.317	4.950
Guideline Value	320	8,000	55,200	66,200	66,200
% of Guideline Value	5.51	0.33	0.006	0.025	0.007
99th percentile	2.479	5.303	0.428	1.762	0.496
95th percentile	1.118	2.317	0.176	0.673	0.175
90th percentile	0.680	1.388	0.132	0.397	0.121
75th percentile	0.332	0.601	0.077	0.198	0.077
50th percentile	0.170	0.306	0.044	0.121	0.044
25th percentile	0.041	0.067	0.000	0.044	0.000

Explanation of percentiles: The 99th percentile is the hourly concentration value below which 99 % of measured concentrations fall, e.g. in the case of benzene 99% of all measured hourly concentration values during the monitoring period are below 2.479 µg/m³.

Table C.3: Ten highest hourly concentrations for each VOC and associated hourly wind direction

No.	Benzene µg/m³	Wind Direction (Degrees)	Toluene µg/m³	Wind Direction (Degrees)	Ethylbenzene µg/m³	Wind Direction (Degrees)	m+p - Xylene µg/m³	Wind Direction (Degrees)	o-xylene µg/m³	Wind Direction (Degrees)
1	17.6	130.0	26.4	60.0	3.5	40.0	16.3	40.0	5.0	40.0
2	11.8	140.0	25.3	40.0	2.9	350.0	12.3	60.0	4.2	350.0
3	10.5	130.0	25.0	110.0	2.8	60.0	11.9	350.0	3.8	190.0
4	9.2	140.0	22.5	110.0	2.3	150.0	10.9	150.0	3.6	60.0
5	6.5	150.0	19.6	350.0	1.6	130.0	7.3	160.0	3.4	150.0
6	6.4	120.0	18.8	150.0	1.5	140.0	5.8	130.0	2.0	160.0
7	5.0	130.0	16.0	130.0	1.3	160.0	5.2	130.0	1.4	130.0
8	4.6	140.0	13.6	160.0	1.2	130.0	5.2	140.0	1.3	70.0
9	4.5	140.0	13.2	140.0	1.1	130.0	5.1	140.0	1.2	120.0
10	4.3	270.0	11.9	130.0	1.0	140.0	5.0	70.0	1.2	110.0

Analysis of wind direction and hourly concentration data were completed in order to assess the average concentrations associated with each 10 degree wind sector, with the 'pollution rose' for each hydrocarbon being presented below. The ENVA site is on a bearing of approximately 245 degrees from the EPA monitoring station, hence winds from this approximate direction would be expected to carry any pollutants from ENVA towards the monitoring station.

All of the plots show that the highest average concentrations generally occur with wind from 60 degrees, and also 20 degrees in the case of benzene, but all are within guideline values. The specific source of these pollutants has not been identified. The lowest concentrations tend to occur with southerly winds, as might be expected due to the generally open countryside to the south. There is no evidence of any impact as a result of emissions from ENVA at this monitoring location.

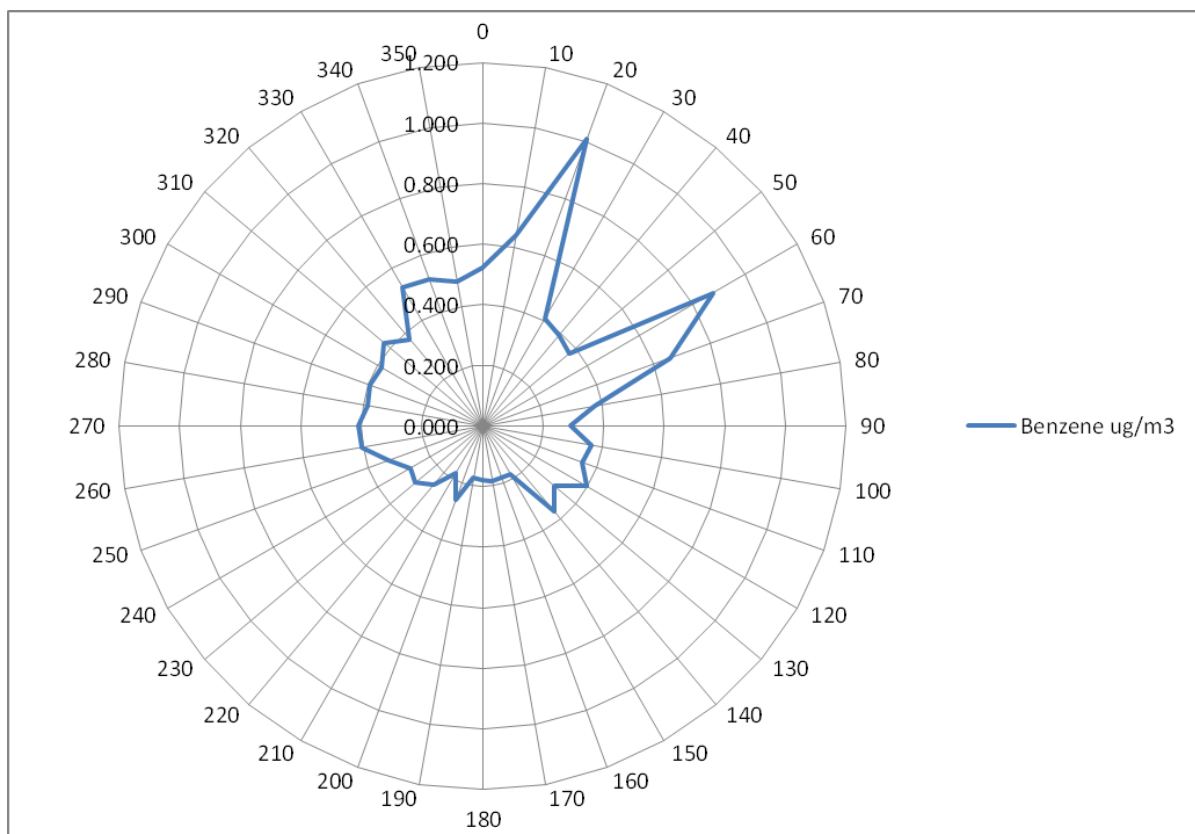


Figure C.3: Average benzene concentration for each 10 degree wind sector.

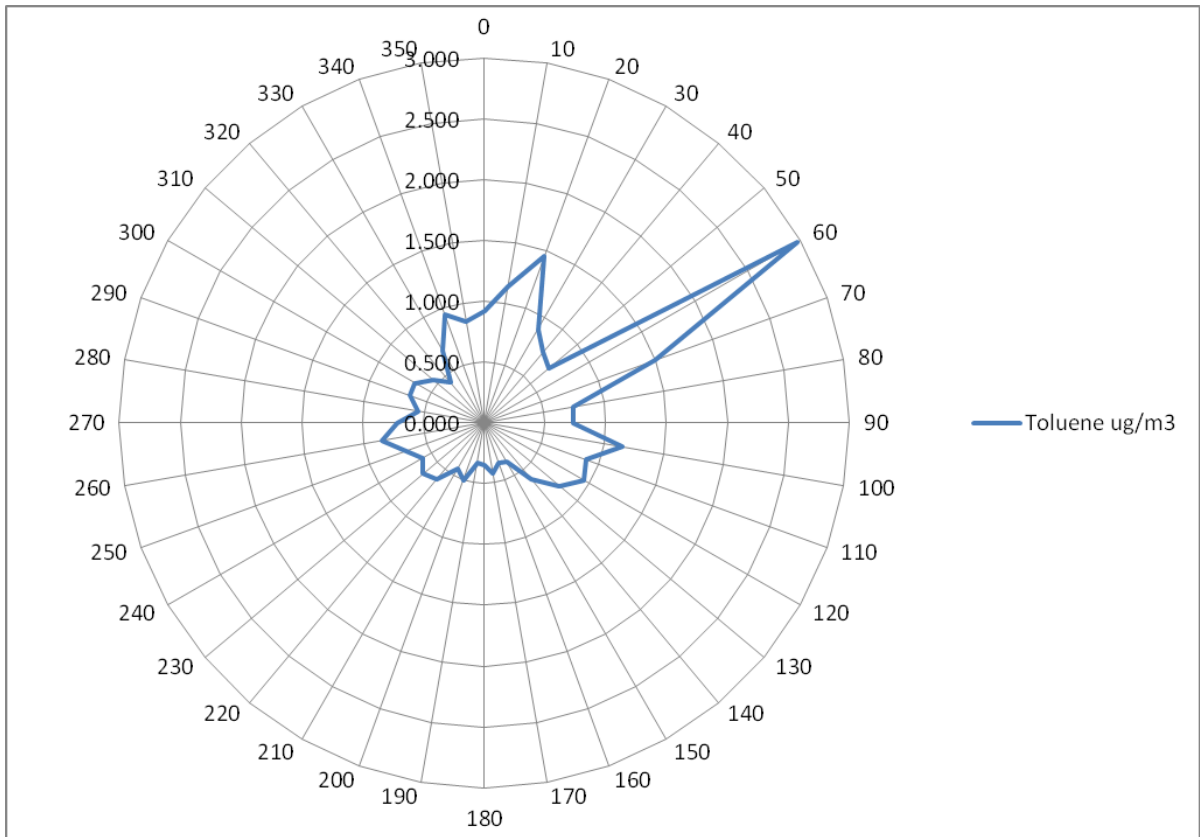


Figure C.4: Average toluene concentration for each 10 degree wind sector.

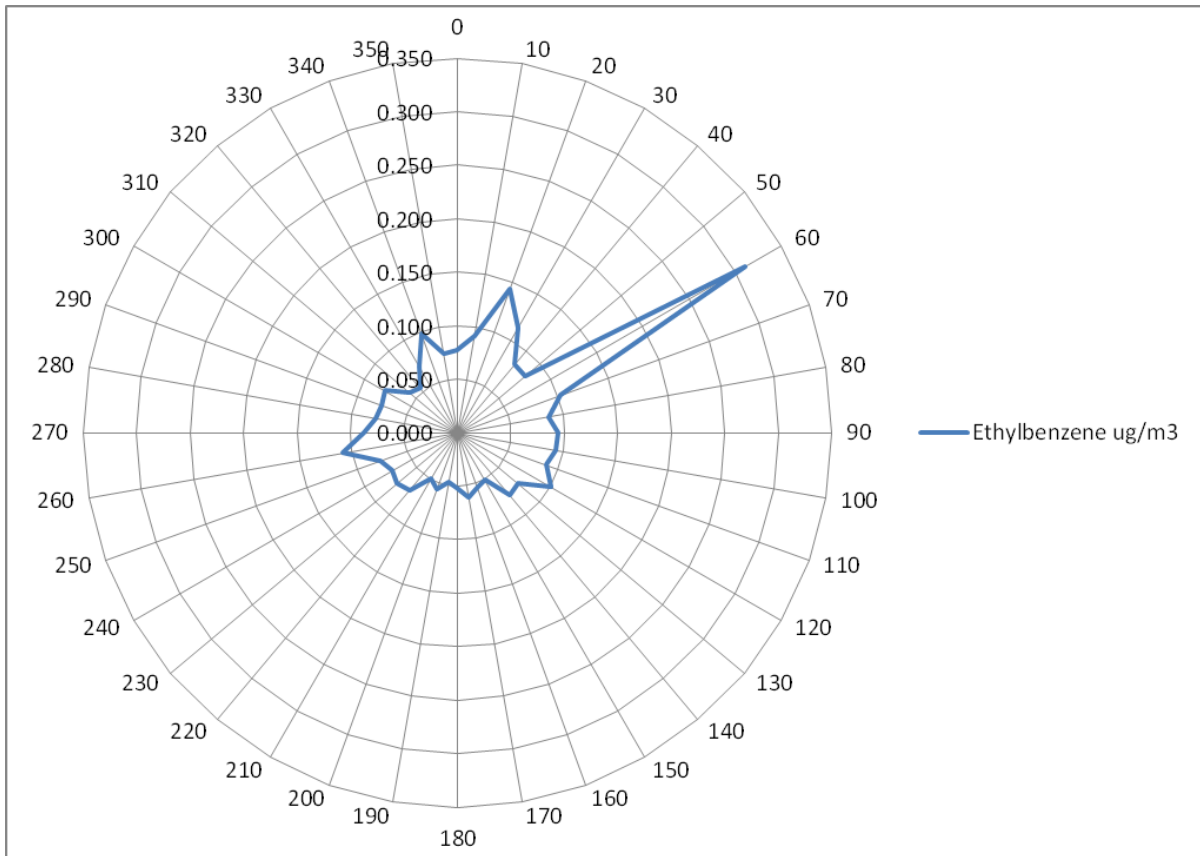


Figure C.5: Average ethylbenzene concentration for each 10 degree wind sector

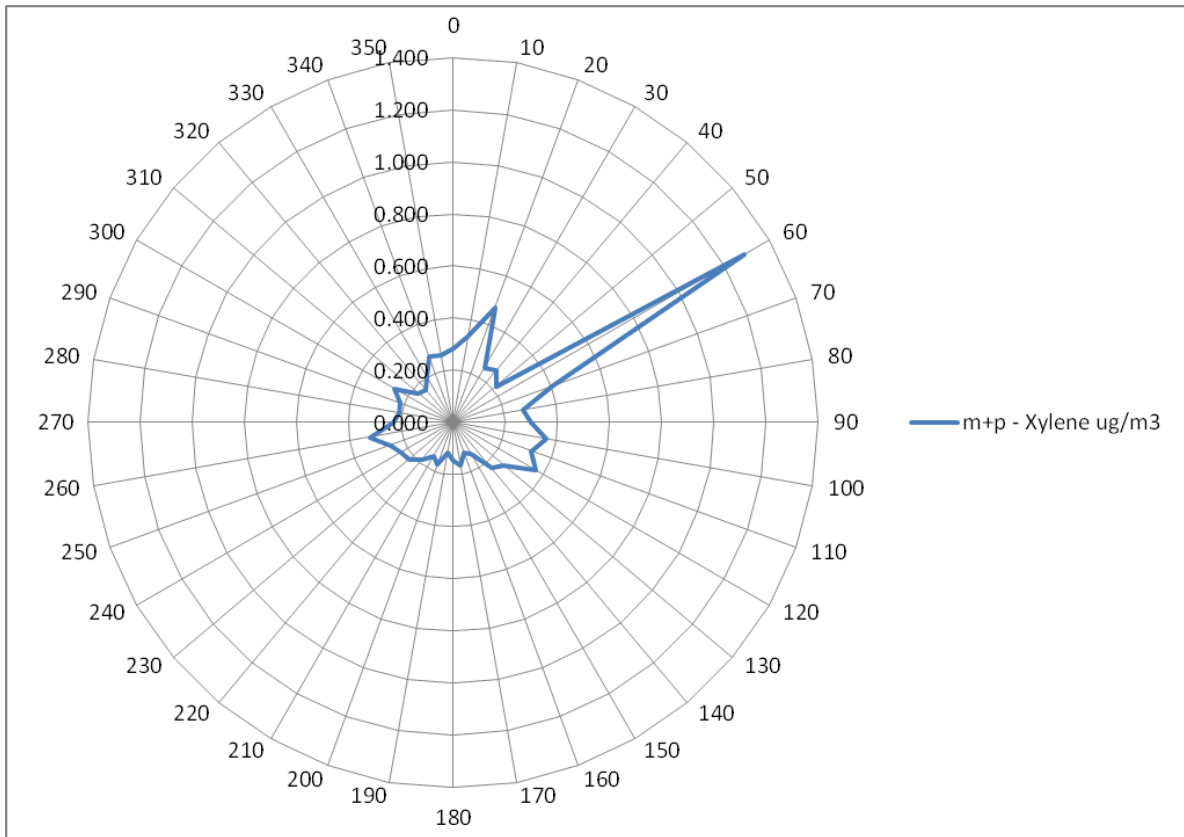


Figure C.6: Average m+p-Xylene concentration for each 10 degree wind sector

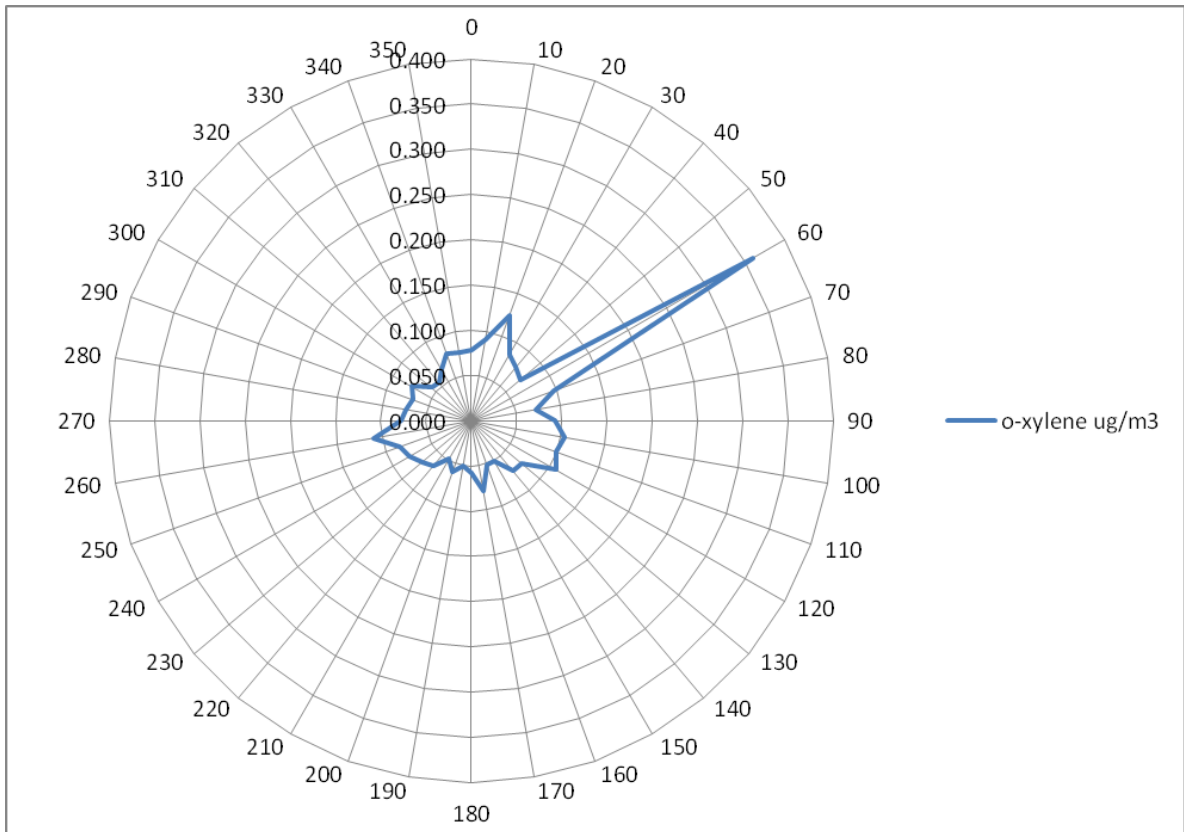


Figure C.7: Average o-xylene concentration for each 10 degree wind sector

C.3 Monitoring at Clonminam

A hydrocarbon (benzene, toluene, xylene and ethylbenzene) monitoring station was located at a position approximately 150 metres to the northeast of the ENVA oil reprocessing tanks in March 2015. Monitoring at this location is ongoing, provisional data are presented below for the period from March 9th to March 31st, and further analysis of the data will be completed as additional data is captured. The approximate direction from the ENVA oil reprocessing tanks to the monitoring location is 220 degrees, hence it would be expected that winds from 200 – 260 degree sector would result in emissions from the oil reprocessing tanks being directed towards the monitoring location. The wind rose for the period from March 9 to March 31 is shown below and indicates the occurrence of some winds from this sector.

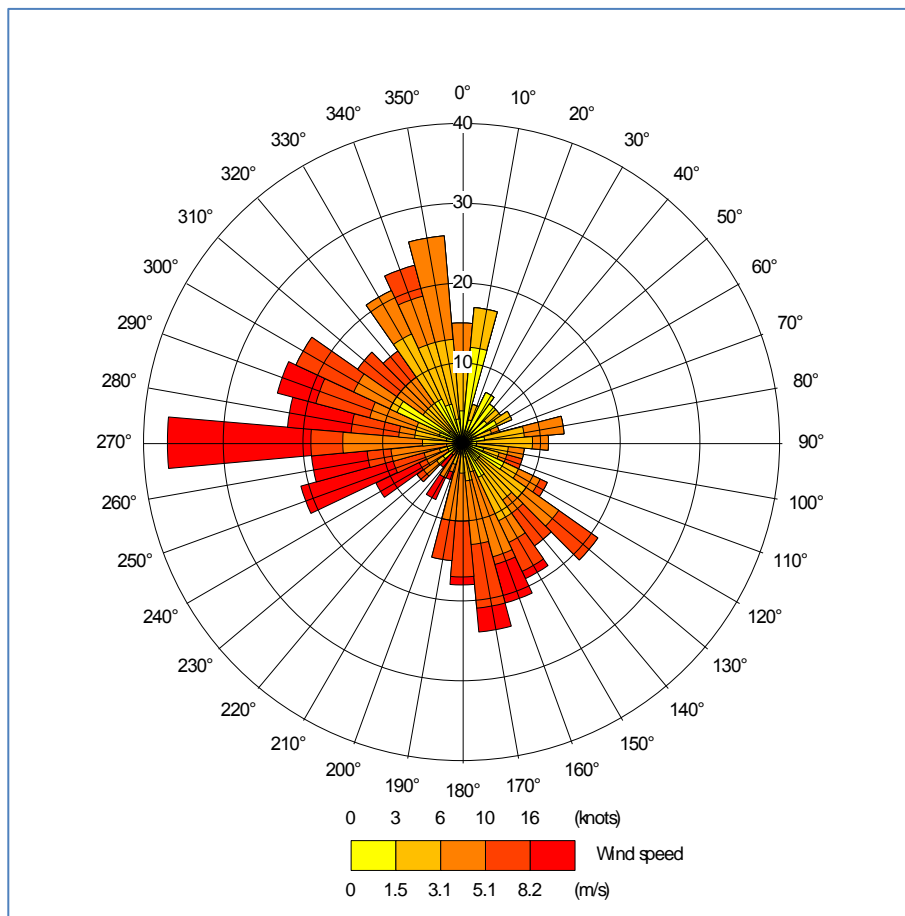


Figure C.8: Wind rose for Oak Park, Carlow, March 9 to 31 2015

Results of Monitoring

Table C.4 below presents summary results from the hydrocarbon monitoring at Clonminam during March 2015. The average benzene concentration is within the statutory limit value of 5 $\mu\text{g}/\text{m}^3$, while the average concentrations of the other hydrocarbons are also within the guideline values as presented in Table C.1 (based on the assumption that the average over this monitoring period is broadly representative of the annual concentrations at this location).

The maximum measured 1-hour concentrations are within the short-term guideline values.

As expected, the hydrocarbon concentrations at the Clonminam site are generally higher than measured at the Portlaoise Town (fire station) site. Table C.5 presents the 10 highest single hourly concentrations for each pollutant along with the associated wind direction occurring during that hour. A number of these values are associated with winds from the direction of the ENVA site. Further analysis of the impact of wind direction on the concentrations of these pollutants is presented below.

For comparative purposes Table C.6 presents concentration data for the same hydrocarbons at a non-industrial urban background monitoring location in Dublin (Rathmines) and also concentrations for two of these pollutants as measured during a monitoring campaign at an industrial location in the UK (data provided by the UK Environment Agency). The monitoring in the UK was completed in an industrial area which included an oil reprocessing installation.

Table C.4: Summary monitoring results - Clonminam

Parameter	Benzene $\mu\text{g}/\text{m}^3$	Toluene $\mu\text{g}/\text{m}^3$	Ethylbenzene $\mu\text{g}/\text{m}^3$	m+p - Xylene $\mu\text{g}/\text{m}^3$	o-xylene $\mu\text{g}/\text{m}^3$
Average over monitoring period	1.290	3.450	2.563	4.020	1.849
Guideline Value	5	1,910	4,410	2,200	2,200
% of Guideline Value	25.8	0.18	0.06	0.18	0.08
Maximum hour	5.540	50.336	40.032	70.803	27.750
Guideline Value	320	8,000	55,200	66,200	66,200
% of Guideline Value	1.73	0.63	0.07	0.11	0.04
99th percentile	4.464	26.183	24.487	31.049	17.922
95th percentile	3.457	12.147	11.510	17.315	8.605
90th percentile	2.786	8.177	7.718	12.111	5.513
75th percentile	1.630	4.242	2.663	4.876	2.020
50th percentile	0.923	1.594	0.391	0.959	0.331
25th percentile	0.624	0.505	0.033	0.176	0.022

Explanation of percentiles: The 99th percentile is the hourly concentration value below which 99 % of measured concentrations fall, e.g. in the case of benzene 99% of all measured hourly concentration values during the monitoring period are below 4.464 $\mu\text{g}/\text{m}^3$.

Table C.5: Ten highest hourly concentrations for each VOC and associated hourly wind direction

No.	Benzene µg/m³	Wind Direction (Degrees)	Toluene µg/m³	Wind Direction (Degrees)	Ethylbenzene µg/m³	Wind Direction (Degrees)	m+p - Xylene µg/m³	Wind Direction (Degrees)	o-xylene µg/m³	Wind Direction (Degrees)
1	5.54	290	50.34	270	40.03	240	70.80	270	27.75	270
2	5.44	120	36.63	240	39.81	150	51.81	330	23.80	150
3	5.36	250	32.88	240	36.97	240	48.15	350	22.02	240
4	4.89	330	30.62	200	31.50	270	38.01	340	19.76	330
5	4.57	230	27.34	260	30.41	200	31.55	150	19.22	220
6	4.50	170	26.54	150	24.87	270	31.31	260	17.95	240
7	4.41	60	25.52	150	23.77	220	30.56	220	17.87	240
8	4.39	340	24.46	220	23.66	250	24.61	150	14.95	260
9	4.20	240	24.12	280	22.12	240	23.99	110	14.29	250
10	4.01	110	23.15	270	18.58	350	22.63	250	14.16	230

Table C.6: BTEX results from ambient air monitoring in Rathmines and UK compared to Portlaoise data

	Benzene $\mu\text{g}/\text{m}^3$	Toluene $\mu\text{g}/\text{m}^3$	Ethylbenzene $\mu\text{g}/\text{m}^3$	m- and p-Xylene $\mu\text{g}/\text{m}^3$	o-Xylene $\mu\text{g}/\text{m}^3$
Rathmines (2013)					
Annual mean	0.94	1.90	0.31	1.48	0.35
Hourly maximum	5.8	12.8	1.9	8.7	2.4
UK Industrial Site (2012/2013)					
Average	1.13	6.75	-	-	-
30 minute maximum	12.4	144	-	-	-
Clonminam (2015)					
Average	1.29	3.45	2.56	4.02	1.85
Hourly Maximum	5.54	50.34	40.03	70.80	27.75
Portlaoise Town (Fire Station, 2014)					
Average	0.33	0.65	0.08	0.23	0.08
Hourly Maximum	17.63	26.39	3.45	16.32	4.95
Guideline Values					
Long Term	5	1,910	4,410	2,200	2,200
Short Term	320	8,000	55,200	66,200	66,200

Analysis of wind direction and hourly concentration data were completed in order to assess the average concentrations associated with each 10 degree wind sector, with the 'pollution rose' for each hydrocarbon being presented below. The ENVA site is on a bearing of approximately 220 degrees from the EPA monitoring stations, hence winds from this approximate direction would be expected to carry any pollutants from ENVA towards the monitoring station.

This analysis should be considered with caution as the amount of data is relatively small and additional monitoring data and data analysis will be required to develop a more robust assessment of the impact of wind direction on pollutant concentration.

The plot for benzene in Figure C.9 indicates a slight elevation for winds from 220 degrees, however winds from the 20 – 50 degree section result in higher concentrations. The averages for all wind directions are within the EU annual average air quality limit value for benzene.

The directional plots for ethylbenzene, toluene and xylene clearly show that winds from the direction of the ENVA site are the cause of the majority of the measured concentrations of these hydrocarbons. The average concentrations for each 10 degree wind direction sector are within the guideline values presented in Table C.1. Additional analysis is presented below taking wind direction, hydrocarbon concentration and oil reprocessing activities at ENVA into consideration.

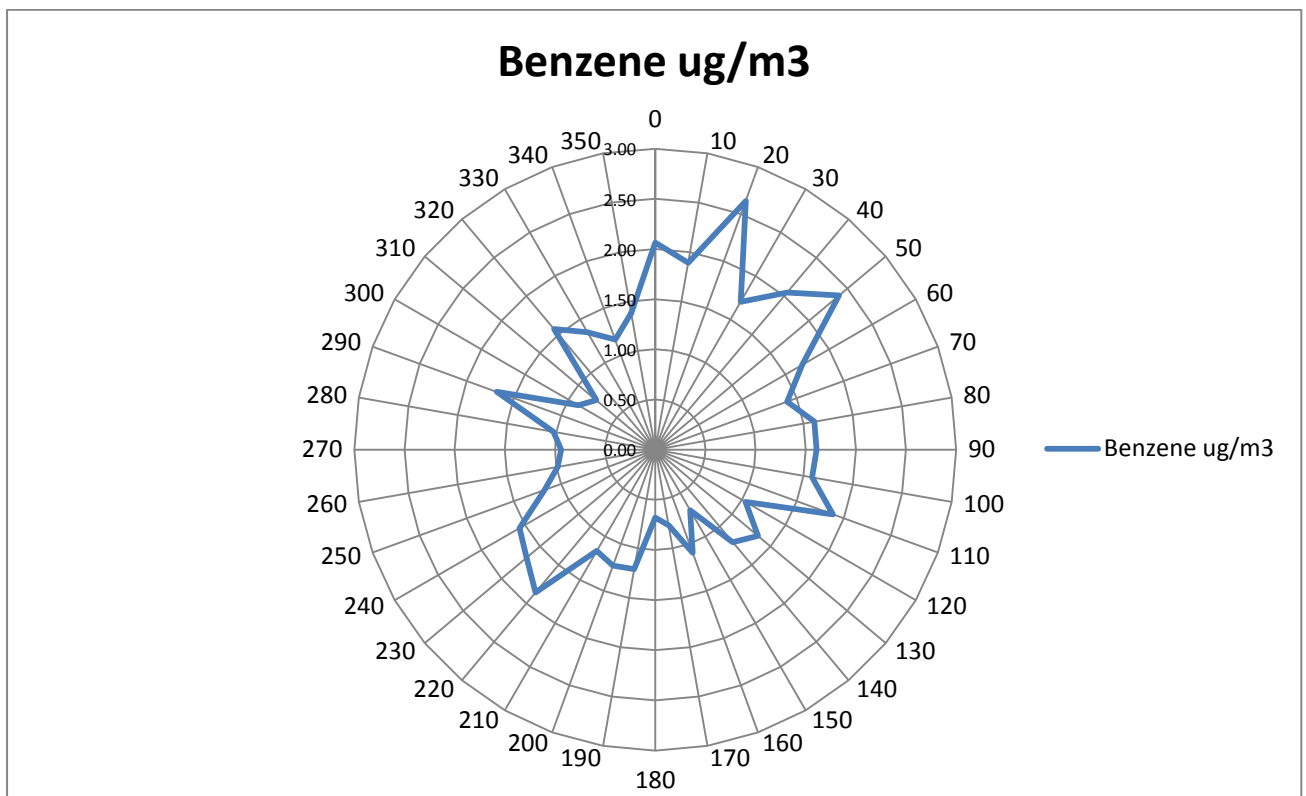


Figure C.9: Average benzene concentration for each 10 degree wind sector.

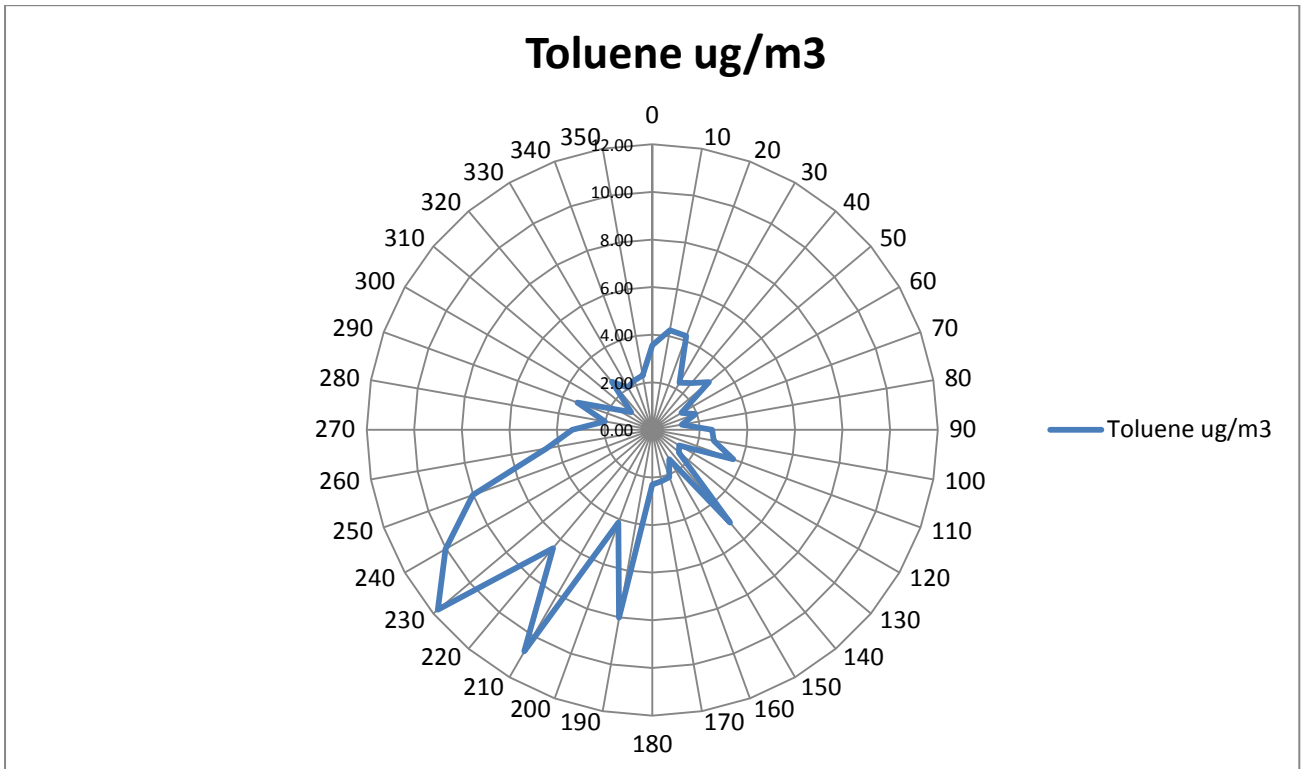


Figure C.10: Average toluene concentration for each 10 degree wind sector.

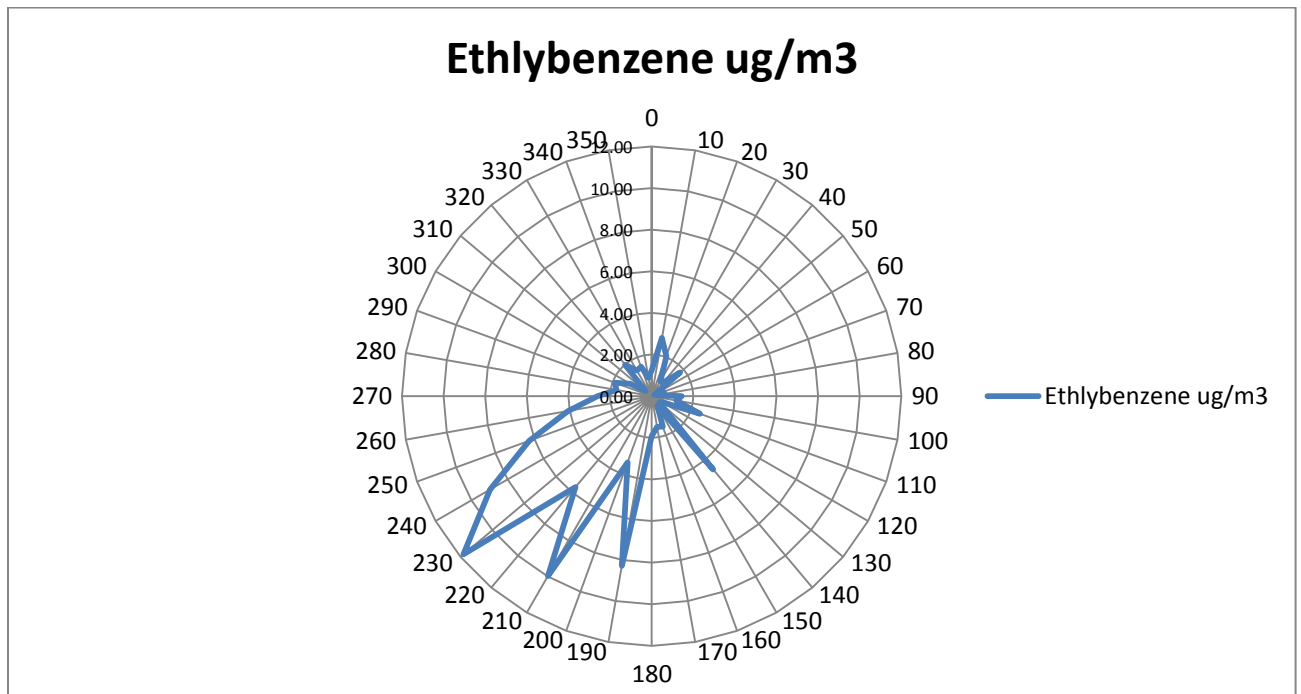


Figure C.11: Average ethlybenzene concentration for each 10 degree wind sector

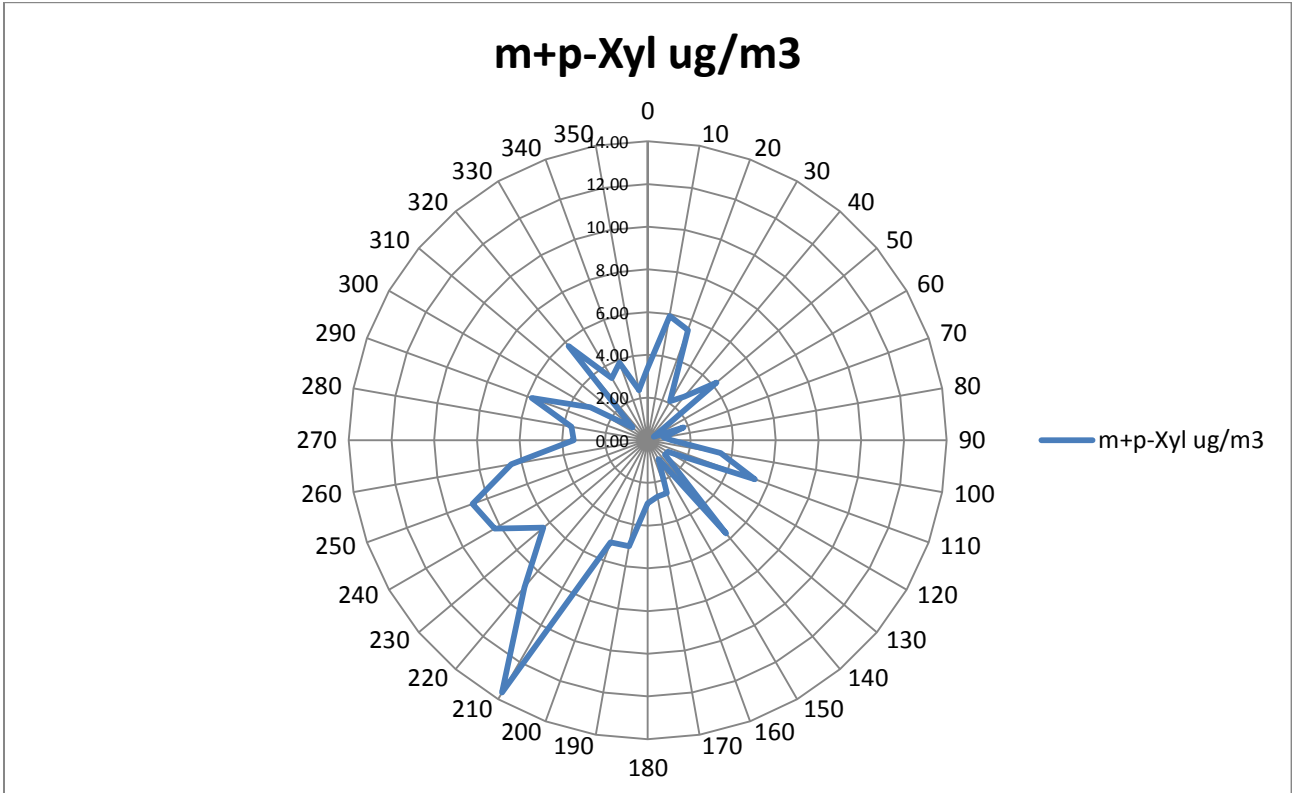


Figure C.12: Average m+p-Xylene concentration for each 10 degree wind sector

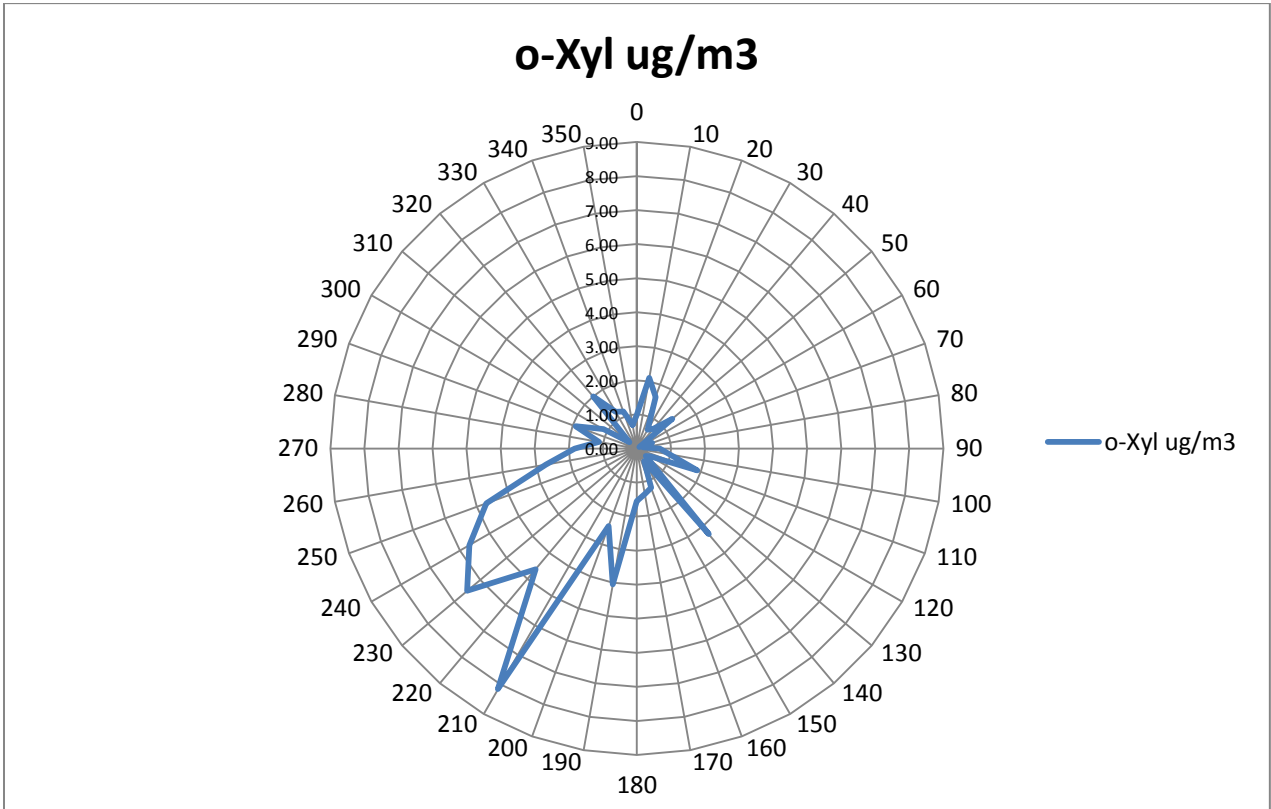


Figure C.13: Average o-xylene concentration for each 10 degree wind sector

The series of 3 plots below show the variation in toluene concentration on an hourly basis over three periods in March. The data are presented on 3 plots to make the data easier to view. Toluene has been chosen as an indicator parameter, hence plots are not provided for the other hydrocarbons as part of this report. The yellow bars on each graph indicate periods where drying activities (including air sparging) are taking place at the ENVA facility.

The first chart (Figure C.14) shows the hourly toluene concentrations, wind directions and oil drying activity profile for the period 10th March to 16th March. Peaks in the toluene concentration are noted where wind directions are towards the monitoring station from ENVA and oil drying activities are ongoing.

The second chart (Figure C.15) shows the hourly toluene concentrations, wind directions and oil drying activity profile for the period 17th March to 23rd March. Limited oil drying activity is noted during this period. Peaks in toluene concentrations are noted during periods where oil drying is ongoing and winds are from the ENVA site towards the monitoring station, however peaks are also noted for other periods where drying activities are not operational (i.e. no air sparging) on March 17 – 19. The source of these emissions may relate to other activities at the ENVA site or potentially other activities within the industrial estate.

The third chart (Figure C.16) shows the hourly toluene concentrations, wind directions and oil drying activity profile for the period 24th March to 31st March. There are prolonged periods of oil drying throughout this week, including periods where two processing tanks are operational at the same time (for much of the period from March 26th to March 30th). The highest measured hourly toluene concentrations throughout the monitoring period to date are noted during this intensive period of oil drying. The maximum measured hourly concentration of $\sim 50 \mu\text{g}/\text{m}^3$ is less than 1 % of the relevant air quality guideline values for toluene as presented in Table C.1.

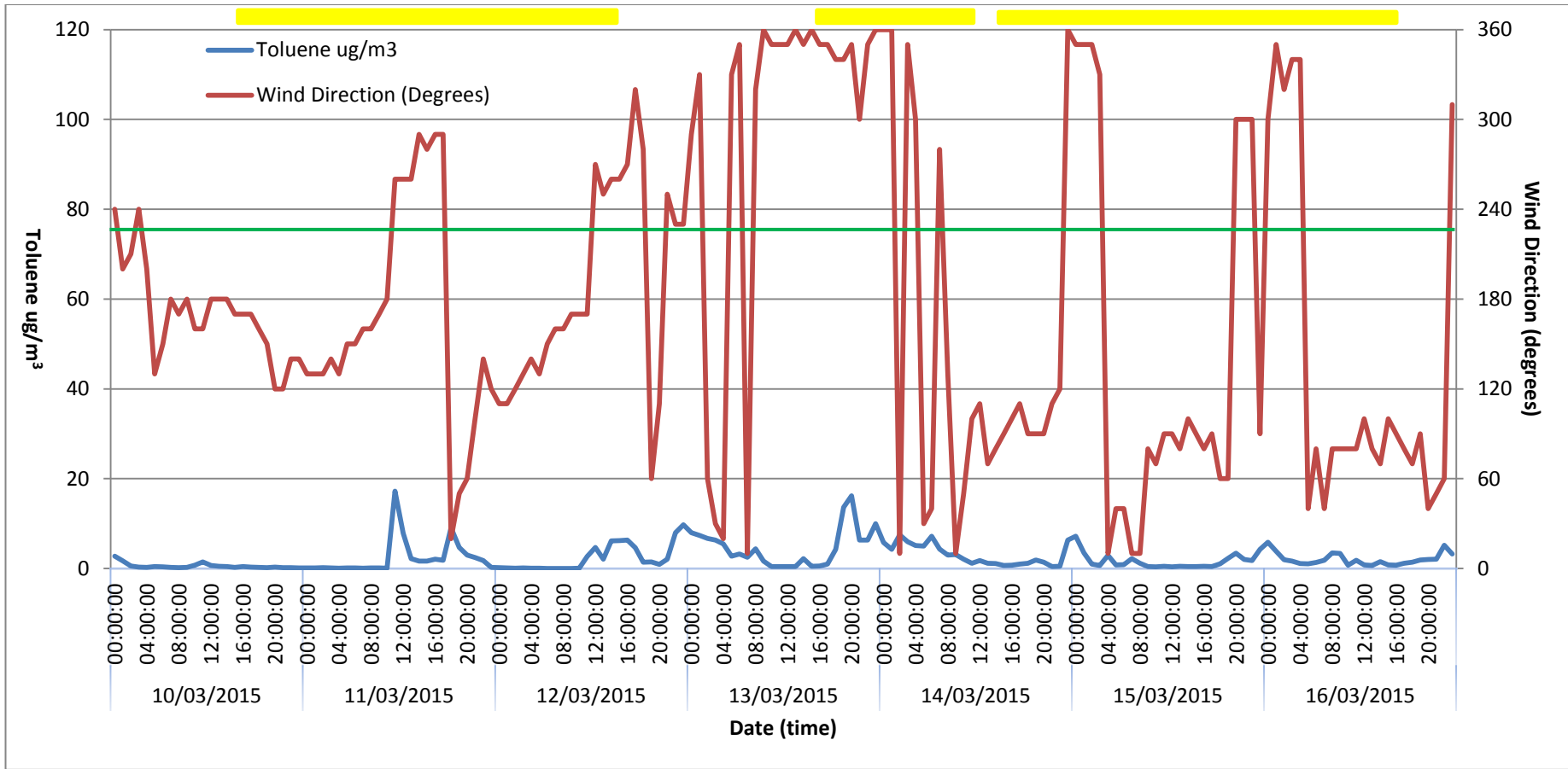


Figure C.14: Toluene concentration and wind direction for 10/3/15 to 16/03/15 inclusive. The green line on the chart indicates the wind direction from ENVA to the monitoring station. The yellow boxes indicate time periods over which drying activities are being carried out on 1 or more processing tanks. The relevant limit value from Table C.1 for hourly toluene concentrations is 8,000 $\mu\text{g}/\text{m}^3$.

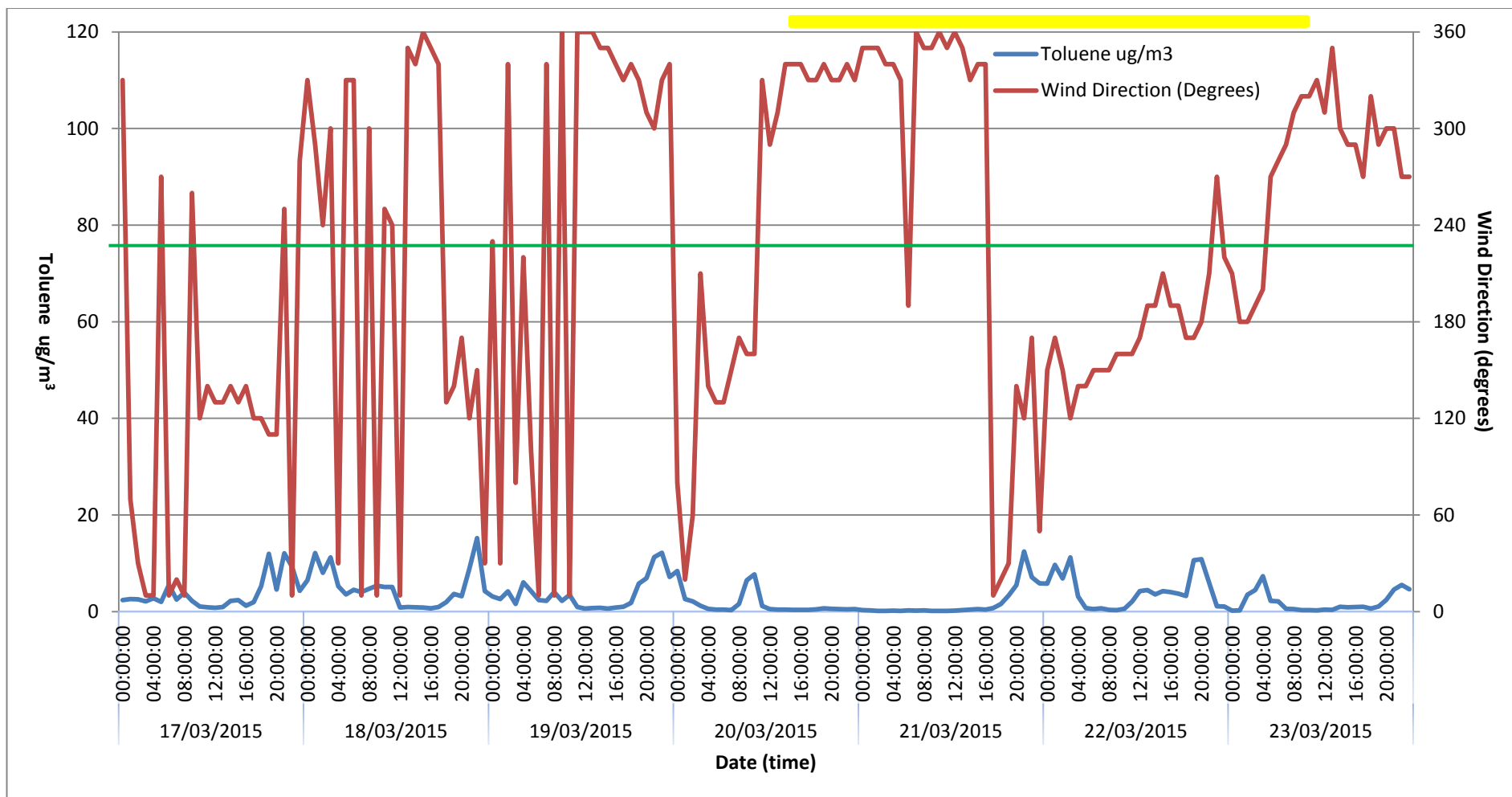


Figure C.15: Toluene concentration and wind direction for 17/3/15 to 23/03/15 inclusive. The green line on the chart indicates the wind direction from ENVA to the monitoring station. The yellow boxes indicate time periods over which drying activities are being carried out on 1 or more processing tanks. The relevant limit value from Table C.1 for hourly toluene concentrations is $8,000 \mu\text{g}/\text{m}^3$.

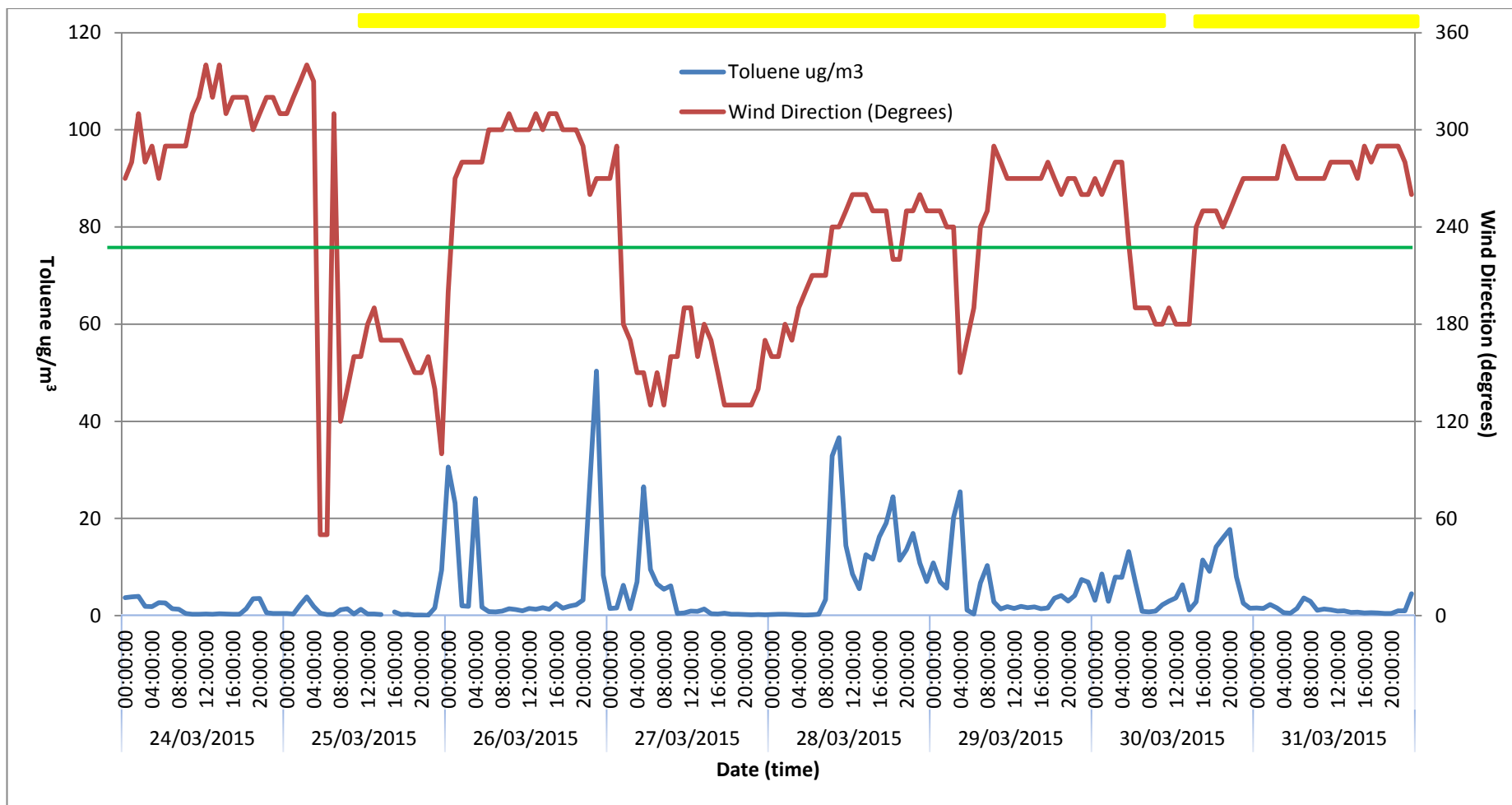


Figure C.16: Toluene concentration and wind direction for 24/3/15 to 31/03/15 inclusive. The green line on the chart indicates the wind direction from ENVA to the monitoring station. The yellow boxes indicate time periods over which drying activities are being carried out on 1 or more processing tanks. The relevant limit value from Table C.1 for hourly toluene concentrations is 8,000 $\mu\text{g}/\text{m}^3$.

Appendix D: EPA Review of Emissions to Air at the ENVA Site – Supporting Information

D.1 Review of Original Licence Application Documents:

A review of data from the original IPC licence application documents from 1999 provided information on the basis on which the drying tank emissions were assessed. This determined if there was a requirement for any abatement or control of air emissions from the site.

Measurement of emissions was completed by National Environmental Sciences (NES), on behalf of the Licensee, on three heated tanks for: Total Volatile Organic Carbons (VOCs), Benzene, Toluene, Ethylbenzenes, Xylene (BTEX), as well as volumetric flow measurements.

The results indicate total VOC concentrations in the range 84 – 7,170 mgC/Nm³. The value of 84 is low with the middle to higher end of the range (3,000 up to 7,170) more representative of the overall measurements. The monitoring report initially identified that one of the measurements (out of a total of 5 measurement campaigns on the heated tanks) exceeded the TA Luft mass emission limit. TA Luft (German) limits have historically been used by the EPA as a benchmark for the significance of emissions of various pollutants. However this measurement was related to an anomalously high velocity measurement which is not considered to be representative of emissions from the activity as there is no active extraction (i.e. a fan) from the drying tanks. Excluding this anomalous result the total VOC emissions are reported as 0.016 kg/hour, 0.13 kg/hour, 0.369 kg/hour and 0.439 kg/hour for the remaining four measurements. For these four measurements the exit velocity of gas from these tanks was also measured at 0.19 m/s, 0.14 m/s, 0.18 m/s and 0.15 m/s. This indicates a consistent flow rate from the vents in the region of 0.2 m/s.

Measurement of benzene emissions from the tanks in 1999 indicated a maximum mass emission of 20 g/hour. The TA Luft 2002 standards document contains a 'minor mass flow threshold' for benzene of 0.05kg/hour (50 g/hour). If total emissions from the entire site (averaged hourly emission over a calendar week) are less than 50 g/hour then no further detailed impact assessment of the emissions is required as part of the permit application. This assessment criteria is based on the mass emission as an indicator of overall likelihood of impact from the activity.

In summary, the exit velocity from the tanks was measured at approximately 0.2 m/s and the mass emissions of total VOCs were up to 0.439 kg/hour. Assessment of these emissions as part of the licensing process (including dispersion modelling of these emissions to assess the impact on ambient air quality) did not identify a need for imposition of emission limits on the drying tank vents or impose any requirements for further treatment of the emissions from the drying tanks.

D.2 EPA Drying Tank Emissions Monitoring - 2012

In April 2012 monitoring of emissions from two oil reprocessing tanks at the facility was conducted by a contractor acting on behalf of the EPA.

Following an assessment of the monitoring results, it was found that while VOC concentrations appeared high, the overall mass emission was low. It was not possible to report mass emission rates as the velocity at the sampling location was below the limit of detection of the monitoring

equipment. The low volumetric flow rates are consistent with the data submitted as part of the original licence application.

Total VOC concentration in the tanks vents were measured for Tank 32 and Tank 25, with reported total VOC concentrations of 3,456 mgC/Nm³ and 3,928 mgC/Nm³, respectively. This is of the same order of magnitude as reported in the licence application.

The method employed for the measurement of Total VOC was fully accredited and an accurate representation for the VOC profiles in the emission. The range of VOCs were considered typical of the process and air sparging was taking place during the course of this monitoring.

The measured VOC concentration values are consistent with those measured during the original application monitoring campaign in 1999 (i.e. in the thousands mg/m³).

D.3 EPA Dispersion Modelling of Drying Tank Emissions - 2012

Air dispersion modelling was conducted by the EPA using the 2012 EPA monitoring data. The volumetric flow measurement from both tanks indicated flows below the method limit of detection, but for the purposes of dispersion modelling of emissions a worst case flow at the limit of detection was used. This means that the modelled VOC mass emissions from the tank vents are also a worst case scenario.

Gas exit velocity measurements of 3 m/s were used, resulting in VOC mass emissions for modelling purposes of 9.19 kg/hour for Tank 25 and 8.08 kg/hour for Tank 32. Based on the vent diameter of 0.6m and a worst case flow of 3 m/s, the maximum volumetric flow would be 0.85 m³/s (or 3,052 m³/hour).

This dispersion modelling data did not indicate any likely significant impact based on available air quality guideline values.

Section 6 of this report identifies a likely VOC emission from the drying tanks in the range 0.4 – 2.0 kg/hour, hence the dispersion modelling outlined above describes a highly conservative assessment of the impact of emissions from the drying tanks as the modelled emissions were significantly higher.

In relation to dispersion modelling, it should be noted that during very calm conditions the plume would likely disperse more slowly and ground level concentrations during calm periods could be elevated compared to periods where there is greater atmospheric turbulence. Dispersion models cannot calculate ground level concentrations for calm conditions (< 0.75 m/s). The modelling carried out by the EPA for emissions from ENVA used a full year of Met Data (8784 hours), but for the year of data used there were 145 hours (1.7 %) where ground level concentrations were not calculated due to calm conditions. The actual impact during these 145 hours would depend on a number of factors:

- Very calm conditions are more likely to occur at night-time, hence actual likelihood of exposure would be lower;
- During the day-time, particularly on sunny days, there would still be some element of vertical mixing of the plume due to heating of the ground by the sun which tends to cause localised eddies/turbulence in the vertical rather than the horizontal.
- If the process is not operating then the occurrence of calm conditions is not of relevance.

Overall the number of calm hours where model predictions are not available is small, and it is not considered that this would significantly impact on the average pollutant concentrations in the vicinity of the ENVA site, though these calm conditions may lead to occasions where odour nuisance is more likely to occur at ground level.

D.4 ENVA Ireland Ltd. Monitoring & Assessment Activities

In preparation for the completion of the TANKS Model in 2012, consultants working on behalf of the Licensee attempted to measure the exit velocity by installing a smaller temporary vent of diameter 0.15 metres. However the exit velocity remained below the limit of detection of 3 m/s for a pitot tube instrument. This indicates that the volumetric flow is less than 0.053 m³/s (or < 191 m³/hour), and so gives a substantially lower maximum flow rate than the worst case measured in the wider permanent vent (of 3,052 m³/hour). Applying this flow rate to the EPA measured total VOC concentration of 3,928 mgC/m³ results in a maximum mass emission rate of 0.75 kg/hour. This is substantially lower than the previously estimated worst case mass emission of 8 – 9 kg/hour from the April 2012 EPA monitoring. Assuming a volumetric flow of 191 m³/hour and based on the permanent vent diameter of 0.6 m, the maximum gas velocity from the permanent vent would be 0.19 m/s. This is consistent with the measured flow results from the 1999 documents.

The 1999 measurement of exit velocity indicated a velocity in the region of 0.2 m/s, which would equate to a volumetric flow of 0.056 m³/s. This is of a similar magnitude to the maximum volumetric flow estimated by the Licensee using the restricted vent (0.053 m³/s).

Separately the Licensee also used a handheld windspeed measuring device in the permanent vent to get a very rough indicative flow measurement value, with a flow up to 0.6 m/s being measured. The accuracy of this method is not known and is expected to be low, however as an indicative measurement it is consistent and of the same order of magnitude with the flow measured in 1999 (0.2 m/s or 0.056 m³/s) and the worst case volumetric flow value based on the restricted vent flow tests (0.053 m³/s).

D.5 USEPA Tanks Modelling

The Licensee was requested to model emissions arising from the drying process using the TANKS Model. The TANKS Model is based on the emission estimation procedures from Chapter 7 of the USEPA 'Compilation Of Air Pollutant Emission Factors (AP-42)'. See <http://www.epa.gov/ttnchie1/software/tanks/>, which primarily relates to estimation of emissions from storage tanks rather than waste oil reprocessing tanks, however it was considered that the model may provide an indicative assessment of emissions from the ENVA drying tanks.

At the end of January 2013, the Licensee submitted its assessment of the emissions from the oil reprocessing tanks including the output from the TANKS Model. This report was assessed by the EPA Air Thematic Team, which found that the results from the TANKS assessment indicated that VOC mass emissions from the tank were 0.366kg/hr.

However this was based on averaging the emissions from all batches of processed oil over 8,760 hours (i.e. the full year), while the tanks do not operate continuously. Therefore, based on 1,000 hours of operation (50 batches of 20 hours each), the result would be approximately

3.18 kg/hour total VOC. This is higher than the emission rates determined by measurements of the drying tank emissions, suggesting that the TANKS model may overestimate actual emissions from the drying process.

D.6 Assessment of Emissions Using the Envirolex Report Methodology

In March 2014, the Licensee was required by the EPA to estimate emissions from the drying tanks using a methodology developed by EnviroLex consultants. This methodology is based on actual measured emissions of hydrocarbons from oil reprocessing activities in the UK, and provides emission factors for standard process conditions, which were then applied to the activities at the facility. The results of the EnviroLex Model was submitted to the EPA in April 2014.

The EnviroLex model is presented in a paper entitled "Report on sampling of emissions to air and water arising from the treatment of used oil" (July 2006). This methodology was used to estimate the emissions of the top 15 speciated VOCs from the heated tanks, giving a mass emission of these VOCs of 0.0077 kg/hour. Based on EPA monitoring of speciated and total VOCs in April 2012 it is estimated that the sum of identified speciated VOCs would typically be in the region of 10 % of the magnitude of the measured total VOC emission (as only a small fraction of all VOCs in the emission can be specifically quantified, there tends to be a significant gap between the sum of quantified speciated VOCs and total VOCs as measured by FID (Flame Ionisation Detector)). Based on this estimation the total VOC emission from the Envirolex method can be estimated at 0.077 kg/hour.

The estimated emission from the application of the EnviroLex methodology is two orders of magnitude lower than predicted by the TANKS model, and is also below the expected likely range of hourly emissions during air sparging (see Table 1 in Section 6 of this report), suggesting that the EnviroLex methodology may underestimate actual emissions from the ENVA drying tanks.

D.7 Summary Table of Emissions Data

Table D.1 provides a summary of the VOC concentration, volumetric flow and VOC mass flow based on different measurements and estimation techniques as described above. There are variations between the different sources of data, due in particular to conservatively assuming volumetric flow rate from the drying tanks to be equivalent to the limit of detection of the monitoring equipment used.

Based on a review of all available information, VOC emissions have been determined to be in the range of 0.4 to 2.0 kg/hour during the air sparging part of the oil drying activity. Dispersion modelling of emissions from the drying tanks carried out by the EPA at significantly higher emission rates (an assumed worst case of approximately 9 kg/hour) indicates pollutant levels within relevant ambient air quality guideline values.

Table D.1: Summary Table of Measured and Estimated Emissions Data for each drying tank

Parameter	Licence Application 1999	EPA Monitoring 2012	Licensee 2012 Flow Monitoring	Tanks Model	Envirolex Assessment	Expected Range based on available data
Gas Exit Velocity (m/s)	0.2	< 3	< 0.19	-	-	0.1 – 0.5
Gas Volumetric Flow (m³/s)	0.056	<0.848	0.053	-	-	0.028 – 0.14
VOC concentration (mg/m³)	84 – 7,170	~ 4,000	-	-	-	0 – 7,170
VOC mass emissions (kg/hour)	Up to 0.44	< 9	-	3.18	0.077	0.4 – 2.0

Appendix E: September 2014 summary of waste oil reprocessing activities & weather during odour assessments.

Assessment Number	No. Locations Assessed	No. HC odours detected	Date	Start time	Finish time	Time of odour	Odour findings	Persistence	Intensity	Direction	Relative Location	Wind Speed	Wind Direction	Stage of Processing			Air sparging on/off			Tank levels			HC Odours present
														24	25	32	24	25	32	24	25	32	
1	8	1	15/09/2014	14:55	17:20	15:55-16:00	Faint hc odour at 4	1	1	NE	d/w	9.7	E	n/a	end	n/a	off	on	off	low	full	low	Yes
2	7	1	16/09/2014	13:15	14:25	13.35-13.40	Faint hc & chemical odours at 3	1	1	E-ESE	d/w	3.2	SE	n/a	n/a	n/a	off	off	off	low	low	low	Yes
						13.45-13.50	Faint odours at 2	1	1	ESE	d/w	3.2	E	n/a	n/a	n/a	off	off	off	low	low	low	
						14.00-14.05	Faint chemicals odour at 4	1	1	ESE-S	d/w	4.8	SE	n/a	n/a	n/a	off	off	off	low	low	low	
3	6	1	16/09/2014	17:47	18:48	18:10-18:15;	Faint chemicals odour at 3	1	1	SE-E	d/w	3.2	E	n/a	n/a	n/a	off	off	off	low	low	low	Yes
						18:29-18:34	Faint waste & chemicals odours at 4	1	1	NE-E	d/w	3.2 1.6	E E	n/a	n/a	n/a	off	off	off	low	low	low	
4	7	0	16/09/2014	21:30	22:26	no odours detected	no odours detected	0	0		no odours detected	3.2-6.4	N-NNE	n/a	n/a	n/a	off	off	off	low	low	low	
5	8	1	17/09/2014	07:40	08:43	08.18-08.23	Faint hc odour at 4	1	1	NE	d/w	1.6-4.8	E	n/a	n/a	n/a	off	off	off	low	low	low	Yes
6	7	1	17/09/2014	09:49	10:43	10.23-10.28	Faint hc odour at 4	1	1	ENE	d/w	3.2-6.4	ENE-N	n/a	start	n/a	off	off	off	low	low	low	Yes
7	7	1	17/09/2014	17:30	18:33	17.52-17.57;	Faint hc odour at 3	1	1	ENE	d/w	1.6-4.8	E-ENE	n/a	start	n/a	off	off	off	low	half	low	Yes
						18.09-18.14	Faint hc odours at 4	1	1	NE	d/w	1.6-3.2	NE-E	n/a	start	n/a	off	off	off	low	half	low	
8	6	1	25/09/2014	12.17	13.03	12.33-12.38	Faint tarmac odour at 8 from railway work being done - not attributed to site.	1	1	SW	d/w	8-11.3	WSW	start	middle	start	off	on	off	full	full	full	
						12.43-12.48	Faint hc and manure odours at 7 - stronger with strong wind	1	1	W	d/w	9.7-11.3	WSW	start	middle	start	off	on	off	full	full	full	Yes
						12.51-12.56	Faint grain odours at 6 - not attributed to site.	1	1	W	crosswind	9.7-11.3	WSW	start	middle	start	off	on	off	full	full	full	
						12.58-13.03	Faint manure odours at 5 - not attributed to site.	1	1	W	crosswind	9.7-11.3	WSW	start	middle	start	off	on	off	full	full	full	
9	6	0	25/09/2014	17.28	18.13	17.28-17.33	Manure odour detected at 2 - not attributed to site.	1	1	W-NW	upwind	4.8-6.4	WSW-SW	start	middle	start	off	on	on	full	full	full	
						17.36-17.41	Manure odour detected at 3 - not attributed to site.	1	2	NW	upwind	6.4	SW	start	middle	start	off	on	on	full	full	full	
						17.51-17.56	Manure & tarmac odours detected at 8 - not attributed to site.	1	1	W-NW	crosswind	6.4	SW	start	middle	start	off	on	on	full	full	full	
						17.58-18.03	Grain odour detected at 6 - not attributed to site.	1	1	W	crosswind	4.8-6.4	SW	start	middle	start	off	on	on	full	full	full	
10	6	0	25/09/2014	21.55	22.41	21.55-22.00	manure odour at 2- not attributed to site.	1	1	W	upwind	11.3	SW	start	middle	start	off	on	on	full	full	full	
						22.05-22.10	manure odour at 3- not attributed to site.	1	1	SW	crosswind	12.9	WSW	start	middle	start	off	on	on	full	full	full	
						22.11-22.16	Faint chemical odour at 8;	1	1	SW	d/w	11.3	SW	start	middle	start	off	on	on	full	full	full	
						22.28-22.33	grain odours at 6 - not attributed to site.	1	1	W	crosswind	11.3	WSW-SW	start	middle	start	off	on	on	full	full	full	
11	7	1	26/09/2014	09:40	10:37	10.17-10.22	Faint hc odour at 6	1	1	NW	d/w	1.6-3.2	WSW-NNE	start	middle	start	off	on	off	full	full	full	Yes
12	7	1	26/09/2014	17:37	18:34	18.03-18.08	Faint-moderate hc odour at 7 (detectable for very short time)	1	2	WNW	d/w	0	No wind	middle	end	start	off	on	off	full	full	full	Yes
13	7	0	26/09/2014	21:32	22:30	22.01-22.06	Sour grain odour at 3	1	1	W	upwind	1.6	WSW	middle	end	middle	off	on	on	full	full	full	
14	7	1	27/09/2014	09:55	10:43	10.18-10.23	Faint hc odour mixed with fireplace smoke at 1. Burnt porridge odour at 7.	1	1	SW-W	d/w	6.4	SW-SSW	middle	start	middle	off	off	on	full	half	full	Yes
15	7	0	27/09/2014	18:02	18:52	no odours detected	no odours detected	0	0	S-SSW	no odours detected	1.6-6.4	S-SSW	middle	start	middle	off	on	on	full	half	full	
16	7	1	27/09/2014	21:42	22:35	22.04-22.09	Faint hc odour at 1	1	1	SSW	d/w	1.6	S	middle	start	middle	off	on	on	full	half	full	Yes
17	7	0	28/09/2014	07:37	08:29	no odours detected	no odours detected	0	0		no odours detected	1.6-6.4	SW-SSW	end	middle	end	off	on	on	full	low	full	
18	6	0	28/09/2014	10:00	10:45	no odours detected	no odours detected	0	0		no odours detected	1.6-6.4	W-WSW-SW	end	middle	end	off	on	on	full	low	full	
19	6	0	28/09/2014	17:48	18:38	18.12-18.17;	Faint hc odour at 1 from busy road. No odour from site.	1	1	SW	d/w	0	No wind	end	middle	end	off	on	on	full	low	full	
						18.26-18.31	Faint-moderate hc odours at 8 (very short & very intermittent moments of moderate odour).	2	2	SW	approx. crosswind	0	No wind	end	middle	end	off	on	on	full	low	full	

AN GHNÍOMHAIREACTH UM CHAOMHNÚ COMHSHAOIL

Tá an Gníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaoil a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaoil a chosaint ó éifeachtaí díobhálacha na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialú: Déanaimid córais éifeachtacha rialaithe agus comhlíonta comhshaoil a chur i bhfeidhm chun torthaí maíthe comhshaoil a sholáthar agus chun díriú orthu siúd nach gcloíonn leis na córais sin.

Eolas: Soláthraímid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhíríte agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.

Tacaíocht: Bímid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaoil atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaoil inbhuanaithe.

Ár bhFreagrachtaí

Ceadúnú

- Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaoil:
- saoráidí dramhaíola (m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistriúche dramhaíola);
- gníomhaíochtaí tionsclaíoch ar scála mór (m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta);
- an diantalmhaíocht (m.sh. muca, éanlaith);
- úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe (OGM);
- foinsí radaíochta ianúcháin (m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíoch);
- áiseanna móra stórála peitрил;
- scardadh dramhuisce;
- gníomhaíochtaí dumpála ar farraige.

Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil

- Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
- Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
- Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
- Obair le húdarás áitiúla agus le gníomhaireachtaí eile chun dul i ngleic le coireanna comhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, trí dhírú ar chiontóirí, agus trí mhaoirsiú a dhéanamh ar leasúchán.
- Cur i bhfeidhm rialachán ar nós na Rialachán um Dhramhthrealamh Leictreach agus Leictreonach (DTLL), um Shrian ar Shubstaintí Guaiseacha agus na Rialachán um rialú ar shubstaintí a idíonn an ciseal ózóin.
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaoil.

Bainistíocht Uisce

- Monatóireacht agus tuairisciú a dhéanamh ar cháilíocht aibhneacha, lochanna, uiscí idirchriosacha agus cósta na hÉireann, agus screamhuiscí; leibhéal uisce agus sruthanna aibhneacha a thomhas.
- Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
- Monatóireacht agus tuairisciú a dhéanamh ar Cháilíocht an Uisce Snámha.

Monatóireacht, Anailís agus Tuairisciú ar an gComhshaoil

- Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
- Tuairisciú neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus na n-údarás áitiúil (m.sh. tuairisciú tréimhsiúil ar staid Chomhshaoil na hÉireann agus Tuarascálacha ar Tháscairí).

Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn

- Fardail agus réamh-mheastacháin na hÉireann maidir le gáis cheaptha teasa a ullmhú.
- An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhair breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn

Taighde agus Forbairt Comhshaoil

- Taighde comhshaoil a chistiú chun brúnna a shainaithint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

Measúnacht Straitéiseach Timpeallachta

- Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaoil in Éirinn (m.sh. mórfheananna forbartha).

Cosaint Raideolaíoch

- Monatóireacht a dhéanamh ar leibhéal radaíochta, measúnacht a dhéanamh ar nochtadh mhuintir na hÉireann don radaíocht ianúcháin.
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha.
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
- Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Faisnéis Inrochtana agus Oideachas

- Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
- Faisnéis thráthúil ar an gcomhshaoil ar a bhfuil fáil éasca a chur ar fáil chun rannpháirtíocht an phobail a spreagadh sa chinnteoireacht i ndáil leis an gcomhshaoil (m.sh. Timpeall an Tí, léarscáileanna radóin).
- Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
- Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt chun dramhaíl ghuaiseach a chosc agus a bhainistiú.

Múscailt Feasachta agus Athrú Iompraíochta

- Feasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
- Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil

Tá an ghníomhaíocht á bainistiú ag Bord Iánaimeartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóirí. Déantar an obair ar fud cúig cinn d'Oifigí:

- An Oifig Aeráide, Ceadúnaithe agus Úsáide Acmhainní
- An Oifig Forfheidhmithe i leith cúrsaí Comhshaoil
- An Oifig um Measúnú Comhshaoil
- An Oifig um Cosaint Raideolaíoch
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltaí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

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