



Annual Environmental Report (AER) 2022

Company Name: Intel Ireland Limited

Licence Number: P0207-05

Address: Collinstown Industrial Park, Leixlip, Co. Kildare

Class of Activity¹:

- Class 2-Energy
- Class 12-Surface Coatings

Class 13-Other Activities

¹ See Appendix I

Purpose of this Report

One of the functions of the Environmental Protection Agency (EPA) is to licence and regulate the activities² of large-scale industrial (e.g. chemical, food processors, power plants) and waste facilities. Submitting an Annual Environmental Report (AER) is a requirement of all EPA licences.

An AER is a public document. To this end, this format has been developed for industrial and waste licence holders (other than the intensive agriculture sector) to use as a template. This is to assist any member of the public to interpret and understand the environmental performance of the licensed facility.

The AER is a **summary** of environmental information for a given year. It includes:

- Details of the licence holder’s environmental goals achieved, goals to maintain compliance and/or improve their environmental performance;
- Answers to questions regarding their facility’s activities;
- Tables of results from monitoring emissions such as air, water, noise, and odour; and
- Details of waste generated, accepted and treated.

An AER does **not** provide detailed technical data. Such information is available in three ways:

- 1) Contacting the licence holder directly. The Contact Us section of this template enables the licence holder to provide details of where a member of the public can obtain further information on topics reported in this document.
- 2) Some documents³ are available on the EPA website via the licence details page for each individual licence. This can be found by browsing either the

² See Appendix I

³ This includes EPA site inspection and compliance monitoring reports, licence holders’ self-monitoring reports, AERs and special reports

<http://www.epa.ie/licensing/> or <http://www.epa.ie/enforcement/> pages of the EPA website.

- 3) All formal enforcement correspondence exchanged between the EPA and a licence holder during the regulatory process is available for public viewing by appointment at any EPA Office.

If you have a question or query about an AER or an individual EPA licensed facility see the EPA's website or contact the relevant EPA office. See <http://www.epa.ie/about/contactus/> for contact details.

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Glossary

| | |
|-------------------------|---|
| Abatement Equipment | Technology used to reduce pollution |
| AER | Annual Environmental Report. |
| Beyond Compliance | Beyond compliance is concept to help deliver greater organisational performance and long-term value for the environment, society and the economy. |
| CRAMP | Closure, Restoration and Aftercare Management Plan. |
| ELRA | Environmental Liability Risk Assessment. |
| Emission Limit Value | Limits set for specified emissions, typically outlined in Schedule B of an EPA licence. |
| EMS | Environmental Management System. |
| Environmental Goal | An objective or target set by a licensee as part of an environmental management system (EMS). |
| Environmental Pollutant | Substance or material that due to its quantity and/or nature has a negative impact on the environment. |
| Facility | Any site or premises that holds an EPA industrial or waste licence. |
| FP | Financial Provision. |
| GJ | Giga joules, an international unit of energy measurement. |

| | |
|--------------------------|--|
| Groundwater | All water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil. |
| Incident | As defined by an EPA industrial or waste licence. |
| Inert Waste | Is waste that will not undergo physical, chemical or biological change thereby, is unlikely to cause environmental pollution or harm human health. |
| List of Wastes (LoW) | A list of wastes drawn up by the European Commission and published as Commission Decision 2014/955/EU. |
| Noise Sensitive Location | Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels. |
| Non-Renewable Resource | A resource of economic value that cannot be replaced at the same rate it is being consumed e.g. coal, peat, oil and natural gas. |
| Oil Separator | Separator system for light liquids (e.g. oil and petrol). |
| PRTR | Pollutant Release and Transfer Register. |
| Renewable Resource | Wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases. |
| Sanitary Waste | Waste water from toilet, washroom and canteen facilities. |

| | |
|----------------------------|--|
| Storm Water | Rain water run-off from roof and non-process areas. |
| Surface Water | Lakes, rivers, streams, estuaries and coastal waters. |
| Trigger Level | A value set for a specific parameter, the achievement or exceedance of which requires certain actions to be taken by the licence holder. |
| Volatile Organic Compounds | Gases produced from solids or liquids that evaporate readily in ambient conditions. |
| Waste | Any substance or object which the holder discards or intends or is required to discard. |

Disclaimer

These are **not** legal definitions. Legal definitions can be found in the corresponding legislation.

Declaration

I, **Marina Lucey (Environmental Health & Safety Manager)**, confirm that by ticking the box below, all information in this report is truthful and accurate to the best of my knowledge and belief.

In addition, I confirm that all monitoring and performance reporting required by our EPA licence and summarised herein is available for inspection by the EPA.

Tick here

1) Introduction

See below a brief description of our facility and a summary of our environmental performance this year.

Intel is a semiconductor manufacturing facility licensed by the Environmental Protection Agency (EPA) to manufacture integrated circuits and printed circuit boards. Secondary licensed activities taking place on site to support the manufacturing process include:

- Operation of combustion installations with a rated thermal input equal to or greater than 50 Megawatts and
- Surface treatment of products using organic solvents, in particular for coating and/or cleaning, with a consumption capacity of more than 200 tonnes per year

The site operates in strict compliance with its EPA licence. There were 19 minor environmental incidents and 1 limited incident in 2022. Of these 19 minor environmental incidents, 17 were related to CEMS (Continuous Emissions Monitoring System) analyser downtime, 1 was related to a misconnection between temporary storm and foul pipelines, and 1 associated with a spill of diesel to ground on the Fab 34 (aka REMF) construction site. There was 1 limited incident, which was related to identification of diesel contamination in the groundwater on the Fab 34 construction site. Further details on these are provided in Section 5 of this report.

There were 2 complaints received from neighbours in 2022 in relation to manufacturing operations, 1 related to noise and 1 related to odour. All were investigated and closed out. Further details are provided in Section 4 of this report.

Construction work continued on a new manufacturing building on site in 2022. This building is referred to as the “REMF” in the IE licence (P0207-05) and is also known as Fab 34.

Intel’s Environmental Management System is certified to the ISO 14001 standard. The site underwent an ISO 14001 surveillance audit in May 2021 and an ISO 50001 (Energy Management Standard) recertification audit in November 2022 which were carried out by the National Standards Authority of Ireland (NSAI).

In 2022, Intel Ireland were nominated for the Environmental Award at Chambers Ireland awards ceremony and was the winner of the Volunteering Award. Intel also won the first ever Excellence in Communications award at the County Kildare Chamber awards 2022, which includes Intel Ireland Water story and the ‘What do you see’ animation series.

Intel Ireland also contributes to the achievement of Intel’s RISE (Responsible, Inclusive, Sustainable & Enabling) Sustainability 2030 goals. More information on our environmental goals at site level & our work which goes beyond compliance are provided in Section 2 and Appendix III.

Contact Us

If you have any questions or would like further information on any aspect of our licensed activity, please contact us directly.

See below details:

Sarah Sexton – Global Public Affairs
sarah.sexton@intel.com Tel: +353 (1) 606 8537

2) How we Manage our Facility

Environmental Management System

Explanation

To ensure our facility's activities do not cause environmental pollution we are required to have detailed documentation systems in place to help us manage and track our environmental performance. These systems are referred to as Environmental Management Systems (EMS). We review our EMS every year and set up-to-date **environmental goals** to continually improve our environmental performance.

The information below sets out the environmental goals for our facility to help us prevent environmental pollution and reduce our impact on the environment. Target dates for completing each goal and progress towards achieving the goal are outlined in Table 1.

Table 1 Environmental Goals

| Environmental Goal | Target Date | Progress |
|--|--------------------|--|
| Meet the Intel Corporate waste target to achieve zero total waste to landfill by 2030. | Dec 2029 | On track - In 2022 0.6% waste to landfill. |
| Contribute to Intel corporate target to implement circular economy strategies for 60% of our manufacturing waste streams, in partnership with our suppliers. | Dec 2029 | Ahead of schedule - 80% achieved in 2022. |
| Implement design improvements of the Fab 14 RCTO solvent abatement system to reduce bypasses. | Jun 2022 | Complete. |
| Contribute to the Intel Corporate water conservation 2030 goals | Dec 2029 | On track (See Appendix III). |

| | | |
|--|----------------|---|
| through the site's water conservation programme. | | |
| Maintain and improve our site Biodiversity Program. | Jan – Dec 2022 | Complete (See Appendix III). |
| Contribute to the Intel Corporate energy conservation 2030 goals through the site's energy conservation programme. | Dec 2029 | On track (See Appendix III). |
| Successfully complete recertification audit of ISO 50001 Multisite Energy Management System, with Ireland as the headquarter site. | Dec 2022 | Complete. |
| Improve internal and external environmental awareness. | Dec 2022 | Complete. |
| Improve our site EHS Management Systems - Implement revised environmental aspects process. | July 2022 | Complete. |
| Upgrade of Continuous Emissions Monitoring Systems on the Solvent Exhaust Systems. | Dec 2022 | Delayed. Current monitoring system is fully functional. Upgrade is delayed due to supply chain issues (Now due for completion in December 2023). |
| Develop a new application to improve the management of refrigerants. | Jun 2022 | Delayed. Continuing to use existing system for tracking refrigerants which is fully functional. Enhanced new application in development. (Now due for completion in December 2023). |
| Implement four natural gas boiler upgrades to increase efficiency and reduce NOx emissions. | Sep 2023 | On track. |

| | | |
|--|----------------|-----------|
| Continue to maintain our site Biodiversity Program. | Jan – Dec 2023 | On track. |
| Maintain certification of Intel’s ISO 50001 Energy Management System with Ireland as the headquarter site. | Dec 2023 | On track. |
| Continuously improve our EHS Management Systems, with a focus on improved employee communication and engagement. | Dec 2023 | On track. |
| Ensure all required bund/ underground pipe integrity testing is completed. | Dec 2023 | On track. |
| Review fugitive emissions programme in line with Condition 3.14 of IE Licence P0207-05. | Dec 2023 | On track |

Comment

The site Environmental Management Program captures projects relating to both Intel’s legal requirements and voluntary commitments the site makes in line with Intel Corporation’s RISE 2030 Sustainability Goals (10-year goals).

Beyond Compliance

Explanation

We are legally required to comply with our environmental licence. However, the EPA realise that some sites go further than just complying with their environmental licence requirements. Some projects carried out at facilities can have long term positive impacts on the environment and local communities.

The EPA's beyond compliance initiative is encouraging us to identify and report on these environmental and sustainability projects. For example, the project could involve renewable energy, biodiversity, water conservation or exemplar community engagement.

Did any project completed on your site in the reporting year go beyond your licence requirements?

Yes

No

If yes, provide details of one case study in Appendix III that demonstrates how the project went beyond compliance of your licence.

Intel Ireland goes beyond its legal & EPA licence requirements in many areas of environmental management. Information on our annual environmental goals and their progress is provided in Section 2 Table 1 of this report and many of these goals relate to voluntary commitments Intel makes to improve its environmental performance and align to Intel's RISE Sustainability Goals 2030.

For 2022, we have chosen to provide information on Intel's Biodiversity Program in addition to a summary of water and energy conservation achievements in Appendix III of this report.

3) Energy & Water

Energy

Explanation

Fossil fuels such as coal, gas and oil are non-renewable resources. As a result, our EPA licence requires that we measure our energy use and set targets to improve the energy efficiency of our activities and reduce our overall use, where possible. Where we have the means and technology on-site to generate energy, this is also captured in this report.

The information below summarises the energy used this year compared to the previous year and includes renewable and non-renewable energy types.

Table 2 Energy Used

| Energy Used | Quantity (GJ) | % Increase/ decrease on previous year |
|------------------------------------|----------------------|--|
| Electricity | 3,663,724 | 10% |
| Heavy Fuel Oil | 0 | 0% |
| Light Fuel Oil | 4,699 | 13% |
| Natural Gas | 1,008,013 | 27% |
| Coal / Solid Fuel | 0 | 0% |
| Peat | 0 | 0% |
| Renewable Biomass | 0 | 0% |
| Renewable Energy Generated On-site | 0 | 0% |
| Total Energy Used | 4,676,437 | 14% |

Comment

The Leixlip site's energy consumption increased in 2022 due to the progression of construction activities in Fab 34. The electricity used at the Intel Ireland site is generated off site from 100% renewable sources as covered by Guarantees of Origin.

The information below summarises the energy we generated on our site this year with specific focus on renewable energy generation.

Table 3 Energy Generated

| Energy Generated | Quantity (GJ) | % Increase/ decrease on previous year |
|-------------------------------|----------------------|--|
| Renewable Energy | 0 | |
| Total Energy Generated | 0 | |

Comment

No renewable energy was generated on-site. All electricity supplied to site is 100% renewable as covered by Guarantees of Origin.

Water

Explanation

Water is a natural resource and we are required by our EPA licence to identify ways to reduce our use where possible. Water used in industry can be extracted from groundwater, rivers and lakes (surface water), taken from public water supplies (Irish Water), recycled from the facility's processes or harvested from rainwater.

The information below summarises and compares the quantity of water used this year compared to the previous year.

Table 4 Water Used

| Source of Water Used | Quantity (m³/year) | % Increase/ decrease on previous year |
|-----------------------------|--------------------------------------|--|
| Groundwater | 0 | N/A |
| Surface Water | 0 | N/A |
| Public Supply | 8,319,116 | 9% |
| Recycled Water | 2,427,709 | 28% |
| Rainwater | 0 | N/A |
| Total Water Used | 10,746,824 | 12% |

Comment

Intel recycles water internally by diverting certain streams of process water from drain for use in facilities systems. The Leixlip site's water consumption increased in 2022 due to the progression of construction activities in Fab 34. This increase was offset by a significant increase in the volume of water recycled at the site through the site's new Nanofiltration system which enabled the site to recycle an additional 165,884 cubic metres in 2022.

4) Environmental Complaints

Explanation

Our EPA licence requires that activities do not cause environmental nuisance such as odour, dust or noise. Our licence also requires that we have procedures in place to record, investigate and respond to environmental complaints if or when they arise.

We have an environmental complaints procedure in place where you can contact us⁴ directly. You can also contact the EPA⁵ if you wish to make an environmental complaint, confidentially or not.

See the information below for a summary of **all** the environmental complaints relating to our activities made directly to us and to the EPA this year.

Table 5 Summary of All Environmental Complaints Received in

| Type of Complaint | Number of Complaints | Number Closed |
|---------------------------|-----------------------------|----------------------|
| Odour / Smells | 1 | 1 |
| Noise | 1 | 1 |
| Dust | | |
| Water Quality | | |
| Air Quality | | |
| Waste | | |
| Litter | | |
| Vermin/Flies/Birds | | |
| Soil Contamination | | |
| Vibration | | |
| Other | | |

⁴ See Section 1, Introduction – Contact Us

⁵ If you wish to contact the EPA to make an environmental complaint about an EPA licenced facility, please go to <https://lema.epa.ie/complaints>

Comment

These complaints related to the licenced activities on site. The noise and odour concerns were investigated. Follow up actions were communicated to the complainants with continuous engagement during the investigation.

5) Environmental Incidents

Explanation

It is our responsibility as an EPA licensed facility to ensure we have systems in place to prevent incidents that have the potential to cause environmental pollution. If an incident occurs, we are required to report it to the EPA, investigate the cause and fix the problem.

The EPA classify environmental incidents into 5 categories based on the potential impact on the environment:

- Minor
- Limited
- Serious
- Very Serious
- Catastrophic

See Table 6 for the number of the environmental incidents we reported to the EPA this year.

Table 6 Number of Environmental Incidents

| Incident Category | Minor | Limited | Serious | Very Serious | Catastrophic |
|------------------------------|--------------|----------------|----------------|---------------------|---------------------|
| Abatement Equipment Offline | | | | | |
| Breach of Ambient ELV | | | | | |
| Breach of Emission Limit | | | | | |
| Explosion | | | | | |
| Fire | | | | | |
| Monitoring Equipment Failure | 17 | | | | |
| Odour | | | | | |
| Spillage | 1 | | | | |
| Breach of trigger Level | | | | | |
| Uncontrolled Release | | | | | |

| Incident Category | Minor | Limited | Serious | Very Serious | Catastrophic |
|--------------------------|--------------|----------------|----------------|---------------------|---------------------|
| Other | 1 | 1 | | | |

Comment

- 17 minor incidents were related to CEMS (Continuous Environmental Monitoring System) analyser downtime. There was no environmental impact associated with these incidents as the solvent abatement systems were operating within specification at all times.

The following incidents were associated with construction activities on site:

- 1 minor incident was related to misconnection of storm and foul temporary over-pumping lines.
- 1 minor incident was associated with a spill of diesel to ground on the Fab 34 construction site.
- 1 limited incident, which was related to identification of diesel contamination in the groundwater on the Fab 34 construction site.

6) Our Environmental Emissions

Explanation

We are required to ensure the emissions from our activities do not cause environmental pollution.

We are required to monitor any of the following emissions that we make:

- Storm water
- Waste water
- Air
- Groundwater
- Noise

We regularly test any such emissions for specific pollutants and materials to ensure they do not contain levels of pollution that exceed emission limit values (ELVs) or cause environmental pollution. If monitoring of an emission indicates an ELV is exceeded, we are required to report this to the EPA⁶.

The next sub-sections of this report summarise our compliance with any ELVs set in our EPA licence. Some emissions monitored do not have specific ELVs, but we still carry out monitoring and report all incidents that may give rise to environmental pollution.

⁶ See section 5, Incidents

Storm Water

Explanation

Storm water is rain water run-off from roof and non-process areas of a facility, e.g. carparks, and generally shall not contain any pollution.

Storm water is usually released into a local water body after a basic form of treatment. Our EPA licence requires that we manage storm water to ensure no polluting substances or materials are released into the environment.

The information below summarises how the storm water from our facility is treated, where it is released and the results of monitoring this year.

1. Storm water from our facility is managed prior to release by;

Site storm water flows via interceptors to the sites storm water retention pond and then to the River Rye. Flow and pH of the discharge to the River Rye is continuously monitored. There is an outlet valve which can be closed remotely or manually at any time if there are any concerns over the discharge quality.

2. Storm water from our facility is released into the following water bodies:

River Rye water.

Table 7 Summary of Storm Water Monitoring

| Parameter measured | No. of Samples | % Compliant⁷ | Comment |
|-----------------------------|-----------------------|--------------------------------|------------------------------------|
| pH | Continuous monitoring | 100% | Trigger levels agreed with the EPA |
| Flow | Continuous monitoring | N/A | |
| COD | 47 | N/A | |
| Conductivity | 47 | N/A | |
| Total Organic Carbon (as C) | 47 | N/A | |
| Total Heavy Metals | 2 | N/A | |

Add rows as necessary

Comment

All storm water emissions monitoring was carried out as per IE Licence. 47 weekly SW1 samples taken during 2022 as there was no discharge from the pond from 15th June to 12th July 2022.

⁷ % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Waste Water

Explanation

There are two types of waste water that can be produced:

- Process waste water produced from the activities and;
- Sanitary waste water from toilets, washrooms and canteens.

Our EPA licence requires us to manage our waste water on or off-site and ensure that it does not cause environmental pollution when discharged into the environment.

The information below summarises how we treat the waste water produced from our activities, where it is released and the results of monitoring this year.

1. Waste water produced by our activities is treated as follows before discharge to a receiving waterbody;

The waste water generated at Intel is neutralised onsite before being discharged to Irish Water's Leixlip Municipal Waste Water Treatment Plant for further treatment.

2. Treated waste water from our facility is released into the following water bodies:

Waste water from Intel is discharged from Irish Water's Leixlip Municipal Waste Water Treatment Plant for further treatment before being discharged into the River Liffey.

Table 8 Summary of Waste Water Monitoring

| Parameter measured | No. of Samples | % Compliant | Comment |
|--------------------------------|-----------------------|--------------------|----------------|
| COD Equivalence | 52 | 100 | |
| Inorganic Suspended Solids | 52 | 100 | |
| Suspended Solids | 52 | 100 | |
| Total Dissolved Solids | 52 | 100 | |
| Total Nitrogen | 52 | 100 | |
| Total Phosphorus | 52 | 100 | |
| Fluorides (as total F) | 52 | 100 | |
| Cyanides (as total CN) | 52 | 100 | |
| Arsenic and compounds (as As) | 52 | 100 | |
| Copper and compounds (as Cu) | 52 | 100 | |
| Chromium and compounds (as Cr) | 52 | 100 | |
| Nickel and compounds (as Ni) | 52 | 100 | |
| Tin | 52 | 100 | |
| Lead and compounds (as Pb) | 52 | 100 | |
| Cobalt (as Co) | 52 | 100 | |
| Total Heavy Metals | 52 | 100 | |
| Ammonia (as N) | 52 | 100 | |

| | | | |
|-----------------|-----------------------|------|--|
| | | | |
| Nitrate (as N) | 52 | 100 | |
| Sulphate | 52 | 100 | |
| Volumetric flow | Continuous monitoring | 100% | |
| pH | Continuous monitoring | 100% | |
| Temperature | Continuous monitoring | 100% | |

Add rows as necessary

Comment

All waste water emissions monitoring required by the IE Licence was carried out. All samples were within compliance limits.

Air

Explanation

Generally, three types of air emissions are monitored from industry in Ireland: gases, dust (particulates) and odour. Our EPA licence requires us to ensure that any air emissions from our activities do not cause air pollution or create an odour nuisance.

The information below details the number of air emission points we monitor, the results from testing the air emissions and any odour assessments carried out by us and the EPA this year.

1. We monitor air emissions from the following number of emission points at our facility.

73

Table 9 Summary of Air Emissions Monitoring

| Parameter measured | No. of Samples | % Compliant |
|--|---|--------------------|
| Carbon Monoxide | RCTO: continuous monitoring Trimix: 7 samples Boilers: 13 samples | 100% |
| Nitrogen Oxides (as NO₂) | RCTO: continuous monitoring Trimix: 7 samples Boilers: 13 samples | 100% |
| Total Organic Carbon | RCTO: continuous monitoring | 100% |

| | | |
|--|---|------|
| Total Acids (as HCl) | Acid Scrubbers: 76 samples | 100% |
| Hydrofluoric acid (Gaseous) (as HF) | Acid Scrubbers: 76 samples | 100% |
| Total Fluorides (as HF) | Acid Scrubbers: 76 samples | 100% |
| Organics Class I | RCTO: 92 samples | 100% |
| Organics Class II | RCTO: 40 samples | 100% |
| Ammonia | Trimix: 7 samples Ammonia Scrubbers: 15 samples | 100% |
| Volumetric Flow | RCTOs: 92 samples Acid Scrubbers: 149 samples Ammonia Scrubbers: 15 samples Trimix: 7 samples Speciality Exhaust: 4 samples | 100% |
| Inorganic Dust Particles Class I | Speciality Exhaust: 4 samples | 100% |
| Inorganic Dust Particles Class II | Speciality Exhaust: 4 samples | 100% |
| Inorganic Dust Particles Class III | Speciality Exhaust: 4 samples | 100% |

| | | |
|--------------------|-------------------------------------|------|
| Total Dusts | Speciality Exhaust: 4 samples | 100% |
|--------------------|-------------------------------------|------|

Comment

All air emissions monitoring required by the IE Licence were carried out. All samples were within compliance limits.

Table 10 Summary of Odour Assessments Carried Out

| Assessment Conducted By | No. of Odour Assessments | % Compliant⁸ | Comment |
|--------------------------------|---------------------------------|--------------------------------|----------------|
| Licence Holder | 0 | N/A | |
| EPA | 0 | N/A | |

Add rows where necessary

Comment

Odour monitoring is not required by the site IE Licence

⁸ A compliant odour assessment is based on EPA Odour Impact Assessment Guidance available at [Air Enforcement | Environmental Protection Agency \(epa.ie\)](#)

Fugitive Solvent Emissions

Are you required to monitor fugitive solvent air emissions from your facility?

Yes

No

Explanation

The use of solvents is regulated under Irish and European Union (EU) Regulations⁹. Solvents are chemicals that, by their nature, are volatile (evaporate readily under ambient conditions). Solvents can be found in many inks, glues and cleaning agents. Due to the volatility of solvents some emissions may be released into the atmosphere during our activities before being captured in our air treatment system. This type of emission is called a **fugitive solvent emission**.

The information below summarises the quantity of solvents used this year, the percentage of fugitive solvent emissions (% of total quantity used) and whether the percentage complied with the targets set in the EU Regulations.

Table 11 Summary of Fugitive Solvent Emissions

| Quantity of Solvents Used (Kg) | % Fugitive Solvent Emissions | Compliant |
|--------------------------------|------------------------------|-----------|
| 4,581,104 | 0.65 | Yes |

Comment

As per IE Licence Condition 6.11.1, fugitive solvent emissions shall not exceed 15% of total solvent input. In 2022, solvent emissions were 0.65%, well within compliance limits.

⁹ See Annex VII of the Industrial Emissions Directive

<https://ec.europa.eu/environment/industry/stationary/ied/legislation.htm>

Groundwater

Explanation

Groundwater is an important and sensitive resource in Ireland. Our EPA licence requires that we monitor groundwater to ensure our activities do not cause groundwater pollution.

Understanding how groundwater flows through soil and rock layers and eventually into surface and coastal waters is a complex science. Sometimes groundwater pollution that occurred in the past can take years and even decades to disappear. Therefore, it is important that experts help us monitor and interpret results from groundwater monitoring and testing.

The information below is a basic summary of the condition of the groundwater this year.

1. Do you have a groundwater monitoring programme in place?

Yes

No

2. Have the groundwater monitoring results over the last 5 years indicated the presence of groundwater pollution?

Yes

No

Table 12 List of Groundwater Pollutants Identified

| Pollutants |
|--|
| Hydrocarbon at MW18 and the Fab 34 construction site. |
| Coincident increase in some other parameters at one monitoring well (MW11) |

Add rows as necessary

3. Give details of the investigations and subsequent actions taken, where applicable, to manage the groundwater pollution.

1. Extractable hydrocarbons at a single localised monitoring well MW18 (related to a historical local diesel spill in 1997). Risk assessment and monitoring has confirmed there is no potential for migration and is contained locally. Source removed and natural degradation and monitoring is ongoing.
2. Hydrocarbon groundwater contamination identified in the Fab 34 construction area in January 2022, and reported to the Agency.
3. Coincident increase in some parameters at one monitoring well (MW11).

Comment

1. In relation to Item 2 above, a groundwater monitoring and sampling program has been implemented along with the installation of a hydrocarbon treatment system. Monthly monitoring showed a high level of compliance with the agreed target value of 10ug/l for discharges to the groundwater recharge area. Over the year 2022, robust monitoring has been in place with a permanent end state treatment system planned to be installed in 2023.
2. In relation to Item 3 above, the coincident changes in phosphate, fluoride, and nitrate concentration, and the presence of trace amounts of trihalomethanes in MW11 may relate to leakage of potable water or sewage which may be associated with nearby construction works which are now substantively completed. These changes are relatively minor and are localised, and if related to construction works, as those works are substantively completed, it can be expected that there will be a reversal of these changes over the succeeding sampling rounds. It is recommended by the hydrogeologist that monitoring continue as normal to assess the persistence of these changes seen in MW11 and determine whether further investigation is required.

Noise

Explanation

Our EPA licence requires that we monitor noise emissions from our facility. Noise monitoring can be conducted at the boundary of our facility and/or at locations beyond the boundary referred to as “noise sensitive locations”. Noise monitoring requires the use of special noise monitoring equipment. Our EPA licence requires that noise produced by our facility shall not exceed the noise limit values and/or give rise to nuisance.

The information below gives a summary of when and where we conducted noise monitoring this year and if results complied with our EPA licence limits.

1. We conducted noise monitoring on the following dates this year:

- 20,21,27 June 2022
- 14, 15 July 2022
- 04, 30 November 2022
- 1 December 2022

2. Where was the noise monitoring carried out?

- i. the boundary of our facility;
- ii. noise sensitive locations off-site; or
- iii. both.

Both at the boundary of our facility and at noise sensitive locations

3. Were measured noise levels compliant with your EPA licence limits?

Yes

No

If No, we took the following actions to address the noise level exceedances?

N/A

Comment



7) Waste

Waste Generated

Explanation

Our EPA licence requires us to manage the waste we generate in a manner that does not cause environmental pollution.

We manage, store and record hazardous, non-hazardous and inert waste we generate in accordance with our licence. We ensure that this waste is subsequently treated or disposed of in accordance with the relevant waste Regulations.

The information in Table 14 is a summary of waste we generated this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste generated that was reused, recycled or recovered.

Table 13 Waste Generated

| Type | Quantity (Tonnes) | % Increase/ decrease on previous year | % Recovery |
|---------------------|-------------------|---------------------------------------|---------------|
| Hazardous | 25,421 | - 0.51% | 85.07% |
| Non-Hazardous | 23,689 | 19.16% | 98.39% |
| Inert | 4,517 | - 89.54% | 100% |
| Total Tonnes | 53,627 | -39.48% | 92.21% |

Comment

There was a reduction in inert waste in 2022 as the large construction project on site progressed to a different stage where less of these wastes were being produced. The Non-Haz Waste increased by 19% as there were more people on site after COVID. Total Waste decreased by 39.48% in 2022 relative to 2021.

Waste Accepted

Did you accept waste onto your facility for storage, treatment, recovery or disposal this year?

Yes

No

Explanation

Our EPA licence requires us to manage the waste we accept in a manner that does not cause environmental pollution.

We manage, store and record all incoming and outgoing hazardous, non-hazardous and inert waste. The waste we accept may be treated, recovered, disposed or stored at our facility depending on our licence requirements.

The information in Table 15 provides a summary of waste we accepted this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste accepted that was reused, recycled or recovered.

Table 14 Waste Accepted

| Type | Quantity (Tonnes) | % Increase/ decrease on previous year | % Recovery |
|---------------------|-------------------|---------------------------------------|------------|
| Hazardous | | | |
| Non-Hazardous | | | |
| Inert | | | |
| Total Tonnes | | | |

Comment

Not Applicable

8) Financial Provision

Explanation

Our EPA licence requires us to assess the risk our activities pose to the environment if we cease our activities or if an incident occurred. If we are identified as a high risk facility¹⁰ by the EPA, we are required to put provision in place such as a financial bond or insurance to cover the cost of restoring our site to a satisfactory condition. This financial provision can then be used to cover the cost of managing the restoration or clean up should such an event occur.

1. Are you required to have an agreed financial provision in place?

Yes

No

2. What year was your Closure, Restoration and Aftercare Management Plan (CRAMP) last agreed by the Agency?

An updated draft CRAMP was submitted to the Agency through the EDEN system in March 2021 to account for inflation. This was accepted by the Agency.

IE licence P0207-05 requires that an updated CRAMP be submitted to the Agency within 6 months of date of grant of the licence. Intel intends to submit an updated CRAMP on or before the 17th of May 2023.

3. What year was your Environmental Liability Assessment Report (ELRA) agreed by the Agency?

An updated draft ELRA was submitted to the Agency through the EDEN system in March 2021 to account for inflation. This was accepted by the Agency.

¹⁰ See Appendix II

IE licence P0207-05 requires that an updated ELRA be submitted to the Agency within 6 months of date of grant of the licence. Intel intends to submit an updated ELRA on or before the 17th of May 2023.

4. Has there been any significant changes on your site since the last agreements?

Yes

No

If yes, have you submitted details to the EPA?

Yes

No

N/A

All significant changes will be included in the submittal of the ELRA and CRAMP reports, due on or before 17th May 2023.

Appendix I

Class of Activity

Industrial and waste facilities are classed into different sectors depending on the nature of their activity and its potential impact on the environment. The EPA Act 1992 as amended, outlines these as follows:

| | |
|----------|-------------------------------------|
| Class 1 | Minerals and other materials |
| Class 2 | Energy |
| Class 3 | Metals |
| Class 4 | Mineral fibres and glass |
| Class 5 | Chemicals |
| Class 6 | Intensive Agriculture ¹¹ |
| Class 7 | Food and drink |
| Class 8 | Wood, paper, textiles and leather |
| Class 9 | Fossil fuels |
| Class 10 | Cement, lime and magnesium oxide |
| Class 11 | Waste |
| Class 12 | Surface Coatings |
| Class 13 | Other Activities |

¹¹ This reporting template is not applicable to the **intensive agriculture sector**. Their annual environmental reporting structure is different and can be found at [Compliance & Enforcement: Licensees: Reporting Publications | Environmental Protection Agency \(epa.ie\)](#)

Appendix II

High Environmental Risk Categories

If an industrial or waste licence falls into one of these categories it is deemed, by the EPA, as a high environmental risk. As a result, the licence holder is required to have financial provision in place. See section 8, Financial Provision.

1. Landfills
2. Non-Hazardous Waste Transfer Station
3. Incineration and Co-Incineration Waste Facilities
4. Category A – Extractive Waste Facilities
5. Upper and Lower Tier Seveso Facilities
6. Hazardous Waste Transfer Stations
7. High Risk Contaminated Land
8. Exceptional Circumstances

NOTE:

This list is subject to change.

See the link below for further information.

[Compliance & Enforcement: Financial Provisions Publications | Environmental Protection Agency \(epa.ie\)](#)

Appendix III

Beyond Compliance

The case studies below show how we went beyond the requirements of our licence in the reporting year.

Water Conservation: The site set a water conservation target of 2.1 million cubic meters to contribute to the 2030 Corporate RISE Water Conservation goal in 2022. In 2022, there were water savings of 2.5 million cubic meters. In August 2022, a system which treats wastewater for reuse in site facilities systems was brought into operation that is expected to generate an annualised saving of approximately 0.5 million cubic meters.

Energy Conservation: The site also set a target of 10.1 M kWh annualised electricity savings in 2022 to contribute to the 2030 Corporate RISE Energy Conservation goal. This target was exceeded at the site by the completion of projects in 2022 that delivered 14.1 million kWh of annualised savings.

Site Biodiversity Program: Intel continues to develop the biodiversity program which included an increase of pollinator friendly and wildflower areas and management of the existing wildflower meadow and the provision of data to an external biodiversity database. The winner of the Intel sponsored Pride of Place 2022 award focused on the remediation and renewal of a wildflower area in the community. The annual survey of the Rye River was funded again in 2022 and Intel launched 'The Friends of the Rye', a special publication that celebrates over three decades of stewardship of these waters. Separately, the company initiated a project with NPWS in 2021 to re-wet a 60-hectare blanket bog in the Wicklow Mountains. This is an extensive ongoing project and high-level data will be gathered on these works.