Local Authority Pollution Prevention and Control

Permit to Operate an Installation for the Coating of metal surfaces

UK Battery Industrialisation Centre Rowley Road, Coventry CV8 3AL

Permit Reference: 81

Warwick District Council ("the Regulator") in accordance with Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016 ("the Regulations") hereby permits: **UK Battery Industrialisation Centre Ltd**

Whose registered office is: **Council House, Earle Street, Coventry CV1 5RR**

to operate an installation for Coating of metal surfaces as listed in Section 6.4 Part B paragraph(a) subparagraph(iv) of Schedule 1 of the Regulations and a solvent emission activity listed in paragraph 3(b) of Annex Vll of the European Union Industrial Emissions Directive 2010

at: **UK Battery Industrialisation Centre, Rowley Road, Coventry CV8 3AL**

subject to compliance with the conditions of this Permit.

Signed …….....

Marianne Rolfe Head of Health and Community Protection
A person authorised to sign on behalf of the Council

Dated 6th July 2020

Address for correspondence:

Warwick District Council
Health and Community Protection
Riverside House
Milverton Hill
Royal Leamington Spa
CV32 5QF

Installation Description

The general location of the installation is shown at page 11.

The activity regulated by the Permit is the application of a continuous film of coating to metal surfaces, using organic solvents, to make electrodes for batteries and the directly associated activities which may result in the release to air of Volatile Organic Compounds or particulates

The aim of the conditions within the Permit is to control emissions of Volatile Organic Compounds (VOC) and particulates from the installation to atmosphere.

The technical documents and guidance used in the preparation of the conditions in this Permit are: -

" Coating of metal and plastic processes" Secretary of State Process Guidance Note PG6/23(11) revised June 2014

Environmental Permitting- General Guidance Manual on Policy and Procedures for A2 and B Installations, Local Authority Pollution Prevention and Control
DEFRA revised April 2012

Environmental Permitting: Core Guidance for the Environmental Permitting (England and Wales) Regulations 2016
DEFRA revised March 2020

Environment Agency Technical Guidance Note M2 "Monitoring of Stack Emissions to Air"

Legislation

1. The Pollution Prevention and Control Act 1999.

2. The Environmental Permitting (England and Wales) Regulations 2016

Definitions used in the conditions

Operator shall mean **UK Battery Industrialisation Centre Ltd**

Regulator shall mean an authorised officer of **Warwick District Council**.

This Permit has been prepared by:

Mr P M Lawson, Senior Environmental Health Officer,
Telephone: 01926 456715

CONDITIONS

All conditions shall have immediate effect unless stated otherwise.

Duty to Use the "Best Available Techniques"

1. The Operator shall use the "best available techniques" for preventing or, where that is not practicable, reducing the emissions from the installation. This applies to any aspect of the operation of the installation not covered by the specific conditions in this Permit.

   "Best available techniques" is defined in Article 2(11) of Directive 96/61/EC Concerning Integrated Pollution Prevention and Control , which is reproduced below.

   "best available techniques" means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole; and for the purpose of this definition –

   "techniques" includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned".

   "available techniques" means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the Operator;

   "best" means, in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole;

Elimination and Substitution of Harmful Substances

2. The regulated Activity shall be reviewed annually by the Operator to identify any steps that can be eliminated or substances which can be substituted to minimize emission of VOC from the installation. Without prejudice to the generality of the above, the Operator will review the need for continued use of N Methyl-2-Pyrrolidene solvent and the feasibility of replacement by a less harmful solvent.

3. The review required by condition 2 shall include consideration of the technical and economic feasibility of change. A record shall be made of the review and provided to the Regulator on request.

Change

4. The Operator shall notify the Regulator at least 14 days in advance of any proposed change in the process, the materials or other aspect of the installation that may affect emissions in order that the Regulator may consider the need for any variation or amendment of the Permit.

Emission limits and controls

5. The Coating Process using organic solvent shall not be operated if the associated solvent recovery plant or emission abatement plant is not functioning.

6. All emissions to air, other than steam or water vapour, shall be free from droplets and free from persistent mist and shall be free from persistent fume.

7. All emissions shall be free from offensive odour beyond the process site boundary as perceived by the Regulator.

8. **Releases to air** from the stacks serving the coating process shall not exceed the limits set out in the table below:

Substance	**Actual Mass Emission**	**Concentration Limit**	**Type of monitoring**	**Monitoring frequency**
N-Methyl-2-Pyrrolidene (NMP)	Less than 10g/hr	20mg/Nm3	Periodic Monitoring	On Commissioning and thereafter four times a year in accordance with a monitoring strategy to be agreed in writing with the Regulator
	At or above 10g/hr	2mg/Nm3	Periodic Monitoring	

Dispersion of emissions

9. Stacks and ductwork shall be leak proof.

10. Stacks Vents and Process Exhausts shall not be fitted with any restriction at the final outlet.

11. The exhaust stack serving the coating process shall terminate at least 3 metres above the height of the roof or of any building within 15 metres and achieve a minimum exit velocity of 15m/s during peak operating conditions so as to avoid down wash of the plume.

Non-Continuous Emission Testing Measurements

12. Emissions shall be tested on commissioning of the plant and thereafter at least four times a year in accordance with a monitoring strategy to be agreed in writing by the Regulator. The monitoring strategy shall take account of the duration of operation of the plant and the need to verify effective operation of the solvent recovery system and abatement plant.

13. Emissions monitoring of Volatile Organic Compounds shall be carried out in accordance with the main procedural requirements of BS EN 12619 with averages taken over operating periods, excluding start-up and shutdown. Where N Methyl-2-Pyrrolidene (NMP) is the main constituent of the emission the readings shall be converted from total carbon to NMP by suitable calculation method.

    OR in the alternative emissions monitoring of N Methyl-2-Pyrrolidene shall be carried out in accordance with the requirements CEN/TS13649 with averages taken over operating periods, excluding start-up and shutdown.

Both the mass emission and the concentration shall be reported.

14. The Operator shall ensure that adequate facilities for sampling are provided on vents or ducts. Without prejudice to the generality of the above “adequate facilities” includes safe means of access to the sampling port or ports and a safe working platform for the insertion and removal of monitoring equipment .

15. The Operator shall notify the Regulator, in writing, at least 7 days in advance of any periodic testing exercise to determine compliance with emission limit values. The Operator shall state the provisional time and date of testing, pollutants to be tested and the method to be used.

16. The Operator shall ensure the results of all non-continuous emission testing are forwarded to the Regulator within 8 weeks of the completion of the sampling.

Fugitive Emissions of Solvent

17. Fugitive emissions of solvent shall be not greater than 20% of Solvent input. This shall be calculated using the mass balance method set out at Part 7 of Annex Vll of the Industrial Emissions Directive.

18. The Operator shall draw up a Solvent Management Plan as per Appendix 1 to assist in calculation of fugitive emissions.

19. The Operator shall keep a detailed inventory of the mass solvent consumption of the prescribed process, to support calculation of the fugitive emission.

20. Fugitive emissions shall be calculated and submitted to the Regulator for each manufacturing campaign unless that campaign extends beyond 12 months’ duration in which case an annual calculation shall be made and submitted to the Regulator

21. The calculated fugitive emission, the mass solvent input, the underpinning mass balance calculations and the supporting inventory for the reporting period shall be provided to the Regulator not later than twenty working days from the end of the reporting period.

Abnormal Operating Conditions

22. Failure/breakdown of Abatement Plant or Solvent recovery plant

    Activity shall not continue in the event of breakdown of the Abatement plant or solvent recovery plant.

23. When any adverse monitoring results are obtained, or malfunction or breakdown of plant leading to abnormal emissions occurs then:

    a) an immediate investigation shall be carried out;

    b) prompt corrective action shall be taken;

    c) the observation, finding, result of the investigation and actions taken shall be recorded.

    For the purpose of this condition, abnormal emissions shall be taken to be olfactory as well as visible emissions.

The Regulator shall be informed without delay:

- if there is an emission which is likely to have an effect on the local community

- in the event of failure of key arrestment plant

- in the event of operation of the emergency vent from the solvent system.

Materials Handling & Storage

24. The receipt, handling and storage of organic solvents and other potentially odorous or harmful substances shall be carried out in such a way that emissions are prevented or minimized and rendered harmless.

25. All materials containing VOC or other harmful materials and shall be stored in suitable closed containers or bulk storage vessels where appropriate vented to suitable arrestment plant.

26. All chemical storage tanks and containers shall be completely contained by bunding that is sealed and resistant to the chemicals in storage and is capable of holding 110% of the capacity of the largest storage tank.

27. All bulk storage tanks shall be fitted with high level alarms or volume indicators to warn of overfilling. Wherever practicable in relation to the pumping system used, the filling system shall be interlocked to the alarm to interrupt the filling operation at a predetermined level to prevent overfilling

28. Where organic solvent or other harmful materials are stored in fixed tanks. Contaminated air displaced from the head space of such tanks during filling shall be back vented to the delivery tanker

29. Where liquid spillages occur, they shall be immediately cleaned up and contaminated material shall be held in a closed labeled container. Sufficient supplies of decontaminant and a suitable absorbent material shall be kept at all times.

30. Spillages of solids and dusty materials shall be cleared as soon as possible: solids by vacuum cleaning, wet methods or other appropriate techniques. Dry sweeping of dusty spillages is forbidden.

Cleaning

31. Arrangements shall be made for the dispatch, for the recycling or the re-use, of all dirty solvents that have been used (e.g. for cleaning equipment) and all other liquid wastes that contain volatile organic compounds.

32. Where manual cleaning is unavoidable:

    a) Cleaning solvents shall be kept in enclosed containers whilst not in use;

    b) Wiping cloths or brushes shall be impregnated with cleaning solvent in a controlled manner, using a dispenser or similar device;

    c) Used wiping cloths or brushes shall be stored in enclosed containers

Management Information and Instructions and Training for Staff

33. The Operator shall have an appropriate person as the primary point of contact with the Regulator and shall notify the Regulator in writing of the name of that appointed person and their deputy. In the event of a different person being appointed as the primary point of contact the Operator shall inform the Regulator without delay

34. At all times while this Permit is in force, a copy of the Permit shall be kept posted at the location of the Permitted Process in such characters and in such position as to be conveniently read by persons having duties which are, or may be affected by the matters set out in the Permit.

35. The Operator shall draw up a statement of the Operators arrangements to comply with the requirements of the Permit and the organisation for implementation of those arrangements. The statement may refer to existing documented working procedures relevant to pollution control, written work instructions and documented systems for training and maintenance. This statement of organisation and arrangements to comply with the Permit must be brought to the attention of all staff with pollution control responsibilities. A copy of the statement shall be made available to the Regulator upon request.

36. Without prejudice to the general requirements of condition 35 the Operator will provide to staff written procedures for operation of the plant to control emissions and actions to be taken in the event of abnormal operating conditions, failure of plant, controls or abatement plant spillage of chemicals/waste chemicals or uncontrolled emissions to atmosphere.

37. The Operator shall maintain a statement of training requirements for each operational post and keep a record of training received by each person whose actions may have an effect on the environment. These documents shall be made available to the Regulator upon request.

38. The Operator shall implement an effective planned preventative maintenance programme for all aspects of the activity including all plant, buildings and the equipment concerned with the control of emissions to air. A written maintenance programme shall be made available to the Regulator upon request and a record of such maintenance shall be made available for inspection to the Regulator upon request.

39. The Operator shall put in place systems of supervision and auditing to ensure effective operation of their arrangements to comply with the requirements of the Permit.

Records

40. A record shall be kept of the following:

    a) Calculation of Fugitive solvent emissions for each reporting period. The target fugitive emission and the actual fugitive emission for each period with the Information used - to determine fugitive emissions including the Solvent Inventory

    b) Reports of Non Continuous emissions testing

    c) Reports of visual and olfactory assessments

    d) The written preventive maintenance programme and maintenance undertaken to comply with condition 38 including details of

maintenance, and calibration (or referencing) of emissions monitoring equipment

e) Action taken against adverse results, malfunction or breakdown of plant;

i) Statement of training requirements and training records

j) Annual Permit reviews as required by condition 2

41. The records required by condition 38 shall be kept by the Operator for a minimum of five years and shall be made available to the Regulator upon request.

Appendix 1 – Fugitive Emission Calculation and Solvent Management Plan

Compliance with the Fugitive Emission Limit is achieved if the actual fugitive emission of solvent for the period, determined from the Solvent Management Plan, is less than or equal to 20% of the Solvent Input for the period.

The actual Fugitive Solvent Emission F is calculated using the following formula

$F = I_1 – O_1 – O_5 – O_6 – O_7 – O_8$

Where: I_1 = Solvent Input

O_8 = Solvent sent for recovery

O_7 = Solvents sold to 3rd Party

O_6 = Residual solvents in empty containers, drums etc.

O_5 = Removed in Abatement

O_1 = Emission in waste gasses

Solvent Input is calculated using the following formula

$I_1 = IS + PS - FS$

Where: IS = The mass of organic solvent in the initial stock at the start of the accounting period.

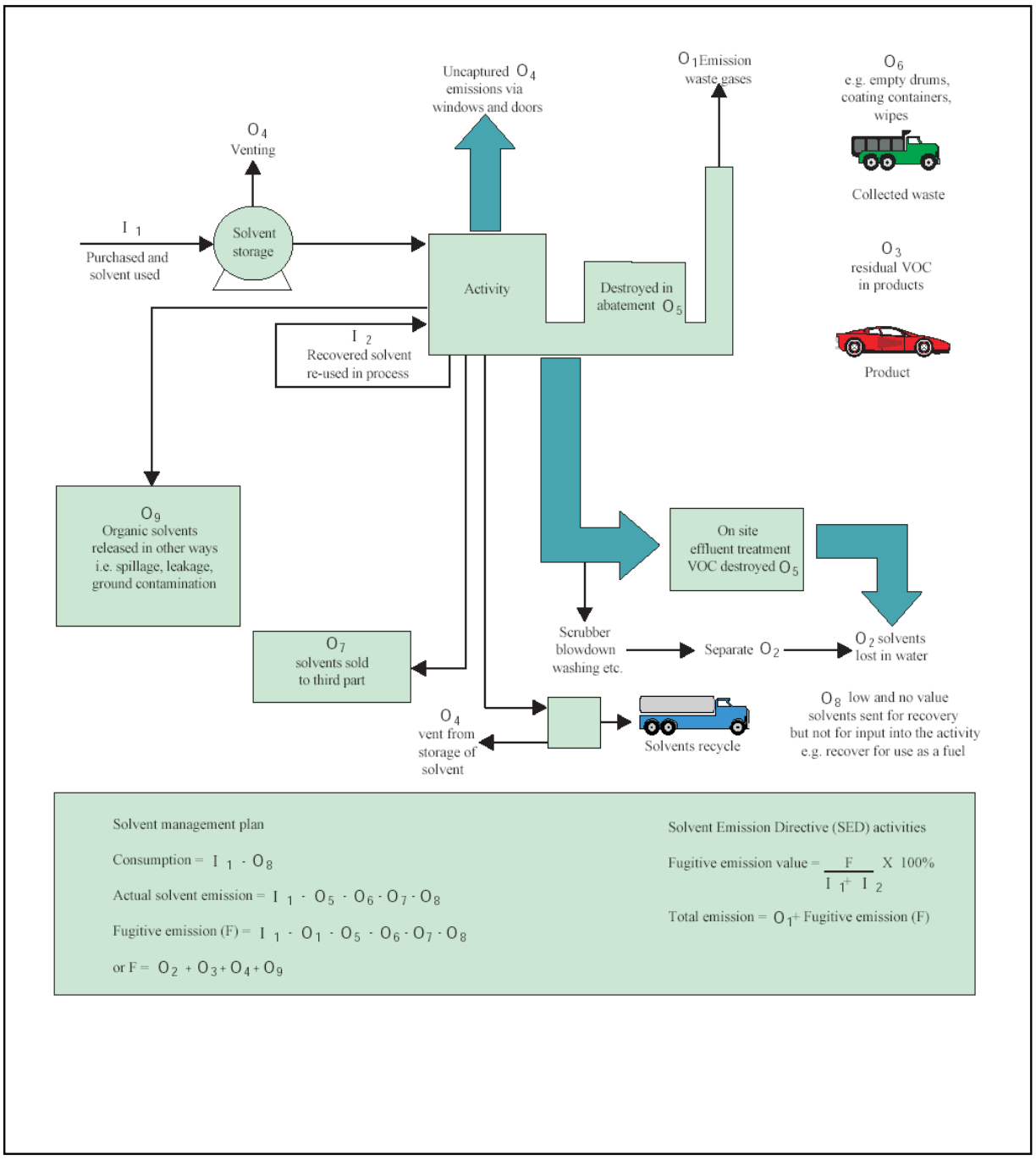
PS = The mass of organic solvent purchased during the account period.

FS = The mass of organic solvent in the final stock at the end of the accounting period.

Solvent Management Plan Inputs and Outputs

The Solvent Management Plan provides definitions and calculations to demonstrate compliance with the VOC requirements of this Permit. The use of standard definitions and calculations also ensures consistency of VOC compliance across installations within an industrial sector.

For more information on solvent management plans see PG6/23 (11)



Location Plan