Novidon Limited

Environmental Management System

Application for Environmental Permit for Modified Starch Manufacturing Facility and Medium Combustion Plant

Coed Aben Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UH

Report Ref: CE-WH-1801-RP08-EMS-V1-FINAL

CRESTWOOD ENVIRONMENTAL LTD

ENVIRONMENT LANDSCAPE NOISE LIGHTING
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MINERALS / WASTE AIR QUALITY LAND QUALITY VISUALISATION

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APPENDICES

1 INTRODUCTION

1.1.1 This Environmental Management System (EMS) is to be used to manage a modified starch manufacturing facility and a proposed combined heat and power (CHP) plant at Coed Aben Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UH ***(the Site)***. The Site is operated by Novidon Limited ***(the Operator)***.

1.1.2 The Site modifies starches to produce high quality wallpaper paste flake and drilling starches for the geological drilling industries. At present circa 10,000 tonnes of unrefined starch (dry solids) are refined per annum to produce circa 15,000 tonnes per annum of modified starches. The Operator proposes to increase annual production of modified starches to 30,000 tonnes by 2030.

1.1.3 It is proposed to install a Jenbacher combined heat and power (CHP) plant in future years to generate electricity and heat for parasitic use at the Site. The CHP plant will comprise a Jenbacher J312GS gas engine, which has an electrical output of 524Kw/hr and a recoverable heat output of 659 Kw/hr. Its net rated thermal input is 1363Kw/hr, as a result of which it is classed as a Medium Combustion Plant.

1.1.4 The modified starch processing operations undertaken by the Operator at the Site were first undertaken in April 2007 and have been visited and inspected in the past by Natural Resources Wales (NRW) and its predecessor in Wales, the Environment Agency.

1.1.5 The Site comprises a dedicated, enclosed building with a concrete floor and an external concreted and tarmac yard area. The condition and integrity of both the building and internal concrete floor are good (see Plates below). The floor is fully sealed, with no internal drainage outlet, meaning that any inadvertent spillages or leakages within the building are fully contained.

Plates 1 and 2: Internal Views of Novidon Building, Wrexham

Plate 3: External View of Building and Yard

1.1.6 The Site falls under the requirements of the Environmental Permitting (England and Wales) Regulations 2016 and the Environmental Permitting (England and Wales) (Amendment) Regulations 2018, by virtue of:

- Schedule 1, Part 2, Chapter 4, Section 4.1, Part A (1):

  (a) (ii) organic compounds containing oxygen (e.g. alcohols, aldehydes, ketones, carboxylic acids, esters, ethers, peroxides, phenols, epoxy resins

- Schedule 25A, Part 1, Paragraph 2(1):

  "new medium combustion plant" (means a medium combustion plant which is not an existing medium combustion plant).

- Schedule 25B, Part 1, Paragraph 2(1) (a) (i):

  "generator, other than an excluded generator, with a rated thermal input—

  (a) more than or equal to 1 megawatt and less than 50 megawatts".

1.1.7 Table 1 below details the Directly Associated Activities on Site.

Table 1 Directly Associated Activities

Directly Associated Activity	Description
Receipt and dispatch of materials	Receiving and checking raw material deliveries, storage in suitable locations, transfer to process area, dispatch of completed starch product.
Combustion of mains gas in dryer plant	Combustion of natural gas in a 2000kW dryer to dry starch refined on site.
Combustion of mains gas in steam boilers Starch refinery	Combustion of natural gas in steam boilers to provide heat to dryers and reactor tanks.
Abatement of emissions to foul sewer Approx. 100 Litres twice a year	Operation of scrubber, using water as the scrubbing media.
Waste storage and handling	Collection of waste, storage of waste. Removal from site by approved contractors.

1.1.8 The external yard area comprises engineered concrete and tarmac surfaces. Surface water run-off from the yard falls to surface water drains which discharge to surface water sewer, which in turn falls to the Redwither Brook. There are two discharge points to the sewer on Site and both drainage runs are fitted with penstock valves close to and upstream of the discharge points SW1 and SW2 (see Drawing No 001 'Site Plan – Drainage Layout'. The penstock valves are kept closed as a matter of routine and are only opened as required to allow off Site drainage of clean yard and building roof water runoff. Runoff water is only released if confirmed to be suitable (i.e. there have been no accidental spillages or leakages). Therefore, in the event of an accidental spillage on Site, the penstock valves would already be shut, thereby preventing any discharge to the sewer.

1.1.9 There is a foul sewer drainage system on Site, which receives waste waters from the welfare facilities (e.g. toilets and wash basins) and surplus water from wash downs and scrubber liquors associated with the manufacturing process (see below). A Trade Effluent Discharge Consent, issued by Dwr Cymru Cyfyngedig (Welsh Water) is in force for the Site, see Appendix 1.

1.1.10 The Site does not fall under the requirements of the Control of Major Accident Hazards (COMAH) Regulations.

1.1.11 The Operator maintains a detailed Health, Safety and Environmental Manual, which is specific to the Site.

2 SITE RECORDS

2.1.1 The management of Site Records, including their correct use and storage, forms part of the company's Health, Safety and Environmental Manual, which is independently audited each year.

2.1.2 It is the responsibility of the Plant Manager to:

- Ensure that site records are maintained in accordance with the requirements of the Environmental Permit and all relevant law and regulations;
- Approve documented information for adequacy prior to issue;
- Review and update as necessary and re-approve documented information.

2.1.3 The Plant Manager will ensure that:

- Changes and current revision status of all forms used for recordkeeping are identified;
- Relevant versions of forms are available at point of use;
- Documents remain legible and readily identifiable;
- Documented information of external origin determined by the company to be necessary for the planning and operation of both the quality and environmental management system are identified and their distribution controlled;
- Prevent the unintended use of obsolete information and apply suitable identification to them if they are retained for any purpose.

2.1.4 The principal records that are currently retained are as follows:

- Accident Records including all records associated with incident investigations.
- COSSH assessments.
- Manual handling assessments.
- General risk assessments.
- Noise assessments.
- Health surveillance reports (the individual records are confidential medical records and are held by the occupational health nurse).
- Waste transfer notes and hazardous waste consignment notes.
- Effluent discharge test records.

2.1.5 All additional records required by the Environmental Permit will be maintained in accordance with permit conditions.

2.1.6 The Site records shall be maintained and kept secure from loss, damage and deterioration in either hardcopy or electronic form (see above) in a site office or secure location off-Site.

2.1.7 A copy of the Environmental Permit shall be easily accessible by staff members or contractors. Contractors shall be briefed on the sensitivity of the Site and if not being supervised by Site personnel will require a Site induction.

3 MAINTENANCE

3.1.1 The Maintenance Foreman is:

- Responsible for ensuring that all equipment and machinery is adequately guarded.
- Responsible for ensuring that all platforms are adequately fenced.
- Responsible for operating permit-to-work system.
- Responsible for ensuring that certification is maintained for lift trucks, hoists and slings.
- Responsible for ensuring that ladders and mobile platforms are maintained in a safe condition.
- Responsible for ensuring that the effluent system is regularly checked and maintained.
- Responsible for ensuring that the electrical system is regularly checked and maintained.
- Responsible for ensuring that external contractors carry out their activities in a safe manner.

3.1.2 The Maintenance Foreman reports to the Plant Manager.

3.1.3 All plant and equipment on Site is inspected, serviced and maintained as per manufacturer or supplier guidance.

3.1.4 NRW shall be informed without delay if there is any malfunction, breakdown or failure of equipment

or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution and cause any significant adverse environmental and health effects.

3.1.5 Any required maintenance shall be carried out as soon as is practicable to ensure continued running of the facility.

3.1.6 Safety Data Sheets for new products/goods are reviewed to ensure environmental impacts from purchased goods are minimized. All chemicals and dangerous/hazardous materials are handled in accordance with the Safety Data Sheets.

4 ENVIRONMENTAL ACCIDENT AND INCIDENTS

4.1.1 An Accident Management Plan (ref CE-WH-1801-RP07) has been prepared for the Site.

4.1.2 The Operator maintains detailed, site specific Emergency Procedures for the Site. These are reproduced in Appendix 2.

4.1.3 The Emergency Procedures include:

- Emergency procedure list for Chemicals
- River Dee Water Protection: Safety and Emergency Statement
- Emergency Response Procedures for Fire, Major Gas Leak, Major Chemical Spillage, Major Remote Emergency, Pollution Incident
- Site Emergency Response Plan.

5 WASTE REDUCTION

5.1.1 The Operator maintains Waste Reduction procedures for the Site as part of the Health, Safety and Environmental Manual. These are reproduced in Appendix 3.

5.1.2 Waste Reduction procedures are based on the following hierarchy of steps to be taken to reduce waste from an operation. The first steps (particularly 1 and 2) are identified as those that all employees are required to apply at every opportunity, as these have the least damaging impact on the environment and save most money in terms of operating costs.

1. Don’t produce the waste in the first place. This principle is the most beneficial and can be applied at all places where waste is generated.
2. Reuse the waste as rework in good product or by cleaning containers.
3. Regrade the waste to a lower specification product.
4. Sell the waste for recycling into other products.
5. Pay for the waste to be used as a fuel component.
6. Pay for the waste to go to landfill. Because of the landfill tax that is scheduled to rise year on year, this will become an ever-increasing cost.

6 TRAINING

6.1.1 A Resources Consultant, in consultation with the Plant Manager, is responsible for designing a system to identify training needs throughout the company and developing the training schedule. The Resources Consultant reports to the Plant Manager.

6.1.2 A training needs assessment is carried out at least annually and reviewed to ensure that the training programme is meeting the needs of the company including the assurance of product and policy conformity. The Resources Consultant and Plant Manager adds/updates training as necessary based on the needs assessment.

6.1.3 Legal requirements and regulations and the Environmental Permit will be reviewed by the Plant Manager and other relevant personnel on an ongoing basis to ensure that the training being provided meets all requirements.

6.1.4 When a non-conformance is documented in an audit finding, the nonconformance is evaluated to determine whether additional or different training can help correct the non-conformance.

6.1.5 Organizational knowledge is identified through job descriptions, work instructions, and competency checklists for each position. Knowledge is also shared and competency verified through on-the-job training. Completed training records are maintained by the Resources Consultant and Plant Manager.

6.1.6 Changes that require a change in knowledge are addressed through updates in work instructions where training would be specified, hiring of additional personnel or realigning existing personnel for production changes.

6.1.7 Each Employee Training Record is evaluated by the Resources Consultant or Plant Manager prior to placement to determine the adequacy of the training for the job to which the employee is assigned. Training deficiencies are noted, and arrangements made for the needed training.

6.1.8 Trainers must demonstrate by education and experience that they are qualified to teach the material in the course for which they are responsible. Trainers must also demonstrate proficiency in instructional methods appropriate to the certification body if such certification is required to teach a particular course.

6.1.9 Each record may include the following information: employee name, employee number, department of employment, name and number of course, date(s) of training, name of instructor, results and instructor comments, if applicable.

6.1.10 All training is tracked. Training includes identifying which training is required for each employee.

7 COMPLAINTS

7.1.1 It is important to note that all manufacturing operations at the Site are undertaken in a fully enclosed building, which minimising any potential for noise emissions from the Site. The predominant noise source in the vicinity of the Site is traffic using the Coed Aben Road, which is adjacent to the Site and serves Wrexham Industrial Estate. Operations at the Site are not inherently odorous or dusty, with minimal risk of any associated impacts. Therefore the likelihood of complaints about amenity issues due to the Site from local residents or nearby businesses are very low. Despite this, any complaints

received at the Site will be reported to the Plant Manager.

7.1.2 The following actions will be taken on receipt of an external complaint.

7.1.3 The person receiving the complaint at the Site will immediately record the key details, initiating the investigation process. Details will be entered on a Complaint Report Form. The form will set out the key information that should be recorded at this time in order to facilitate further suitable investigation.

7.1.4 The Plant Manager will be informed of the complaint as soon possible, including the location, time and date of the complaint being lodged (where available).

7.1.5 In recognising that some causes of complaints, such as dust and noise, can be transient and short-lived, timely notification of complaints directly from the complainant or Natural Resources Wales is imperative to allow for appropriate investigation. If the complaint occurs more than 12 hours before notification is provided to the Operator, it may not be possible to substantiate the complaint or pinpoint the cause. The Operator will, however, contact the complainant where possible, review any operations at the time which had the potential to cause the complaint and complete and record a comprehensive complaint investigation. For complaints received within 12 hours of the incident the following actions will be undertaken.

7.1.6 The Plant Manager or other responsible person will visit the complaint location as soon as possible, with the aim of undertaking monitoring within 2 hours if this is possible within the working day. The Plant Manager or other responsible person will subjectively determine the presence or absence of the cause of the complaint. Opportunities to meet the complainant to discuss the matter directly will be pursued, wherever possible.

7.1.7 If the cause of complaint is present, the key 'FIDOR' criteria will be assessed at the complaint location, as follows:

- Frequency – is the cause of the complaint, e.g. dust or noise, intermittent or persistent; is there a history of complaints at this location?
- Intensity – is the cause of complaint faint, moderate, strong, or very strong?
- Duration – how long is the cause of complaint present at this location?
- Offensiveness – provide a description of the cause of complaint; is it high, moderate, or low offensiveness?
- Receptor sensitivity - is the cause of complaint present at a remote or highly sensitive location; is it localised or widespread?

7.1.8 The Plant Manager or other responsible person will subsequently undertake the following further assessment process:

- Review of the operations at the Site prior to and at the time of the complaint;
- Review of the environmental control systems prior to and at the time of the complaint;
- Review of the meteorological conditions (wind speed, wind direction, rainfall, atmospheric

pressure) prior to and at the time of the complaint – to establish whether a pathway can be established between the Site and the complainant;

- Review of any previous complaint history at the location identified.

7.1.9 Where a significant complaint is substantiated by the Plant Manager or other responsible person, the Operator will contact NRW to discuss the incident as soon as possible following receipt of the complaint details, allowing sufficient time for the above investigation to be completed, and within a maximum target response period of 24 hours from complaint receipt. If the necessary contact details are available and direct feedback has been requested the Operator will also contact the complainant directly to discuss the issue, the findings of the subsequent investigation, and any actions arising.

7.1.10 Once actions have been completed the Plant Manager or other responsible person will visit the complaint location to ensure that the cause of complaint has subsided.

8 AUDITS

8.1.1 Auditing procedures are detailed in the Health, Safety and Environment Manual. An independent audit is made annual by a Resources Consultant, who reports to the Plant Manager. The audit will focus on the following subjects:

- Housekeeping
- Hazards
- Pollution prevention
- Safety
- Environmental, including Environmental Permit compliance
- Welfare
- The result of each audit will be documented to indicate:
- The deficiencies found.
- The corrective and preventative actions required.
- The timescale for corrective and preventative actions to be carried out.
- The person responsible for carrying out the corrective and preventative action.

8.1.2 The Operator undertakes internal annual audits of environmental performance, objective and targets and any future planned improvements.

8.1.3 Once an internal audit has been undertaken, the auditor completes an Audit Report. Each question/instruction must be marked as “Yes” or “No” for compliance. All findings should be discussed with the supervisor of each assessed area and the Plant Manager and agreed upon. After agreement on any non-conformances, which are identified during the audit, the auditor and Plant Manager will seek to resolve the non-conformance.

8.1.4 Audit reports with appropriate documentation will be filed electronically. This documentation includes the completed internal audit form and notes, and may include sampling data, and other records generated during the audit.

8.1.5 Audit information is communicated to senior management, including the Plant Manager.

APPENDIX 1. TRADE EFFLUENT DISCHARGE CONSENT

Consent no: 709008

DWR CYMRU CYFYNGEDIG
WATER INDUSTRY ACT 1991

CONDITIONAL CONSENT TO THE DISCHARGE OF TRADE EFFLUENT TO THE PUBLIC SEWER.
Novidon, Wrexham Industrial estate, LL13 9UH

TO : The Owner of the trade premises (hereinafter called "the Occupiers") whose registered office is situated at **Coed Aben Road, Wrexham Industrial estate, Wrexham, LL13 9UH**

RECITALS.

The **6th August 2018** you applied for consent under Section 119 of the Water Industry Act 1991 for consent to discharge trade effluent from the following trade premises known as **Novidon Ltd** (hereinafter, the Application) and which trade premises are situate at **Coed Aben Road, Wrexham Industrial Estate, LL13 9UH**, for the purpose of identification only shown on the location plan attached hereto and marked "A" (hereinafter, "the said trade premises").

1. Compliance with the conditions hereunder shall be ascertained by reference to the method of analysis as from time to time employed by the Undertaker, its servants, agents or contractors, save where the said condition(s) otherwise expressly provide(s)

DWR CYMRU CYFYNGEDIG ("the Undertaker") in the exercise of its powers under Section 121 of the Water Industry Act 1991, and thinking it fit to impose conditions as hereinafter appear, **GIVES ITS CONSENT** to the discharge of trade effluent from the said trade premises into the Undertaker's public sewers, **SUBJECT TO THE FOLLOWING CONDITIONS AND NOT OTHERWISE.**

(1) The public sewer(s) into which the trade effluent may be discharged is the 225 mm more particularly identified by means of a line(s) coloured RED drawn on the plan attached hereto and marked "B".

(2) The discharge of trade effluent shall be made at the point marked "X" on the said plan and the said trade effluent shall enter into the public sewer shown on the said plan at the point marked "Y" thereon and nor otherwise. Further, no connection, linkage, conduit, pipe, channel or other communication whatsoever shall be made to the said sewer between the said points "X" and "Y" (without the prior approval in writing of the Undertaker).

(3) The trade effluent to be discharged shall consist solely that which is specified in the Application and derived (exclusively) from the refining and drying of potato starch.

(4) Without prejudice to condition 3 above, the nature and/or composition of the trade effluent which may be discharged is as specified in the FIRST SCHEDULE hereto.

(5) The trade effluent shall not include any of the substances or properties listed in the SECOND SCHEDULE hereto in concentration greater than stated therein.

(6) The maximum quantity of trade effluent discharged on any day (being any continuous 24 hour period) shall not exceed **360 cubic metres.**

(7) The highest rate at which trade effluent may be discharged shall not exceed **4.2 litres per second.**

(8) The trade effluent shall only be discharged into the public sewer(s) from 0.00 hours to 2400 hours (on the following days each week, namely Monday to Sunday).

(9) No uncontaminated condensing water shall be discharged.

(10) There shall be eliminated from the trade effluent before it is discharged the matters listed below:

a) Effluent with a temperature in excess of 43° Celsius (110° Fahrenheit);
b) Calcium Carbide;
c) Petroleum Spirit within the meaning of Section 111 of the Water Industry Act 1991, save otherwise permitted herein:
d) Other material forming a constituent of the trade effluent, whether along or in combination with other materials, specified hereby as that which is explosive;
e) Any other substance forming a constituent of the trade effluent which is hereby specified as that which is likely to injure the sewers or to interfere with the free flow of their contents or to affect prejudicially the treatment and disposal of their contents.

(11) No trade effluent shall be discharged the pH value of which is less than **5 or greater than 10.0.**

(12) No trade effluent shall be discharged the nature or composition of which includes a matter, substance, property or matters, substances or properties which would constitute the trade effluent as Special Category Effluent within the meaning of Section 138 of the Water Industry Act 1991.

(13) The Occupier shall give to the Undertaker prior written notice of any change in the process of manufacture, materials, or other circumstances howsoever arising capable of altering the nature and/or composition of the trade effluent. No new substances or properties shall be discharged until the Undertaker has agreed thereto, either with or without imposing a limit and thereafter the said substance(s) and/or property(ies) shall be deemed incorporated into the SECOND SCHEDULE.

(14) An inspection chamber or manhole shall be provided and maintained by the Occupier in a suitable position and/or at the point(s) marked "X" on the plan annexed hereto in connection with each pipe through which the trade effluent is discharged and such inspection chamber or manhole shall be constructed and maintained in accordance with the Undertaker's reasonable requirements as from time to time notified in writing to the occupier so as to enable a person readily at any time to take samples of the trade effluent being discharged.

(15) A notch gauge, continuous recorder or some other apparatus suitable and adequate to the Undertaker for measuring and automatically recording the volume and rate of trade effluent so discharged shall be provided, such apparatus to be tested and maintained in accordance with the Undertaker's reasonable requirements as from time to time notified in writing to the Occupier.

(16) Apparatus capable of accurately determining, measuring and recording the nature and/or composition of the trade effluent discharged shall be provided, such apparatus to be tested and maintained in accordance with the Undertaker's reasonable requirements as from time to time notified in writing to the Occupier.

(17) The Occupier shall keep records of the volume, rate, nature and/or composition of the trade effluent discharged into the sewer(s) at all times available for inspection by any authorised officer of the Undertaker and copes of such records shall be sent to the Undertaker on demand.

(18) (a) The Occupier shall pay to the Undertaker charges for the reception, conveyance, treatment and disposal of the trade effluent and the costs of sampling, measuring and/or analysis of the same under the Undertaker's trade effluent's functions, which charges shall be determined as set out below, and all sums payable under this condition shall be payable upon demand;

(b) The charges under (a) above shall be calculated in accordance with Undertaker's Scheme of Charges as from time to time amended;

(c) For the avoidance of doubt, the charge shall be payable by any person who is or was the Occupier of the said trade premises during the period of discharge of the trade effluent or at the time payment is due.

(19) If the notch gauge, meter, recorder or other apparatus ceases to record or is suspected of not recording and/or measuring accurately, the quantity of trade effluent discharged into the sewer(s) during the period from the date and/or time at which the records were last accepted by the Undertaker as being correct up to the date when the notch gauge, meter, recorder or other apparatus again registers accurately shall for the purpose of any payment to be made under these conditions be based on the average daily volume of trade effluent discharged during the preceding period over which the records were last accepted by the Undertaker as being

accurate or during the month immediately after the notch, gauge, meter, recorder or other apparatus or means of measurement and recording has been accurate whichever is the higher.

YOUR RIGHT OF APPEAL

Any person aggrieved by: -

The refusal of a Sewage Undertaker to give consent for which application has been made to the Undertaker under Section 119 of the Water Industry Act 1991; or

Any condition attached by a Sewage Undertaker to such consent may appeal to the Director General of Water Services.

On an appeal in respect of a refusal to give consent, the Director may give the necessary consent either unconditionally or subject to such conditions as he thinks fit to impose.

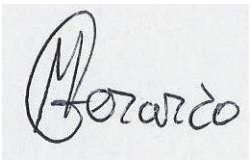
On an appeal in respect of a condition the Director may take into review all the conditions whether appealed against or not and may substitute for them any other set of conditions (whether more or less favourable to the Appellant) or annul any of the conditions and may include provision as to the charges to be made in pursuance of any condition attached to a consent for any period before the determination of the appeal.

On any appeal the Director may give direction that the trade effluent shall not be discharged until a specified date.

FAILURE TO COMPLY WITH CONDITIONS.

If in the case of any trade premises a condition is contravened, the Occupier of the premises will be guilty of an offence and liable on conviction by a Magistrates' Court to a fine not exceeding the statutory maximum or on conviction by the Crown Court to an unlimited fine.

DATED **16 day of August 2018**

For and on behalf of the Company 

(Michael Gerardo)

Designation: _Wastewater Science Manager_

Address of Division:

Northern Division
Dinas Depot
Llanwnda
Caernarfon
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LL54 5UD

FIRST SCHEDULE

(1) Effluent derived from the **washing, refining and drying of potato starch.**

(2) Water (including such elements, compounds and organisms normally present in water at trace or harmless levels and not exceeding such levels that as may be imposed by regulations for the time being regulating the quality drinking water)

SECOND SCHEDULE.

PART A (Applicable to spot samples)

(1) Total suspended solids of the trade effluent shall not exceed **800 milligrams per litre.**

(2) The chemical oxygen demand of the trade effluent after one-hour quiescent settlement shall not exceed **3000 milligrams per litre.**

(3) Fats, Oil sand Greases shall not exceed **100 milligrams per litre.**

(4) Phosphate shall not exceed **15 milligrams per litre**.

(5) Ammonia shall not exceed **25 milligrams per litre.**

(6) Sulphate shall not exceed **500 milligrams per litre**.

(7) Sulphide shall not exceed **2 milligrams per litre**

PART B (Applicable to Composite samples)

(1) Total suspended solids of the trade effluent shall not exceed **800 milligrams per litre.**

(2) The chemical oxygen demand of the trade effluent after one-hour quiescent settlement shall not exceed **3000 milligrams per litre.**

(3) Fats, Oil sand Greases shall not exceed **100 milligrams per litre.**

(4) Phosphate shall not exceed **15 milligrams per litre**.

(5) Ammonia shall not exceed **25 milligrams per litre.**

(6) Sulphate shall not exceed **500 milligrams per litre**.

(7) Sulphide shall not exceed **2 milligrams per litre**

THIRD SCHEDULE

Not applicable.

APPENDIX 2. EMERGENCY PROCEDURES

NOVIDON LIMITED

On the following pages are the emergency procedures for the chemicals used. For chemicals that have no hazard classification there is just one standard set of emergency procedures. Likewise for chemicals with a hazard classification of flammable or highly flammable but with no secondary hazard, there is just one standard set of emergency procedures. All the other chemicals present specific dangerous hazards (mainly toxic or corrosive) and each has its own set of emergency procedures.

All supervisors and operatives directly associated with dangerous substances must be made fully aware of the dangerous nature of the chemicals and should be suitably trained as to action to be taken following human contact or spillage.

Copies of the emergency procedures must be accessible to all who work with hazardous chemicals.

Emergency Procedure	Chemical
EP1	Caustic Soda (Sodium Hydroxide)
EP2	Monochloroacetic Acid (MCA)
EP3	Monochloroacetic Acid (MCA) - Pre-Entry Checks
EP5	Sodium Monochloroacetate (SMCA)
EP6	Mergal 530E
EP7	Mergal MC14
EP11	Indox ED180
EP12	Dichlorophen
EP15	Mergal KM203
EP16	Mergal 204
EP17	Blossom Concentrate
EP18	Chemicals General

Please note that the hazardous materials referred to in emergency procedures EP4, EP8, EP9, EP10, EP13 and EP14 are no longer in use at Novidon.

NOVIDON LIMITED

RIVER DEE WATER PROTECTION ZONE

SAFETY AND EMERGENCY STATEMENT

Potential Sources of Pollution Incidents

Finished products produced by Novidon Limited are all virtually non-hazardous and therefore are not likely sources of a major pollution incident unless large quantities of the products are involved.

The seriously hazardous materials on site are all raw materials and these present the most likely source of a major pollution incident with even relatively small quantities. Of these the most likely sources are liquid hazardous chemicals such as liquid biocides, monochloroacetic acid and caustic soda, which are stored in intermediate bulk containers and bulk storage tanks.

Potential Events Leading to Pollution Incidents

The most likely event leading to a pollution incident is a major spillage of a hazardous liquid chemical raw material during the delivery process although subsequent handling and storage of the chemical could also potentially lead to spillage if containers are ruptured or valves leak. Any such spillage would only be serious if the chemical were allowed to enter the surface water drainage system, which would lead to the pollution of local watercourses.

A major fire could also lead to a pollution incident either directly or indirectly. A direct effect of a major fire could be the cause a storage vessel containing a hazardous liquid chemical raw material to rupture or melt thus causing a major spillage leading to a pollution incident. An indirect effect of a major fire could be associated with the large volumes of water used to fight the fire washing large quantities of chemicals into surface water drains and thus polluting local watercourses. Major fires at Novidon are not considered likely events because there are no large volumes of highly flammable materials on site and the buildings are part protected by a sprinkler system.

Because all the main production, storage and material handling areas are concreted over there is virtually no risk of land contamination at the Novidon site.

Prevention and Control Measures

Tanker deliveries of hazardous liquid chemical raw materials are unloaded in two locations.

Caustic soda is off-loaded within the area of roadway that forms a cul de sac at the south end of the boilerhouse yard. This area is segregated from the rest of the Novidon external roadway system by a drain that runs across the road and will direct any spillage into the foul water sewer that already handles trade effluent.

Monochloroacetic Acid is off-loaded at its own specific tanker unloading bay outside of the MCA plant at the rear of the factory.

The effect of any smaller spillages of hazardous liquid chemical raw materials that occur on the rest of the Novidon external roadway system will be isolated by means of the Penstock Valves that are kept closed at all times to isolate the site surface water from the main brook.

Spill kits are provided for this purpose at places where the danger of spillage is considered to be most likely.

All hazardous liquid chemical raw materials are held inside the main factory where there is no access to the drains. This eliminates the potential for leaks to become pollution incidents.

Site Emergency Procedures Following a Potential Pollution Incident

The main causes of potential pollution incidents are as follows:

1. A spillage of any liquid, except clean water, in such volumes or locations that could result in the liquid entering the surface water drainage system. The spillage could be from any source including finished goods, raw materials, effluent, fuel, oil or contaminated wash water.

2. Water used to clean up following a spillage of any material in such volumes or locations that could result in the contaminated water entering the surface water drainage system.

3. Water used to fight a fire in such volumes or locations that could result in the contaminated water entering the surface water drainage system.

4. Spillage of a solid chemical in such a location that it could be washed into the surface water drainage system by rainwater.

5. Any other incident that could lead to chemicals entering the surface water drainage system.

Site Emergency Procedures Following a Potential Pollution Incident (continued)

6. Any incident that could lead to seriously hazardous substances (Toxic, Corrosive or Dangerous to the Environment) entering the foul water sewage (effluent) drainage system in such large volumes that could lead to major contamination problems at the sewage works.

If any of the above incidents should occur then the first action must be to ensure the Penstock valves are in the closed position to prevent contamination of the brook and in the case of seriously hazardous substances from them entering the foul water sewage (effluent) drainage system in large volumes. In all cases the preventative measures will also include containment of the spillage or fire water so that it can be pumped into a container or into the effluent system (if appropriate) and the sealing of all appropriate drains in the area. Any container that cannot be prevented from leaking should be moved in a safe manner to the nearest bunded wet deck area.

If the preventative action taken is effective in preventing a pollution incident then no further action is required. But even if pollution does occur continuous action to minimise the extent of the pollution must continue. Even though the penstock valves have been closed, the condition of the brook must be monitored to ensure that any pollution is not able to bypass the valves.

Site Emergency Procedures Following a Pollution Incident

Reporting responsibilities

A pollution incident is defined as any contamination of land or controlled waters by any substance whether a controlled substance or not. All pollution incidents no matter how small must be reported to a competent person within Novidon immediately after the incident takes place. The competent person will then take charge of the situation and take appropriate action following an assessment of the severity of the situation.

During office hours pollution incidents should be first reported to the Plant Manager and in his absence to the Production Manager or the Technical Manager of the Company. Outside office hours the most senior person on site is regarded as the competent person.

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Following notification of a pollution incident the competent person must first assess the severity of the situation. Subsequent actions are made based on the following decision grid:

Degree of material hazard	Degree of Contamination		
	Minor	Medium	Major*
Low (no significant hazard)	No Action	Inform Senior Management	Inform the Natural Resources Wales
Medium (irritants and harmful substances)	No Action	Inform Senior Management	Inform the Natural Resources Wales
High (toxic and corrosive substances)	Inform Senior Management	Inform the Natural Resources Wales	Inform the Natural Resources Wales

*Because of the quantity of fire-water that is produced all major fires should be reported to EA.

Where it is required to notify Senior Management or the Natural Resources Wales this must be done immediately in order that damage limitation action can begin without delay.

Where it is required to notify a member of Senior Management the manager who is contacted must decide whether or not to inform the Natural Resources Wales depending on his assessment of the situation. Only the person in charge should speak to the Natural Resources Wales.

Where it is required to notify the Natural Resources Wales then a member of Management and the Plant Manager must subsequently be informed without delay.

When reporting an incident it is important to have as much information to hand as is possible.

This should include the following where possible:

- A precise description of the substance involved including details of strength or concentration (this information can be found on the label on the container).
- A copy of the supplier's material health and safety data sheet (These are kept in the Supplier MSDS file in the Laboratory & Canteen).
- An estimate of the quantity of the substance causing the pollution (not the total quantity involved if some has been contained.
- Methods and effectiveness of any containment that has been employed.
- Whether the pollution is ongoing or has been controlled.

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Emergency Procedures

Whenever an incident reaches the status that means that the Natural Resources Wales has to be informed other emergency procedures may also have to be considered. These include:

1. Notifying the Fire Brigade who may supply specialist equipment such as pumps.
2. Notifying the Ambulance Service if people are injured (eg have chemical burns) or have been affected by fumes.
3. Notifying the police if the scale of the problem affects more than just the confines of the Novidon site.
4. Notifying Welsh Water who operate the sewage works at Five Fords (only necessary if toxic or corrosive substances have entered the effluent system in large quantities).
5. Notifying Wrexham Borough Council if there is a problem with airborne pollution or if Coed Aben Road is affected.
6. If the scale of the problem means that large areas of the site are affected then either full or partial evacuation of the site may be required.
7. If there is a large quantity of a spilled controlled substance which has been prevented from causing pollution then a specialist clean up contractor such as Enviroclear Services Limited should be contacted in order for the material to be safely cleaned up without the risk of further pollution.
8. All personnel who assist in pollution prevention or clean up measures must be provided with all necessary personal protective equipment.
9. If the cause of the pollution incident is a fire then liaison with the Chief Fire Officer on site is essential.
10. If the Local Press get involved **no one** should speak to them at the time of the incident and they should be escorted from the site. If necessary a carefully worded statement can be released to the Press after the incident has been resolved.

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EMERGENCY CONTACT NUMBERS

Major emergency (Fire or Injury)	**999 or 112**
Reportable Pollution Emergency (Natural Resources Wales)	**03000 65 3000**
Wrexham Maelor Hospital (ask for Accident & Emergency)	**01978291100**
Wrexham County Borough Council Office Hours	**01978 292000**
Welsh Water Emergency	**0800 085 3968**
Click Site Services Ltd	**07989 261217**
Neil Eccles	**07821 648902**
Mike Murphy	**07801 104050**
Jack Kynaston	**07507 365428**

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EMERGENCY RESPONSE PLAN

INTRODUCTION

Possible site emergencies at Novidon fall into two main categories:

- Those that principally affect the health and safety of the workforce.
- Those that principally present a threat to the environment by pollution.

HEALTH AND SAFETY EMERGENCIES

Potential Types of Emergencies

The most likely possible major health and safety emergency is a significant fire in the Novidon buildings. However other possible major emergencies include a major gas leak or a major chemical spillage. Any of these events could lead to a total evacuation of the premises.

In addition to emergencies arising from an event on the Novidon premises there is also the possibility of an emergency that affects Novidon but arises from an event remote from the Novidon premises.

Site Emergency Procedures in the Case of Fire

1. Fire Fighting

Fires should only be fought where there is a reasonable chance of controlling the fire. As a guideline, if the fire cannot be easily and quickly controlled any attempt to fight the fire should be abandoned. No one should attempt to fight major fires that have got out of control as this could put people at significant risk.

There is a choice of extinguishers (Powder, Carbon Dioxide, Foam and Water).

Water must not be used until all electrics in the vicinity of the fire have been switched off by turning off the isolator at the wall.

Whilst the electrics are still live, Powder or Carbon Dioxide extinguishers may be safely used on the fire.

Foam extinguishers are best for solvent based fires.

For minor fires Carbon Dioxide extinguishers are best because they cause no mess.

In the case of significant fires, production must be stopped, all equipment switched off, the main gas valves closed (these are located in the Tank Farm for the factory and on each of the two boilers*) and if possible all combustible materials should be removed from the area close to the fire.

*If the fire prevents access to any of the gas valves then it will be necessary to turn the gas off at the metering point located on the end of the garage building that faces the electricity substation (the access to this valve is behind a door secured by a small padlock and so unless the key is readily available from the Main Office the padlock will need to be levered off).

2. Evacuating the Building

Unless the fire is very minor and can be put out within minutes the alarm should be activated.

Everyone who is not actively involved in fighting the fire should evacuate the building by the nearest exit (see Evacuation Procedures on hearing the fire alarm for further details).

If the fire gets out of control, all fire-fighting must be abandoned and all those fighting the fire instructed to evacuate the building.

The supervisor in each area should be the last to leave after checking that everyone in their area has evacuated. The supervisor should also switch off all electricity at the main isolator for the area.

The senior person on site should ensure that the gas supply to the site is isolated (see above).

3. Summoning the Fire Brigade

If the fire alarm is sounded the Film Drier Supervisor or the Senior Person on site must call the Fire Brigade by dialling 999.

NOTE: Unless the fire is very minor, the Fire Brigade should always be called even if the fire is out because they will want to ensure that there is no possibility of the fire re-igniting.

The supervisor of the area where the fire is should detail someone to ensure that the factory gates are open to allow the fire engine into the plant. This person should also report to the Senior Manager where the fire is. If there are no Senior Managers on site, the person should wait at the Security Lodge to direct the Fire Brigade to the fire.

The Fire Brigade should be told that there are two fire hydrants on the Novidon site, one near the gatehouse and one on the bank opposite the Goods Inward area.

As soon as the Fire Brigade arrive at the fire, they will take charge and anyone still fighting the fire must evacuate the building.

4. After the Fire

No one may re-enter the building until instructed to do so by the Senior Manager.

All used and partly used fire extinguishers must be collected together and removed to the Maintenance Stores for collection for re-filling.

Site Emergency Procedures in the Case of a Major Gas Leak

If a major gas leak occurs on site then it is imperative that the main gas supply is isolated immediately, the evacuation procedure detailed above is actioned and the fire brigade summonsed even if no fire has occurred.

Site Emergency Procedures in the Case of a Major Chemical Spillage

If a major chemical spillage occurs on site, the Plant Manager or the senior person on site must first decide whether or not the spillage represents a major health and safety risk to the workforce.

Site Emergency Procedures in the Case of a Remote Emergency

If an emergency occurs remote from the Novidon site it may impact on the health and safety of Novidon employees. In such circumstances the police would issue the emergency procedures that everyone would have to comply with.

POLLUTION EMERGENCIES

Potential Sources of Pollution Incidents

Finished products produced by Novidon are all virtually non-hazardous and therefore are not likely sources of a major pollution incident.

The seriously hazardous materials on site are all raw materials and these present likely sources of a pollution incident. Of these the most likely sources are liquid chemicals such as biocide, which is stored in one tonne plastic containers protected by metal cages and caustic soda stored in a bulk tank.

Site Emergency Procedures Following a Potential Pollution Incident

The main causes of potential pollution incidents are as follows:

1. A spillage of any liquid, except clean water, in such volumes or locations that could result in the liquid entering the surface water drainage system. The spillage could be from any source including finished goods, raw materials, effluent, fuel, oil or contaminated wash water.

2. Water used to clean up following a spillage of any material in such volumes or locations that could result in the contaminated water entering the surface water drainage system.

3. Water used to fight a fire in such volumes or locations that could result in the contaminated water entering the surface water drainage system.

4. Spillage of a solid chemical in such a location that it could be washed into the surface water drainage system by rainwater.

5. Any other incident that could lead to chemicals entering the surface water drainage system.

6. Any incident that could lead to seriously hazardous substances (Toxic, Corrosive or Dangerous for the Environment) entering the foul water sewage (effluent) drainage system in such large volumes that could lead to major contamination problems at the sewage works.

If any of the above incidents should occur then immediate action should be taken to prevent contamination of the surface water drainage system and in the case of seriously hazardous substances from them entering the foul water sewage (effluent) drainage system in large volumes. However in every case if no other options are possible, discharge to the foul water sewer is preferable to contamination of the surface water drainage system.

In all cases the preventative measures will include containment of the spillage or fire water so that it can be pumped into a container or into the effluent system (if appropriate) and the sealing of all appropriate drains in the area. Any container that cannot be prevented from leaking should be moved in a safe manner to the nearest bunded wet deck area.

If the preventative action taken is effective in preventing a pollution incident then no further action is required. But even if pollution does occur continuous action to minimise the extent of the pollution must continue.

Site Emergency Procedures Following a Pollution Incident

A pollution incident is defined as any contamination of land or controlled waters by any substance whether a controlled substance or not. All pollution incidents no matter how small must be reported to a competent person within Novidon immediately after the incident takes place. The competent person will then take appropriate action following an assessment of the severity of the situation.

APPENDIX 3. WASTE REDUCTION

27.1 General

Novidon is adopting the fundamental of good environmental practice in that it aims to reduce waste production throughout its operation. Waste potentially occurs at all stages of a manufacturing operation and includes:

1. Raw material losses.
2. In process material and product losses.
3. Sieving and filtration losses.
4. Cleaning losses.
5. Finished goods losses.
6. Packaging wastage
7. Energy wastage.

27.2 The Principals of Waste Reduction

There is a hierarchy of steps to be taken to reduce waste from an operation. The first steps are the best ones that save most money and the last ones cost money.

1. Don't produce the waste in the first place. This principle is the most beneficial and can be applied at all places where waste is generated.
2. Reuse the waste as rework in good product or by cleaning containers.
3. Regrade the waste to a lower specification product.
4. Sell the waste for recycling into other products.
5. Pay for the waste to be used as a fuel component.
6. Pay for the waste to go to landfill. Because of the landfill tax that is scheduled to rise year on year, this will become an ever increasing cost.

All Novidon employees are expected to apply steps 1 and 2 at every opportunity.

27.3 Packaging Waste

All packaging potentially ends up as waste especially packaging associated with retail products. In order to reduce this source of paste the government introduced the Producer Responsibility Obligations (Packaging Waste) Regulations 1997 which in effect is a tax that is applied to all companies that sell products in new packaging that amounts to more than 50 tonnes per year. Novidon falls into this category and has to be registered under the scheme. The 'tax' does not apply to any packaging that is not new and at present does not apply to packaging associated with exported goods where the packaging ends up elsewhere in the world. These regulations do not apply to the company that disposes of any packaging.

In order to reduce its obligations, Novidon aims to specify reusable packaging for its products wherever possible.