

Attachment B.6 – Notice and Advertisements

See copy of the Site Notice and Site Layout Plan (Figure B6.1) indicating location of the site notice over.

See enclosed Irish Examiner newspaper from 24 May 2017 with planning notice included on page 23 (original application only). (In copies of the application, see relevant page of the newspaper).

See enclosed copy of letter to South Dublin County Council notifying them of this application being made.

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SITE NOTICE

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE LICENCE

Notice is hereby given in accordance with Article 7 of the *Waste Management (Licensing) Regulations 2004* (S.I. No. 395 of 2004) that Harp Refrigerants Ltd., having its registered address at First Floor, Wilton Park House, Wilton Place, Dublin 2 intends to apply to the EPA for a Waste Licence for the acceptance and reclamation of waste refrigerant gas at this facility being Unit 2, Whitestown Industrial Estate, Tallaght, Dublin 24 (ITM – 708140E, 726890N). The application for a Waste Licence will be made within ten working days of erection of this Site Notice.

The Waste Licence will permit Harp Refrigerants Ltd. to accept up to 500 tonne of hazardous and non-hazardous waste gas at the facility per annum as well as up to 8 tonne of waste refrigerant oil and 8 tonne of waste cooling fluids from refrigerant systems. Waste refrigerant gas will be reclaimed at this site, where possible, using purpose built gas reclamation plant and redistributed to the Irish market. Gases which are not suitable for reclamation will be temporarily stored pending transfer off-site. Waste oil and cooling fluid associated with refrigerant systems will be temporarily stored in bunded fuel tanks pending collection by a suitably authorised waste contractor.

The Classes of Activity at the site, as specified in the Third and Fourth Schedules of the Waste Management Act 1996, as amended, are as follows:

Principal Activity:

Class R3 – Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes), which includes gasification and pyrolysis using the components as chemicals.

Other Activities:

Class R12 – Exchange of waste for submission to any of the operations numbered R1 to R11.

Class R13 – Storage of waste pending any of the operations numbered R1 to R12.

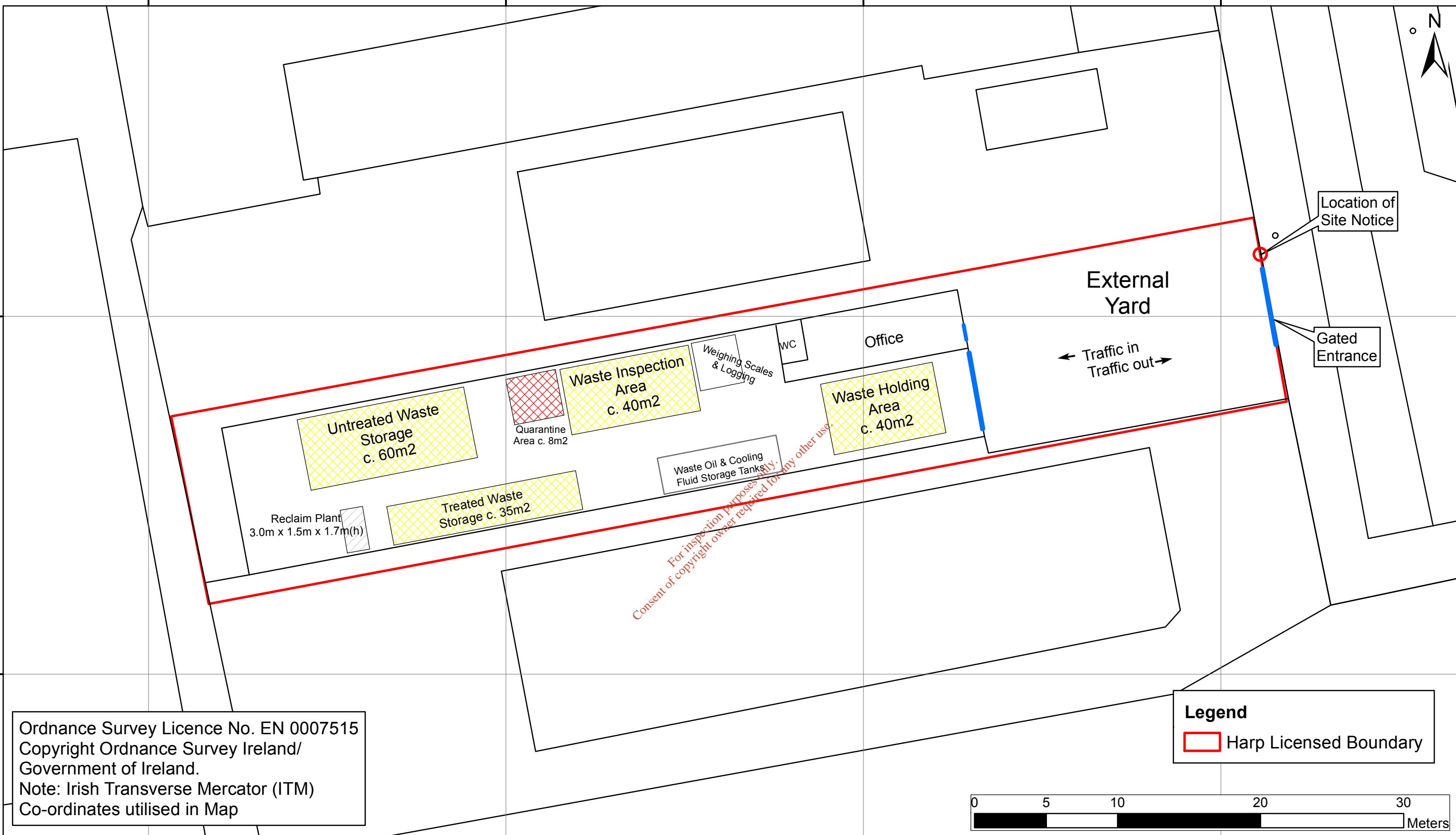
A copy of the application for a Waste Licence, and further information that may be furnished to the EPA in the course of its consideration of the application will, as soon as practicable after receipt by the EPA, be available for inspection at the EPA headquarters.

Signed:

Robert Hunt

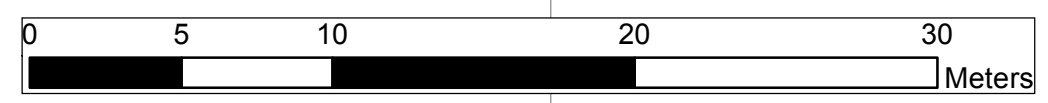
For AWN Consulting Ltd. on behalf of Harp Refrigerants Ltd.

Date:



Ordnance Survey Licence No. EN 0007515
 Copyright Ordnance Survey Ireland/
 Government of Ireland.
 Note: Irish Transverse Mercator (ITM)
 Co-ordinates utilised in Map

Legend
 [Red Line] Harp Licensed Boundary



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 its designated purpose, without the written
 permission of AWN Consulting Limited



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 The Tecpro Building,
 Clonshaugh Business & Technology Park
 Dublin 17,
 Tel: + 353 1 847 4220
 Fax: + 353 1 847 4257

CLIENT:
Harp Refrigerants Ltd

PROJECT:
**Waste Licence
 Application**

DRAWING TITLE:
Site Layout Plan

REVISION DESCRIPTION

DRAWN	CHECKED	APPROVED	APPD DATE
R.H.	R.H.	E.N	09/05/2017
		No. of Shts	SIZE □ SCALE
		1	A3 1:250
DRAWING NUMBER			SHEET REV
Figure B6.1			1 1

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE LICENCE

Notice is hereby given in accordance with Article 7 of the *Waste Management (Licensing) Regulations 2004* (S.I. No. 395 of 2004) that Harp Refrigerants Ltd., having its registered address at First Floor, Wilton Park House, Wilton Place, Dublin 2 intends to apply to the EPA for a Waste Licence for the acceptance and reclamation of waste refrigerant gas at this facility being Unit 2, Whitestown Industrial Estate, Tallaght, Dublin 24 (ITM – 708140E, 726890N). The application for a Waste Licence will be made within ten working days of publication of this Notice.

The Waste Licence will permit Harp Refrigerants Ltd. to accept up to 500 tonne of hazardous and non-hazardous waste gas at the facility per annum as well as up to 8 tonne of waste refrigerant oil and 8 tonne of waste cooling fluids from refrigerant systems. Waste refrigerant gas will be reclaimed at this site, where possible, using purpose built gas reclamation plant and redistributed to the Irish market. Gases which are not suitable for reclamation will be temporarily stored pending transfer off-site. Waste oil and cooling fluid associated with refrigerant systems will be temporarily stored in bunded fuel tanks pending collection by a suitably authorised waste contractor.

The Classes of Activity at the site, as specified in the Third and Fourth Schedules of the Waste Management Act 1996, as amended, are as follows:

Principal Activity:

Class R3 – Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes), which includes gasification and pyrolysis using the components as chemicals.

Other Activities:

Class R12 – Exchange of waste for submission to any of the operations numbered R1 to R11.

Class R13 – Storage of waste pending any of the operations numbered R1 to R12.

A copy of the application for a Waste Licence, and further information that may be furnished to the EPA in the course of its consideration of the application will, as soon as practicable after receipt by the EPA, be available for inspection at the EPA headquarters.

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RH/14/8133WML13
23 May 2017

Senior Planner
Land Use, Planning & Transportation Department
South Dublin County Council
County Hall
Tallaght
Dublin 24

Dear Sir/Madam,

RE: HARP REFRIGERANTS LIMITED WASTE LICENCE APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY

We write on behalf of our Client, Harp Refrigerants Ltd. (Harp), to formally advise South Dublin County Council that an application has been made to the EPA for a Waste Licence to accept, reclaim and temporarily store waste refrigerant gases at Unit 2, Whitestown Road, Whitestown Industrial Estate, Tallaght, Dublin 24 (ITM – 708140E, 726890N).

Harp Refrigerants Limited (Harp) were granted a Certificate of Registration (Register Reference No. COR-DS-15-0003-04) by South Dublin County Council (SDCC) on 21 October 2015 to temporarily store waste refrigerant gases at the facility in accordance with the requirements of the *Waste Management Facility Permit & Registration) Regulations 2007*, (as amended). The facility commenced operations on 29 April 2016.

It is now proposed to reclaim waste refrigerant gas at the facility, where possible, in addition to temporary storage as per current approved activities. The application for a Waste Licence has been made in accordance with the requirements of the *Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004)*, (as amended).

The Waste Licence will permit Harp Refrigerants Ltd. to accept up to 500 tonne of hazardous and non-hazardous waste gas at the facility per annum as well as up to 8 tonne of waste refrigerant oil and 8 tonne of waste cooling fluids from refrigerant systems. Waste refrigerant gas will be reclaimed at this site, where possible, using purpose built gas reclamation plant

Cork Office
Unit 5, ATS Building,
Carrigaline Industrial Estate,
Carrigaline, Co. Cork.
T: + 353 21 438 7400
F: + 353 21 483 4606

AWN Consulting Limited
Registered in Ireland No. 319812
Directors: F Callaghan, C Dilworth,
T Donnelly, T Hayes, D Kelly, E Porter

and redistributed to the Irish market. Gases which are not suitable for reclamation will be temporarily stored pending transfer off-site. Waste oil and cooling fluid associated with refrigerant systems will be temporarily stored in bunded fuel tanks pending collection by a suitably authorised waste contractor.

The **primary activity** which will be carried out at the facility will be:

Waste Management Act 1996 (as amended) – Fourth Schedule:

R3 – Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes), which includes gasification and pyrolysis using the components as chemicals.

Other activities which will be carried out at the facility will be:

Waste Management Act 1996 (as amended) – Fourth Schedule:

R12 – Exchange of waste for submission to any of the operations numbered R 1 to R 11 (if there is no other R code appropriate, this can include preliminary operations prior to recovery including pre-processing such as, amongst others, dismantling, sorting, crushing, compacting, pelletising, drying, shredding, conditioning, repackaging, separating, blending or mixing prior to submission to any of the operations numbered R1 to R11).

R13 – Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage (being preliminary storage according to the definition of 'collection' in section 5(1)), pending collection, on the site where the waste is produced).

A copy of the Waste Licence Application will, as soon as practicable after receipt by the Agency, be available for inspection or purchase at the Agency headquarters.

If you have any queries in relation to the information provided please do not hesitate to contact the undersigned.

Yours sincerely,



ROBERT HUNT
Senior Environmental Consultant
AWN Consulting Ltd.



DR. FERGAL CALLAGHAN
Director
AWN Consulting Ltd.

On behalf of Harp Refrigerants Ltd.

Attachment B.7 – Type of Waste Activity, Tonnage and Fees

In accordance with the *Third and Fourth Schedules* of the *Waste Management Act 1996*, as amended, it is proposed to carry out the following classes of activity at the facility.

The Principal Waste Activity to be carried out at the facility will be:

R3 – Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes), which includes gasification and pyrolysis using the components as chemicals.

The incoming waste cylinders/drums will contain refrigerant gas which is contaminated with air and oil. When waste refrigerant gas is received at the facility, it will be weighed and analysed. Analysis for refrigerant gas identification will be carried out by use of an infrared (IR) analyser which is connected to the valve on the individual cylinder/drum. The IR analyser will determine the refrigerant gas type in the cylinder/drum and the purity of the gas. The recorded information will be logged and the cylinders/drums transferred to the appropriate storage area.

'Tipping Lists' are produced based on the analysis results and cylinder contents of the same refrigerant gas type are pooled into one tonne 'material for reclaim' drums. 'Reject lists' for cylinders/drums below an acceptable purity level are produced and these reject containers are transferred off-site to Harp International Ltd. in the UK under TFS.

'Material for reclaim' drums are processed using Harp's stand-alone refrigerant reclamation plant (developed by Harp specifically for this process). This unit can selectively process liquid and gaseous components. Refrigerant is distilled into a product pot and passed through drying towers to produce a gas product which has a purity similar to a virgin gas product. The specification grade for refrigerant gas in accordance with the Air-Conditioning, Heating & Refrigeration Institute ARI Standard 700 is 99.5% purity and the reclamation process can achieve a reclaimed product that is at this specification grade or greater.

Waste oil, water and non-condensable gases are removed in the reclaim process. When the holding pot is approved as, at or above, specification grade material, a transfer to bulk storage containers is carried out. This reclaimed gas is now suitable for packaging and sale to the refrigerant gas market.

Other Activities:

R12 – Exchange of waste for submission to any of the operations numbered R1 to R11 (if there is no other R code appropriate, this can include preliminary operations prior to recovery including pre-processing such as, amongst others, dismantling, sorting, crushing, compacting, pelletising, drying, shredding, conditioning, repackaging, separating, blending or mixing prior to submission to any of the operations numbered R1 to R11).

Waste gases will be pooled into one tonne drums, where suitable, to allow for easier handling and quality control. This may be carried out for gas suitable for reclaim or rejected gases.

Waste refrigerant oil received in small drums will be combined into a self-bunded 2,000 litre capacity storage tank. Similarly, waste refrigerant cooling fluid (typically glycol) received will be combined into a separate self-bunded 2,000 litre capacity storage tank. Both incoming waste liquid types will be inspected prior to adding to the storage tanks to ensure their compatibility. Oils and cooling fluids will be collected from site by an appropriately licensed waste contractor with a tanker truck and transferred to a suitable facility for recovery.

Waste oil and cooling fluids generated from the reclaim process will also be transferred to the respective storage tanks for off-site recovery.

R13 – Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage (being preliminary storage according to the definition of ‘collection’ in section 5(1)), pending collection, on the site where the waste is produced.

Waste refrigerant gases, waste refrigeration oil and waste refrigeration cooling fluid will be accepted at the site. Incoming vehicles enter the site through the main gated entrance and park in the yard in front of the building. Waste gas cylinders/drums, oils and cooling fluids will be offloaded using a forklift, where required, to the Waste Holding Area inside the warehouse. Incoming waste gases in cylinders/drums will be transferred to the Waste Inspection Area where the containers will be inspected, weighed, analysed, logged and sorted according to gas type and suitability for on-site reclamation. Similarly, incoming waste oils and cooling fluids will be transferred to the Waste Inspection Area where they will be inspected, weighed, logged and sorted.

Waste gases will then be transferred to appropriate storage areas at the rear of the facility. Suitable waste gas will be processed on-site using the reclaim plant and transferred to a dedicated treated waste storage area pending repackaging and transfer off-site as reclaimed refrigerant gas. Waste gas not suitable for treatment at the facility will be transferred to a designated storage area for temporary holding pending transfer off-site as waste. The waste gas which cannot be reclaimed on site in Tallaght may be suitable for reclamation at the Harp International facility in the UK (this facility has more advanced and varied equipment for processing waste refrigerant gas). Waste gas will be sent to Harp International for more detailed analysis and reclamation, where possible. Where analysis shows that the waste refrigerant gas is not suitable for reclamation in the UK, the gas will be sent off-site for disposal.

Waste refrigerant oils and cooling fluids accepted at the facility will be transferred to storage tanks pending collection by an authorised waste contractor. Oils and cooling fluids will be accepted in small quantities only from refrigerant and air-conditioning contractors maintenance works.

Fees:

Fee paid by Electronic Funds Transfer to bank account details provided by the Agency on 25 May 2017.

ATTACHMENT C MANAGEMENT OF THE FACILITY

Attachment C.1 – Technical Competence and Site Management

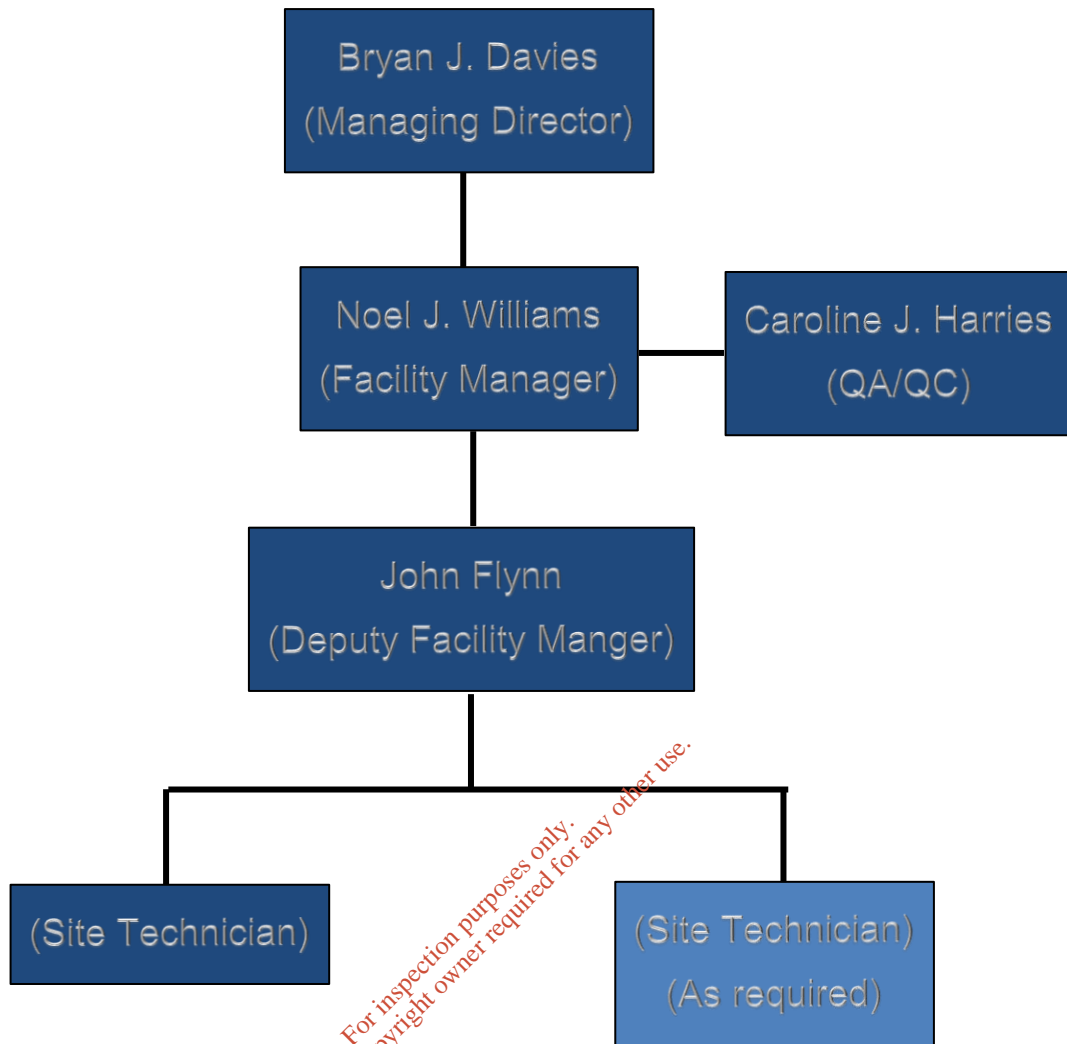
There will only be typically three persons required on site at the facility. Details of the relevant staff member employed at the facility are provided in the table below.

Name	Position	Duties and Responsibilities	Experience /Qualifications
Bryan J. Davies	Managing Director	Company Director and overall responsibility for operations of Harp Refrigerants Ltd.	Managing Director of Harp International Ltd. for 12 years.
Noel J. Williams	Operations Director	Management of Harp Refrigerants Ltd. facility in Whitestown Industrial Estate. Responsibility for equipment control and environmental compliance.	Operations Director at existing Harp International Ltd. facility in Wales for 12 years. He has completed a Waste Management Industry Training and Advisory Board (WAMITAB) qualification in 'Treatment and Transfer of Hazardous Waste'.
Caroline J. Harries	QA/QC	Quality Control	Employed in QA/QC at Harp International Ltd. for 12 years. She has completed a Waste Management Industry Training and Advisory Board (WAMITAB) qualification in 'Treatment of Hazardous Waste'. Caroline has also completed a 'ISO9001:2015 Auditor Transition Training Course'.
John Flynn	Deputy Facility Manager	Site management, logging waste and 24 hour availability in case of an emergency at the facility.	F-Gas & ODS training, Forklift licence

The management structure of the above key personnel including any potential additional staff that may be added to the operations are shown in the organisational chart over. The additional staff required at the facility will be dependent on the incoming waste quantities and is likely to be small initially but increase as more waste refrigerant gas is taken in by Harp.

See attached training records for above staff.

John Flynn will manage the facility on a daily basis along with appropriately trained site technicians, as required depending on the quantities of incoming waste. Harp's parent company has a Quality Management System accredited to ISO9001 which is managed and controlled by Caroline J. Harries. Harp Refrigerants Ltd. will carry out activities in Tallaght in accordance with the approved QMS system in place for Harp International Ltd.



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Certificate No. CCC10851

Continuing Competence Certificate

This certificate confirms that

Noel John Williams

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 09/02/2016

TSH Transfer - Hazardous Waste
TMH Treatment - Hazardous Waste

Awarded: 09/02/2016

Expiry Date:
09/02/2018

Authorised

A handwritten signature in black ink, appearing to read "Alan James".

WAMITAB Chief Executive Officer

A handwritten signature in black ink, appearing to read "John".

CIWM Chief Executive Officer



The Chartered Institution
of Wastes Management



00098437



Certificate No. CCC10998

Continuing Competence Certificate

This certificate confirms that

Caroline Jane Harries

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 12/02/2016

TMH Treatment - Hazardous Waste

Awarded: 12/02/2016

Expiry Date:
12/02/2018

Authorised

A handwritten signature in black ink, appearing to read "Alan James".

WAMITAB Chief Executive Officer

A handwritten signature in black ink, appearing to read "John".

CIWM Chief Executive Officer



The Chartered Institution
of Wastes Management



00098539



BSI Training Academy

This is to certify that

Caroline Harries

has attended and passed

IRCA Certified ISO 9001:2015 Auditor Transition Training Course (A17863)

Shahm Barhom

Shahm Barhom, UK Training Director

Date: 18/02/2016 - 19/02/2016

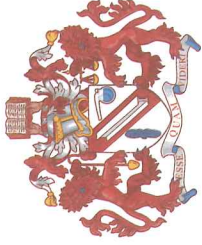
Certificate Number: ENR-00403437

This certificate is valid for 3 years from the date above for the purpose of registering as an auditor with IRCA.



Course number A17863 certified by IRCA

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By Royal Charter

...making excellence a habit.™

City & Guilds Level 2 Award in F Gas and ODS Regulations: Category I 500/5730/3

is awarded to
John Flynn

who attended
E.C.A.C.

and was successful in the following 2 modules

Knowledge assessment of F Gas and ODS Regulations: Category I - leak checking, recovery, installation, service and maintenance of equipment.	Pass
Practical assessment of F Gas and ODS Regulations: Category I - leak checking, recovery, installation, service and maintenance of equipment.	Pass

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Ofqual

The holder is qualified to undertake leak checking, recovery, installation, service and maintenance of equipment.



Awarded 30 May 2012

300512/2079-11/800127/XGC4464/M/21/04/49 Llywodraeth Cynulliad Cymru
Welsh Assembly Government

606570998/20



M Howell
Chairman
The City and Guilds of London Institute

Chris Jones
Director-General
The City and Guilds of London Institute



Attachment C.2 – Environmental Management System

Attached is a copy of the existing Environmental Management System (EMS) for the facility. The EMS has not been accredited to a Standard but Harp's parent company in the UK has an environmental management system accredited to ISO9001. The practices and procedures put in place by Harp International Ltd. are implemented at the facility in Tallaght. It is intended that the facility in Tallaght will be added to the parent company EMS Certification in the near future.

Upon receipt of a Waste Licence for the facility, the EMS will be updated to reflect the permitted activities.

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Harp Refrigerants Limited Environmental Management System

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Harp Refrigerants Limited
Unit 2, Whitestown Industrial Estate, Tallaght, Dublin 24

Registered in Ireland: Registration No. 532851

Revision Index

Date	Issue No.	Comments	SDCC notified	Signature
May 2015	1	Management system drafted	Submitted May 2015	BJD
21 December 2015	2	Management system formalised	Submitted 21 December 2015	BJD

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Harp Refrigerants Limited
Unit 2, Whitestown Industrial Estate, Tallaght, Dublin 24

Registered in Ireland: Registration No. 532851

Environmental Management System

1. Introduction

Harp Refrigerants Limited (Harp) was granted a Certificate of Registration (Register Reference No. COR-DS-15-0003-03) by South Dublin County Council (SDCC) to operate a facility at Unit 2, Whitestown Industrial Estate, Tallaght, Dublin 24. The activity is the reception and temporary storage of refrigerant gases, halons and fluorinated greenhouse gases pending onward transport under Trans-frontier Shipment (TFS) to Harp International Ltd. in Wales for re-processing and/or destruction in accordance with Class 13 of the activities listed in the 4th Schedule of the Waste Management Act 1996 (S.I. No. 10 of 1996) as amended and Class 14 of the activities listed in Part II of the 3rd Schedule of the Waste Management (Facility Permit and Registration) Regulations, 2007 (S.I. No. 821 of 2007) as amended by S.I. No. 86 of 2008.

Harp propose to accept the following waste types:

14 06 01*	Chlorofluorocarbons, HCFC, HFC
16 05 04*	Gases in pressure containers (including halons) containing dangerous substances
16 05 05	Gases in pressure containers other than those mentioned in 16 05 04
16 05 08*	Discarded organic chemicals consisting of or containing dangerous substances
16 05 09	Discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

Waste refrigerant gases, halons and fluorinated greenhouse gases will be delivered to the site in cylinders or drums. Each cylinder / drum accepted at the site will be inspected to ensure it is in good condition, weighed and logged in accordance with Harp Refrigerants Ltd. Work Instruction No. 001 (Acceptance, Recording & Storage of Cylinders or Drums containing Waste Refrigerants).

Once a sufficient no. of cylinders / drums have accumulated (approximately 10 tonnes), they will be transferred offsite for onward shipment under Trans-frontier Shipment (TFS) to Harp International Ltd. in Wales for re-processing or destruction in accordance with Harp Refrigerants Ltd. Work Instruction No. 002 (Shipping Waste to the UK for Re-processing or Destruction).

A database will hold all relevant information on each cylinder / drum received, as well as its historical data. This includes the consignment note number, the date received, the producer of the waste, gross and tare weights and condition of the cylinder / drum.

There are no process emissions associated with the activity and therefore no environmental monitoring requirements.

A hard copy of the Certificate of Registration (COR) will be available in the office. It is also available on the company intranet and the Environmental Protection Agency (EPA) website (www.epa.ie).

Harp Refrigerants Limited
Unit 2, Whitestown Industrial Estate, Tallaght, Dublin 24

Registered in Ireland: Registration No. 532851

2. Opening Hours

Permitted hours of operation are 08.00 to 18.00 hours Monday to Friday, 08.00 to 14.00 Saturday. However, the opening hours will vary. The planned opening hours will be agreed with SDCC and any changes to the agreed opening hours notified to SDCC in advance.

3. Environmental Risks

Our main environmental risks (albeit very low risks) are detailed in the Environmental Liabilities Risk Assessment (ELRA) for the facility (Document Ref. RH/14/8133WMR02) which was prepared in accordance with the EPA publications entitled 'Guidance on Assessing and Costing Environmental Liabilities' (2014) and 'Guidance on Financial Provision' (2015) which have been recently published.

The risks identified and their risk score can be summarised as follows:

Risk ID	Location	Potential Risk	Risk Score
1	Warehouse	Refrigerant gas leak	1
2	Warehouse	Fire caused by electrical fault	2
3	Within Site Boundary	Diesel leak from delivery/collection vehicle	1
4	Within Site Boundary	Diesel leak from forklift	1

All risks identified have a very low likelihood of occurrence and are trivial (risk score 1) or minor (risk score 2) (as defined by the ELRA Guidance Document) which indicates the need for continuing awareness and monitoring on a regular basis. The output of the risk treatment process is the development of a statement of measures to be taken to minimise the environmental risk of the activity. The statement of measures is presented in the table below. Ongoing maintenance and inspection procedures have been outlined and highlighted to ensure that the likelihood of occurrence of the identified risks and the potential environmental consequences are kept at a very low rating.

Risk ID	Potential Hazard	Mitigation Measures to be Taken	Outcome	Action	Completion Date	Responsible Person
2	Fire caused by electrical fault	Programme for testing of electrical services/appliances (i.e. Static/PAT testing) to be prepared	Further reduce likelihood of electrical fault from portable equipment	A programme for Static/PAT testing will be prepared	Annually	Facility Manager

Harp Refrigerants Limited
Unit 2, Whitestown Industrial Estate, Tallaght, Dublin 24

Registered in Ireland: Registration No. 532851

Risk ID	Potential Hazard	Mitigation Measures to be Taken	Outcome	Action	Completion Date	Responsible Person
1	Gas	Procedure already developed for acceptance of waste refrigerant cylinders and drums which specifies an inspection requirement (Work Instruction No. 002). Management to reinforce importance of inspections at regular meetings.	Further reduce the likelihood of non-conforming cylinders or drums being received at the site and potentially leading to a gas leak.	Inspection procedure (Work Instruction No. 002) reminder to be regularly issued to any employees working at the facility.	Ongoing	Facility Manager
3	Diesel leak from delivery/collection vehicle	A Pollution Prevention & Control Plan will be prepared which specifies measures in place to mitigate risk of diesel leak migrating to the surface water drains	Further reduces the likelihood of diesel leak migrating to surface water drains	Plan reminder to be regularly issued to any employees working at the facility.	Ongoing	Facility Manager
4	Diesel leak from forklift	A Pollution Prevention & Control Plan will be prepared which specifies measures in place to mitigate risk of diesel leak migrating to the surface water drains	Further reduces the likelihood of diesel leak migrating to surface water drains	Plan reminder to be regularly issued to any employees working at the facility.	Ongoing	Facility Manager

4. Disposal of waste

All waste refrigerant gases, halons and fluorinated greenhouse gases accepted into the facility will be transported under Trans-frontier Shipment (TFS) to Harp International Ltd. in Wales for re-processing or destruction.

Harp Refrigerants Limited
Unit 2, Whitestown Industrial Estate, Tallaght, Dublin 24

Registered in Ireland: Registration No. 532851

General / non-recyclable waste and a small volume of recyclable waste will be generated from the welfare facilities and office at the facility. Bins will be provide for source segregation of these wastes. A permitted waste contractor will be appointed to collect these wastes from the facility and transfer them to a suitably registered/permited/licenced facility for recycling, recovery and/or disposal as appropriate.

5. Maintenance plan

The only plant / equipment associated with the activity is a forklift truck and weighing scales. Harp has a database which details each item of plant / equipment, its location, the supplier and the servicing and calibration requirements. Servicing and calibration of the forklift truck and weighing scales will be carried out in accordance with the manufacturer's requirements. Following servicing / calibration, the database will be updated and the next service / calibration date entered.

6. Noise

Noise will be generated from the vehicle movements to / from the site (max. 6 no. movements per day) and from the operation of the forklift truck. The noise associated with these activities will be similar to the noise associated with the vehicle movements within the Industrial Estate. The impact of the noise generated is predicted to be neutral and imperceptible.

7. Litter, Dust, Odour

There will be no litter, dust or odour associated with the proposed waste activity. If litter from the surrounding area is blown onto the site, this will be cleaned up immediately and disposed of in an onsite litter / general waste bin.

8. Vermin Control

The proposed waste facility will handle waste types comprising waste refrigerant gases, halons and fluorinated greenhouse gases which do not attract vermin nuisance. Other wastes such as general / non-recyclable waste and recyclable waste will only be generated and stored on site (internally) in very small volumes. Monthly inspections will be carried out by the Facility Manager or persons nominated by the Facility Manager.

9. Awareness and Training

All new members of staff receive induction training which is recorded. The induction training covers quality, health and safety, environmental awareness training, waste management training, compliance and reporting obligations in accordance with the conditions of the COR and relevant legislation. They are then provided with a Company Handbook and as well as copies of the COR, EMS, Procedures/Work Instructions and Pollution Incident Response Plan.

Harp Refrigerants Limited
Unit 2, Whitestown Industrial Estate, Tallaght, Dublin 24

Registered in Ireland: Registration No. 532851

The Facility Manager has WAMITAB Certificate of Technical Competence as well as a Continuing Competence Certificate (CCC). This CCC is renewed every two years. The Deputy Facility Manager (once appointed) will receive induction training and any additional training required to undertake their role.

Work instructions are written for all tasks and are used as part of the in-house training programme. Toolbox talks are also used as a training medium and topics discussed are documented.

Training records are held on the Harp intranet. They can be made available for inspection on request.

Harp's training procedure is detailed in Work Instruction No. 003.

10. Records / Document Control

All staff will be trained in record keeping, document control and COR reporting obligations, where applicable.

A database (Harp's bespoke software) will hold all relevant information on each cylinder / drum accepted to the site. This includes the consignment note number, the date received, producer of the waste, the gross weight, tare weight and condition of the cylinder / drum.

When the cylinders / drums are collected from the site for onward shipment to the UK via TFS, the cylinder / drum barcodes will be scanned and uploaded onto the Company's databases to identify the movement of waste. Where the cylinders / drums are not barcoded (i.e. customer owned cylinders / drums) these transactions will be entered manually. A list will of cylinders / drums being moved will be generated (identified by serial number) which will detail the net weight of waste being transported. The TFS documentation will be completed to reflect these quantities.

A copy of all relevant documentation will be provided to the waste haulier and a copy filed in the site office and on Harps intranet.

An Annual Environmental Report (AER) will be submitted to South Dublin County Council annually.

All waste records will be held in the site office and on Harps intranet.

If amendments are required to any records, the original will also be retained.

11. Incidents

A Pollution Incident Response Plan is in place should any incidents (as described in Condition 3.4 of the COR) arise in the future as a result of the activity at the facility.

SDCC will be notified immediately by telephone/fax/email and full details (as described in Condition 3.4) will be forwarded in writing the next working day.

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A unique number will be allocated to the incident, it will be documented in a register, it will be evaluated/investigated, appropriate action will be taken to minimise the effect on the environment and steps will be taken to avoid reoccurrence. The register will include the details as set out in Condition 3.4 of the COR.

12. Complaints

A complaints procedure is in place should any arise in the future. A unique number will be allocated to the complaint, it will be documented in a register and an investigation will be carried out. The register will include the details as set out in Condition 3.7 of the COR.

South Dublin County Council will be notified in writing as soon as possible and in any event not later than five working days after receipt of the complaint.

Corrective and preventative action will be put in place where applicable.

The register of complaints will be available for inspection by SDCC.

13. Site security

The site is secured by means of a lockable gate. The building is also secured.

A CCTV system is in operation 24 hours a day, 7 days a week.

The intruder alarm is monitored remotely.

14. Fire

The refrigerant gases that are accepted at this facility are non-flammable. Based on the ELRA report prepared by AWN Consulting Ltd, the risk of a fire occurring is very low and in the unlikely event that it did occur it is likely to be from an electrical fault in the office areas and would not be from the waste accepted onto the site. The ELRA determined that the likely consequence of a fire would be minor (as defined by the ELRA Guidance Document).

Firewater is supplied to the facility from the mains within the Whitestown Industrial Estate. Fire extinguishers are strategically positioned within the warehouse. The fire alarm is monitored externally.

In the event of a fire, action will be taken based on company procedures. The local fire brigade will respond automatically if the fire alarm sounds. All personnel will evacuate to the gates at the entrance. The facility will be closed and no waste will be received until control is gained. Any remedial

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work will be carried out as necessary prior to reopening the site. An emergency response plan is in place.

Note: If required, waste will be diverted directly to RSL Ltd., our main refrigerant supplier, based South Dublin.

15. Review

This management system will be reviewed on an annual basis.

However, should any changes to activities or equipment arise, or if a COR review is required, or if there is an incident, a complaint or breach of the COR conditions, it will be reviewed immediately. SDCC will be notified of any changes.

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Attachment C.3 – Hours of Operation

The following hours of operation will be adhered to at the facility:

- (a) The facility will operate from 8am to 6pm Monday to Friday and from 8am to 2pm on Saturday. The facility will be closed on Sundays, Bank Holidays and Public Holidays.
- (b) Waste will be accepted/handled at the facility from 8am to 6pm Monday to Friday and from 8am to 2pm on Saturday. There will be no waste accepted at the facility on Sundays, Bank Holidays or Public Holidays. It is proposed that waste is accepted at all times during operating hours as there is virtually no set up or clean up required for incoming waste material. All incoming waste materials will be located in the Holding Area pending inspection, sampling and logging.
- (c) Any construction and development works required at the facility will be carried out between 8am and 6pm on Monday to Friday or between 8am and 2pm on Saturday. This is considered to be acceptable in an industrial estate where the nearest residents are more than 250m from the site boundary.
- (d) Not Applicable.

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ATTACHMENT D INFRASTRUCTURE AND OPERATION

Attachment D.1 – Infrastructure

D.1 (a) Site security arrangements including gates and fencing

The site is secured by means of a lockable gate and solid wall to the front of the site. The solid wall and metal fencing extends from the front to the sides of the warehouse building to prevent any access to the front of the site. The rear of the site is secured by means of steel fencing.

The building is secured by means of an intruder alarm which will alert the Deputy Facility Manager to an incident at the facility. A CCTV system is in operation at the facility 24 hours a day, 7 days a week.

Any visitors to the site will be monitored and supervised at all times.

Unauthorised disposal of waste at the facility will be prevented by securing the site outside the hours of operation – i.e. securing the building, gated entrance and CCTV recording.

D.1 (b) Design for site roads

Not Applicable.

D.1 (c) Design of hard-standing areas

The entire site area is covered in concrete hard-standing which is in very good condition. There are no significant cracks in the hard-standing.

Any repair works required to the concrete paving surface will be carried out by a competent person and finished to a similar standard to the existing surface.

D.1 (d) Plant

To carry out the reclamation process, a stand-alone refrigerant reclamation unit will be installed at the facility. The unit is approximately 1.5m wide, 3.0m long and 1.7m high and is a mobile unit on wheels. It has been designed and constructed by Harp specifically for the process of reclaiming waste refrigerant gas and there is a similar unit installed at Harp International Ltd.'s facility in Wales. The equipment distils waste refrigerant gas into a product pot which then passes through drying towers to produce a virgin product specification material. Product is then transferred to 1 tonne bulk storage tanks.

A smaller piece of equipment will also be installed at the facility which is used to purge trapped air from the gas cylinders once they have been filled with the reclaimed gas product. This equipment is called a Denagger and is approximately 0.79m wide, 1.42m long and 1.4m high. This equipment is also mobile with wheels attached to move around and relocate as needed. Typically, the denagger will be located beside the reclamation unit.

There will also be a compressor and pump used to transfer gas from cylinders into larger drums.

The existing facility has a diesel powered forklift for transporting cylinder/drum cages, a weighing scales and a bespoke computerised waste tracking system which uploads incoming/outgoing waste and reclaimed gas to an online server.

Waste oil and glycol received at the facility and produced during the reclamation process will be transferred into 2,000 litre bunded tanks pending removal by a licensed contractor.

D.1 (e) Wheel-wash

Not Applicable.

D.1 (f) Laboratory facilities

Not Applicable.

D.1 (g) Design and location of fuel storage areas

There is a very small quantity of diesel fuel stored on site which is required to power the forklift. The maximum quantity of fuel stored on site is 40 litres which is contained in two 20 litre 'Jerry Cans'. The Jerry Cans are stored on a suitably sized spill pallet which is placed on the even concrete surface in the Fuel Storage Area as shown on the Site Layout Plan (Figure B6.1) in Attachment B.6.

D.1 (h) Waste quarantine areas

A Waste Quarantine Area has been allocated adjacent to the Inspection Area as shown on the Site Layout Plan (Figure B6.1). This area will be identified by signage placed on the wall.

D.1 (i) Waste inspection areas

The Waste Inspection Area is located between the Waste Quarantine Area and the office as shown on the Site Layout Plan (Figure B6.1). The weighing scales is located in the Waste Inspection Area. The area will be identified by signage placed on the wall.

D.1 (j) Traffic control

There is only one gate entrance to the facility and there is a small amount of space available (circa 200m²) for parking in the external yard at the front of the facility. Traffic can only enter and exit the site through the gated entrance as shown on the Site Layout Plan (Figure B6.1).

Delivery/collection trucks will park in the external yard during deliveries or collections. The forklift will operate mainly inside the warehouse building but will operate in the service yard for offloading as required.

D.1 (k) Sewerage and surface waste drainage infrastructure

There is a surface water drainage line which runs underground along the northern boundary of the site. Any surface water run-off from the external yard and the roof will be collected in the surface water drainage system and discharged into the Whitestown Industrial Estate network. There are manholes located along the drainage line for inspection. There are surface water gulleys located in the external yard.

The foul water network comprises of a single line connecting the toilet facilities and the kitchenette into the Whitestown Industrial Estate network. There is a foul water manhole located in the external yard on the northern boundary of the site.

The surface water and foul water lines are shown in the Site Services Layout (Figure B2.2) in Attachment B.2.

D.1 (l) All other services

The site is serviced by electricity, water supply and telephone communication from the Industrial Estate network. The refrigerant reclamation plant is powered using three-phase electrical power supply. The denagger, weighing scales and typical office equipment are powered on a standard single phase power supply.

Internet connection is provided through the telephone line.

D.1 (m) Plant sheds, garages and equipment compound

The only building at the site is the existing warehouse which measures approximately 50m long, 10m wide and 10m high at the roof apex.

D.1 (n) Site accommodation

There is an office located inside the warehouse adjacent to the main entrance which is used for general administration activities. The office also includes basic welfare facilities (kitchenette and WC) for employees.

D.1 (o) A fire control system, including water supply

There are smoke and heat detectors installed at the facility and there are a number of fire extinguishers located at specific locations inside the warehouse. All fire extinguishers have been inspected during 2016 and are in service. The fire alarm is monitored externally.

Fire doors have been installed in the office accommodation areas.

Water supply for fire-fighting is supplied from the mains within the Whitestown Industrial Estate.

D.1 (p) Civic amenity facilities

Not Applicable.

D.1 (q) Any other waste recovery infrastructure

Not Applicable.

D.1 (r) Composting infrastructure

Not Applicable.

D.1 (s) Construction and demolition waste infrastructure

Not Applicable.

D.1 (t) Incineration infrastructure (if applicable)

Not Applicable.

D.1 (u) Any other infrastructure

Not Applicable.

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Attachment D.2 – Facility Operation

The waste types that are proposed for acceptance at the facility are:

- Waste refrigerant gases;
- Waste refrigerant oils; and
- Waste refrigerant cooling fluids.

Waste Refrigerant Gases

Waste refrigerant gases will be delivered to the site in cylinders/drums and stored in the Holding Area inside the main warehouse door. The List of Waste (LoW) (or EWC) codes for waste gases to be accepted at the facility are:

- 14 06 01* Chlorofluorocarbons, HCFC, HFC
- 16 05 04* Gases in pressure containers (including halons) containing dangerous substances
- 16 05 05 Gases in pressure containers other than those mentioned in 16 05 04
- 16 05 08* Discarded organic chemicals consisting of or containing dangerous substances
- 16 05 09 Discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

The vast majority of waste refrigerant gas received and processed at the facility will be 14 06 01*. Only small quantities of the other waste types are anticipated.

Each waste gas cylinder/drum accepted at the site will be transferred to the Inspection Area and inspected to ensure it is in good condition, analysed, weighed and logged in accordance with Harp Refrigerants Ltd. *Work Instruction No. 001* (Acceptance, Recording, Handling and Storage of Cylinders or Drums containing Waste Refrigerants). A copy of *Work Instruction No. 001* is attached.

The condition of each cylinder/drum accepted to the site will be inspected to ensure it is in good condition. This information will be recorded in a worksheet as detailed in *Work Instruction No. 001*. Each cylinder will be weighed using a trade approved weighing scales and the weight recorded on the worksheet. The gross weight (displayed on the scales) and the tare weight (displayed on each cylinder / drum) will be recorded into a worksheet. The gross weight less the tare weight (i.e. the weight of an empty vehicle or container) will be the net weight of the waste.

An infrared gas analyser will be used to identify the refrigerant type which will also be recorded on the worksheet. The gas analyser is connected into the valve on the cylinder/drum and takes a sample of the contents. The sample result is displayed on a screen on the analyser.

'Tipping Lists' are produced based on the analysis results and cylinder contents of the same refrigerant gas type are pooled into one tonne 'Material for Reclaim' drums in the Storage Area at the rear of the warehouse building. 'Reject Lists' for cylinders below an acceptable purity level are produced and cylinder contents pooled into one tonne reject drums, where appropriate, and transferred to a separate Storage Area. Dedicated deheeling stations allow six cylinders at a time to be connected via hoses to a pump, compressor and drum. Cylinders are emptied into the drum with no release to the atmosphere.

The reject drums are temporarily stored at the facility until there is a sufficient quantity to be transferred off-site to Harp International Ltd.'s facility in the UK for further analysis and determination. The drums will be transferred under Transfrontier Shipment of Wastes (TFS) in accordance with Harp Refrigerants Ltd.'s *Work Instruction No. 002* (Shipping Waste to the

UK). A copy of *Work Instruction No. 002* is attached. The majority of waste refrigerant gas exported from the facility to the UK will be classified as 14 06 01*.

'Material for Reclaim' drums are processed through Harp's stand-alone refrigerant reclaim plant. Refrigerant is distilled into a product pot and passed through drying towers to produce a gas product which has a purity similar to a virgin gas product. The specification grade for refrigerant gas in accordance with the Air-Conditioning & Refrigeration Institute ARI Standard 700 is 99.5% purity and the reclamation process can achieve a reclaimed product that is at this specification grade or greater and is suitable for use as a refrigerant gas. Analysis using the IR analyser is carried out at every stage in the process. A sample of the reclaimed gas is taken from the holding pot and will be sent to the Harp International facility in the UK for analysis in the laboratory to confirm that the gas purity is on-grade. No lab function is currently planned at the Tallaght facility but if the waste intake volumes justify, a lab may be added in future. The reclamation process is also outlined in *Work Instruction No. 004* (Waste Refrigerant Gas Reclamation Procedure).

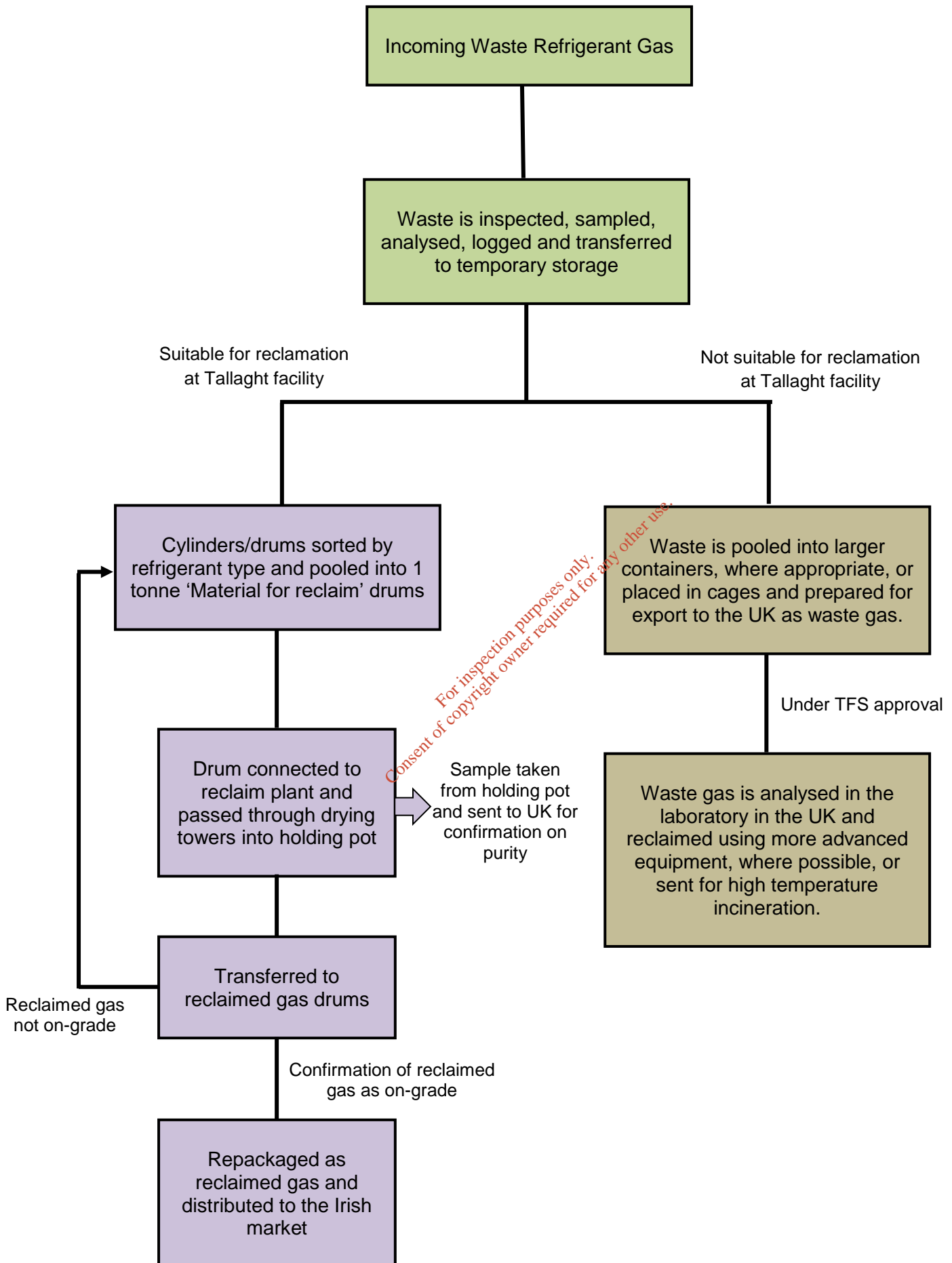
Once the reclaimed gas is confirmed as meeting the ARI Standard 700 specification grade, the material is suitable for reuse as refrigerant gas in the same way as a virgin gas product. There is no further processing or treatment required. The reclaimed gas is transferred into suitably sized cylinders/drums and packaged for distribution to the Irish market.

The reclaim plant is operated under negative pressure so there is no release of refrigerant gas from the reclamation process. The reclamation process will remove air impurities from the waste refrigerant gas which is released to atmosphere through a vent in the warehouse building.

Refrigeration lubricating oil is present in the waste gas as a contaminant and is removed during the reclamation process. The oil is picked up from circulation within operating refrigeration systems and is contained with the gas when the refrigeration gas is removed from a system. The waste oil is collected within the reclaim plant and will be drained typically once a month into a suitable drum and transferred to the waste refrigerant oil storage tank. It is estimated that there will be approximately 1,000 litres of waste refrigerant oil generated per year initially.

Non-hazardous waste molecular sieve (drying agent) is also generated in the reclamation process. The drying towers containing the drying agent are typically emptied once every six months. It is estimated there will be 1-2 drums (c. 205 litre drums) of molecular sieve waste generated per year.

A flow diagram of the waste gas operations at the facility is included over.



Compliance with Article 28 (End of Waste Status)

The waste gas reclamation process will be in compliance with the requirements of End of Waste Status as presented in the *European Communities (Waste Directive) Regulations 2011* by meeting the Conditions of Article 28 (1) as follows:

- (i) *The substance or object is commonly used for specific purposes;*

Reclaimed refrigerant gas will be produced to meet a specification which equals or exceeds the 99.5% purity specification grade which is set out for virgin refrigerant gases in accordance with ARI Standard 700. The reclaimed gas, achieving this specification, will be suitable and appropriate for use in refrigeration or air conditioning systems in accordance with the *ODS and F-Gas Regulations*. The operation and performance of refrigeration, air-conditioning and heat pump (RAC) equipment using reclaimed refrigerant gases would be identical to equipment using a virgin gas product.

- (ii) *A market or demand exists for such a substance or object;*

The production of virgin fluorinated refrigerant gases is being phased out. From 2022, there will be a ban of the use of virgin fluorinated gases with a global warming potential (GWP) of ≥ 2500 (subject to some exceptions). The allowable time period for the use of reclaimed/recycled fluorinated gas with a GWP of ≥ 2500 is 2030. The implications of the *EU (Fluorinated Greenhouse Gas) Regulations 2016 (S.I. No. 658 of 2016)* will create a change in the refrigeration gas market and there will be more demand for reclaimed/recycled product as restrictions on the import of gases with high GWP are tightened.

- (iii) *The substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products;*

The reclaimed gas will be sampled and analysed in a high quality laboratory environment to ensure it meets the requirements of the ARI Standard 700 for virgin quality refrigerant gas.

- (iv) *The use of the substance or object will not lead to overall adverse environmental or human health impacts.*

Refrigerant gases are widely used in domestic, commercial and industrial applications. Specific legislation, including the F-Gas Regs, control and monitor the use of refrigerant gases and requires that only competent trained operators are permitted to install, service or maintain equipment containing refrigerant gases. Additionally, the movement and tracking of waste refrigerant gas is monitored and regulated by the EPA under the Prior Annual Notification (PAN) system. The use and application of the reclaimed refrigerant gas will be subject to the legal restrictions and controls placed on all refrigerant gas use in Ireland and will not lead to overall adverse environmental or human health impacts.

Waste Refrigerant Oils

Waste refrigerant oils will be delivered to the site in drums and stored in the Holding Area inside the main door to the warehouse. The List of Waste (LoW) (or EWC) codes for waste refrigerant oils proposed to be accepted at the facility are:

- 13 02 05* Mineral based non chlorinated engine, gear and lubricating oils
- 13 02 08* Other engine, gear and lubricating oils

Each waste refrigerant oil drum accepted at the site will be transferred to the Inspection Area and inspected to ensure it is an appropriate oil type, weighed and logged into the waste tracking system. The drum will then be transferred into a 2,000 litre self-bunded storage tank.

When the waste refrigerant oil storage tank is reaching its maximum capacity, Harp will contact a suitably authorised hazardous waste contractor to remove the waste oil for off-site recovery.

Waste Refrigerant Cooling Fluids

Waste refrigerant cooling fluids (i.e. glycol) will be delivered to the site in drums and stored in the Holding Area inside the main door to the warehouse. The List of Waste (LoW) (or EWC) codes for waste refrigerant cooling fluids proposed to be accepted at the facility are:

- 16 05 08* Discarded organic chemicals consisting of or containing hazardous substances

Each waste refrigerant cooling fluid drum accepted at the site will be transferred to the Inspection Area and inspected to ensure it is an appropriate coolant type, weighed and logged into the waste tracking system. The drum will then be transferred into a 2,000 litre self-bunded storage tank.

When the waste refrigerant cooling fluid storage tank is reaching its maximum capacity, Harp will contact a suitably authorised hazardous waste contractor to remove the waste cooling fluid for off-site recovery.

Alternatives to the Proposed Activity

There is currently no facility in Ireland for the reclamation of waste refrigerant gases and all waste refrigerant gas is being transferred abroad for recovery or disposal, as appropriate. In reality, it is believed that there is considerable 'illegal off-gassing' to atmosphere being carried out as a result of the costs and regulations involved in transporting waste gas abroad.

Harp Refrigerants Limited want to bring this reclamation service to Ireland to limit the quantity of waste refrigerants being sent abroad and to help Ireland to meet its legal obligations set by European legislation.

The reclamation plant intended for use at the facility in the Whitestown Industrial Estate in Tallaght is the same procedure used by Harp International Limited in the UK for over ten years. This equipment was developed by Harp specifically for the gas reclamation process and is a process that the company are very familiar with and have extensive experience in the operation of.

No other alternatives to the proposed reclamation plant were considered.

Work Instruction No: 001

Acceptance, Recording, Handling & Storage of Cylinders or Drums containing Waste Refrigerants

Introduction:

Harp Refrigerants Limited ("Harp") is a registered waste facility currently working under a Certificate of Registration ("COR") issued by South Dublin County Council. The activities of Harp include the supply of a dedicated fleet of empty cylinders/drums to the market for the recovery of waste refrigerants. For identification, the industry standard for the cylinders/drums would be painted grey with either a yellow painted top (for cylinders) or a yellow painted band (for drums). The proper recovery of these products is legislated under European Law and is mandatory. The properties of these chemicals have an effect on the ozone layer and/or global warming. These are defined as "ODP" (Ozone Depletion Potential) or "GWP" (Global Warming Potential). The wilful venting of these products to atmosphere is illegal and Harp has a strict zero emission policy.

Harp are seeking approval for a Waste Licence to reclaim waste refrigerant gas at their facility in Whitestown Industrial Estate, Tallaght in Dublin 24. The Waste Licence Application has been submitted to the Environmental Protection Agency (EPA) who will act as the regulatory authority where the Licence is granted.

It is essential that the acceptance, recording, handling and storage of waste materials is completed in accordance with the relevant waste legislation and best practice. The accuracy of records kept is of paramount importance. This procedure will be issued to each employee who will be provided with the relevant training (as per *Work Instruction 003 – Training*) and will be committed to compliance with the procedures as outlined below.

Health & Safety:

Appropriate PPE, in particular steel toe-cap shoes and gloves, shall be worn at **ALL** times. Additional PPE such as safety glasses and hi-vis vests will be worn where deemed necessary.

Procedure:

1. Cylinders/drums containing waste refrigerants will be returned to Harp by pre-authorised refrigeration and air conditioning contractors or suppliers. Any company that handles waste refrigerants is required to provide a Prior Annual Notification (PAN) to the EPA of their intention to do so and their name will be listed on the EPA website (www.epa.ie) under Summary of PAN Register for each year. Any contractor/supplier returning cylinders/drums to Harp is required to notify Harp of the incoming delivery and Harp employees will cross-check to ensure that the supplier/contractor is PAN Approved prior to agreeing to accept the waste.
2. Cylinders/drums will typically be delivered in curtain-sided artic or rigid body trucks. Care must be taken when offloading these cylinders/drums from any vehicle. The cylinders would normally be returned to Harp in metal cages which can be offloaded safely using a fork-lift truck. On occasion, the cylinders may be banded onto wooden pallets and, in this case, additional care needs to be taken when offloading.

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3. Waste is to be offloaded from the delivery truck in the external yard and set-down in the Waste Holding Area inside the main door to the warehouse. Once offloading has taken place, the cylinders/drums need to be segregated into Harp owned cylinders and customer owned cylinders.
4. The cylinders are transferred from the Waste Holding Area to the Waste Inspection Area for inspection, sampling and recording.
 - 4.1 All Harp owned cylinders/drums will have a unique barcode identifying the serial number of the container. The first task is to scan the barcode on every Harp owned cylinder/drum and download this information through the "Cylinder Book-In" routine (*Note: Separate Software Training for this task will be provided*). The system will print a list of serial numbers received and a worksheet to record all the necessary information regarding receipt of this waste.
 - 4.2 The condition of the cylinder/drum will be inspected to ensure it is in good condition. This information will be recorded in the worksheet.
 - 4.3 Using the trade approved calibrated weighing scales, record the gross weight (displayed on the scales) and the tare weight (displayed on each cylinder/drum) of each cylinder/drum onto the worksheet.
 - 4.4 Any cylinders/drums without a barcode are most likely to be owned by the customer. These need to be recorded separately on Document No: 27. You will need to complete the date received, customer name, cylinder/drum no., gross weight, tare weight and the condition of the cylinder/drum.
 - 4.5 After weighing, the contents of each cylinder/drum need to be sampled using the infrared gas analyser and the readings from the analyser recorded in the worksheet.
 - 4.6 Cylinders/drums containing suitable gases for reclaim and at an acceptable purity level must be segregated from cylinders/drums with waste gas which is not be suitable for reclamation in Ireland. These non-suitable cylinders/drums will be shipped to the UK for further processing and reclamation using equipment in Harp International's facility, where possible.
 - 4.7 Cylinders/drums suitable for reclaim will be transferred to the 'Material for Reclaim' Storage Area at the rear of the warehouse next to the reclamation equipment. Further detail on the reclamation process and pooling of cylinders in preparation for reclaim is provided in *Work Instruction 004 – Reclamation Procedure*.
 - 4.8 Cylinders/drums that are not suitable for reclamation must be placed into metal cages and prepared for shipping to the UK. Large cylinders (60l/50kg) are placed in cages containing nine cylinders, midi cylinders (27.2l/20kg) are placed in cages of 13 cylinders and small cylinders (12.5l/7kg) are placed in cages of 32 cylinders. DO NOT mix cylinder sizes in the same cage to ensure safety during transport. Cylinders containing less than 2kgs of waste should be kept in separate cages and the cage marked-up accordingly.
5. The data recorded on the two worksheets needs now to entered onto the Company's bespoke software (*Separate Software Training will be provided*).

A Quarantine Area is located adjacent to the Inspection Area where any unsuitable or non-permitted waste delivered to the facility is temporarily placed pending return to the supplier. This area is clearly identified with a "Quarantine Area" sign. It is unlikely that unsuitable material will be offloaded from a delivery vehicle at any stage as the offloading will controlled by the Facility Manager and cylinders/drums used for storage of waste refrigerant gases are readily

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identifiable. If any unsuitable or non-permitted material is identified during delivery, it will be rejected and left on the delivery vehicle for return to the customer.

Where possible, all manual handling of cylinders/drums is to be carried out using the fork-lift or, in the case of individual cylinders, using the cylinder trolley. The small and mid-sized containers are suitable for handling manually but care must be taken and correct lifting techniques followed.

Harp (and Harp International's) databases have recently been updated and the systems can produce an accurate inventory of all waste held at the premises. *(Note: there is a maximum amount of waste which can be stored at any one time in accordance with the Certificate of Registration i.e. 18 tonnes. It is essential under the terms of the COR that this limit is not exceeded. Upon receipt of the Waste Licence this maximum storage quantity may be increased and employees must refer to the Waste Licence or Facility Manager. These storage limits must not be exceeded at any stage).*

For the movement of Waste under Trans-frontier Shipment (TFS) to the UK for re-processing or destruction please refer to *Work Instruction 002 – Shipping Waste to the UK*.

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Work Instruction No: 002

Shipping Waste to the UK

Introduction:

Harp Refrigerants Limited (“Harp”) is a registered waste facility currently working under a Certificate of Registration (“COR”) issued by South Dublin County Council. Harp have applied to the EPA for approval for a Waste Licence to reclaim waste refrigerant gas at their facility in Whitestown Industrial Estate, Tallaght in Dublin 24 as well as to export waste gas to the UK which is not suitable for reclamation at the facility in Ireland.

Harp is permitted by the National Transfrontier Shipment of Waste Office (NTFSO) (operated by Dublin City Council) to export waste refrigerant gas from the facility in Ireland to Harp International Ltd. in the UK for processing or recovery. The Harp International facility in the UK contains equipment which can provide more advanced processing and reclamation than the equipment located in Ireland and has more advanced laboratory testing facilities. The approval for transport of waste between Ireland and the UK is also consented by the EPA and the Environment Agency in the UK (National Resources Wales).

Acceptance, recording, handling and storage of waste at the facility in Ireland is described in *Work Instruction 001 – Acceptance, Recording, Handling and Storage of Cylinders or Drums containing Waste Refrigerants*.

It is essential that the recording of waste materials is completed in accordance with the relevant waste legislation and best practice. The accuracy of records kept is of paramount importance. This procedure will be issued to each employee who will be provided with the relevant training (as per *Work Instruction 003 – Training*) and will be committed to compliance with the procedures as outlined below.

Health & Safety:

Appropriate PPE, in particular steel toe-cap shoes and gloves, shall be worn at **ALL** times. Additional PPE such as safety glasses and hi-vis vests will be worn where deemed necessary.

Procedure:

1. The Company’s bespoke software system maintains an accurate inventory of waste. When there is an adequate inventory to justify transportation cost (ideally this would be a full lorry load), transportation to the UK should be arranged with the Company’s Registered Waste Carrier (currently Rochefreight Ireland Ltd.) and the NTFSO. Note that at least three working days’ notice must be provided to the NTFSO in advance of transferring the waste abroad.
2. A copy of Rochefreight’s Waste Collection Permit (NWCPO-11-01316-02) is held on file in Tallaght. Employees are to check this permit prior to commencement to ensure it is still valid and in date.
3. As the lorry is being loaded, cylinder/drum barcodes will be scanned and uploaded onto the Company’s databases to identify the movement of waste. Where the

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- cylinders/drums are not barcoded (i.e. customer owned cylinders/drums) these transactions will have to be entered manually.
4. The bespoke software will produce a list (identified by serial number) of the quantity and net weight of waste being transported. The TFS documentation should be completed to reflect these quantities.
 5. Take a copy of all documentation and file accordingly. A copy of all the waste paperwork must be given to the driver of the vehicle along with a Dangerous Goods Declaration Form. This is a fundamental part of the movement of the waste material.

Harp (and Harp International's) databases have recently been updated and the systems can produce an accurate inventory of all waste held at the premises. *(Note: there is a maximum amount of waste which can be stored at any one time in accordance with the Certificate of Registration i.e. 18 tonnes. It is essential under the terms of the COR that this limit is not exceeded. Upon receipt of the Waste Licence this maximum storage quantity may be increased and employees must refer to the Waste Licence or Facility Manager. These storage limits must not be exceeded at any stage).*

The TFS Notification Form (Annex 1A) and supporting documentation will also identify the quantity of material that is covered under Financial Guarantee to be transported at any one time. This maximum quantity must not be exceeded until an individual shipment is completed and the movement paperwork is completed.

Once the waste has been received in the UK, Annex 1B of the TFS documentation will be completed to confirm the quantity of waste received and recovered.

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Harp Refrigerants Limited
Unit 2, Whitestown Industrial Estate, Tallaght, Dublin 24

Registered in Ireland: Registration No. 532851

Work Instruction No: 003

Training Procedure

Introduction:

Harp Refrigerants Limited (“Harp”) is a registered waste facility currently working under a Certificate of Registration (“COR”) issued by South Dublin County Council. Harp have applied to the EPA for approval for a Waste Licence to reclaim waste refrigerant gas at their facility in Whitestown Industrial Estate, Tallaght in Dublin 24 as well as to export waste gas to the UK which is not suitable for reclamation at the facility in Ireland.

The proposed activities at the facility under the Waste Licence will include the acceptance, recording, handling and storage of waste (in accordance with *Work Instruction 001 – Acceptance, Recording, Handling and Storage of Cylinders or Drums of Waste Refrigerants*), the reclamation of suitable waste refrigerant gas (in accordance with *Work Instruction 004 – Reclamation Procedure*) and the export of waste gas which is not suitable for reclamation at the facility (in accordance with *Work Instruction 002 – Shipping Waste to the UK*).

The purpose of this procedure is to ensure that employees are competent in their work and acceptable standards relating to product quality, health & safety and environmental issues are maintained.

Associated Documents:

Training records include the Training Register and relevant Certificates
Induction Checklist
Central Training Record

Responsibilities:

The Facility Manager has overall responsibility for the procedure and is responsible for providing an induction to all new employees and identifying training needs of personnel under their control.

Health & Safety:

Appropriate PPE, in particular steel toe-cap shoes and gloves, shall be worn at **ALL** times. Additional PPE such as safety glasses and hi-vis vests will be worn where deemed necessary.

Procedure:

1. An induction is given to all new employees as per the Induction Checklist, which covers health and safety, environmental awareness, waste management, compliance and reporting obligations in accordance with the facility licence and relevant legislation.
2. Induction training will also include record keeping and document control, where applicable.
3. All new employees will then be provided with a copy of the relevant waste authorisation (COR or Waste Licence), Environmental Management System,

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Procedures/Work Instructions, Emergency Response Plan and Pollution Incident Response Plan.

4. On completion of induction, the new employee will be required to sign the Induction Checklist which will include an acknowledgment that they have read and understood the responsibility of their tasks and the conditions of the waste authorisation.
5. Following induction the employee will be added to the in-house training register/records.
6. Any immediate training needs identified will be taken directly to the Facility Manager. Once approved, the appropriate course or internal training will be organised.
7. Training records will be updated accordingly.
8. Procedures and work instructions are used for in-house training and to assess the competency of operators.
9. Staff training records and certificates are held and maintained by the Facility Manager.

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Harp Refrigerants Limited
Unit 2, Whitestown Industrial Estate, Tallaght, Dublin 24

Registered in Ireland: Registration No. 532851

Work Instruction No: 004

Waste Refrigerant Gas Reclamation Procedure

Introduction:

Harp Refrigerants Limited (“Harp”) operate a registered waste facility currently working under a Certificate of Registration (“COR”) issued by South Dublin County Council. The activities of Harp include the supply of a dedicated fleet of empty cylinders/drums to the market for the recovery of waste refrigerants.

Harp are seeking approval for a Waste Licence to reclaim waste refrigerant gas at their facility in Whitestown Industrial Estate, Tallaght in Dublin 24. The Waste Licence Application has been submitted to the Environmental Protection Agency (EPA) who will act as the regulatory authority where the Licence is granted.

Upon grant of the Waste Licence by the EPA, Harp will be permitted to carry out waste refrigerant gas reclamation at the facility and will be able to provide reclaimed gas back to the Irish refrigeration and air conditioning market.

Health & Safety:

Appropriate PPE, in particular steel toe-cap shoes and gloves, shall be worn at **ALL** times at the facility and safety glasses must be worn when working on the reclaim plant. Additional PPE such as hi-vis vests will be worn where deemed necessary.

Procedure:

1. Waste refrigerant gas will be received and sorted at the facility in accordance with *Work Instruction 001 – Acceptance, Recording, Handling and Storage of Cylinders or Drums containing Waste Refrigerants*.
2. Incoming waste materials are sampled using an infrared gas analyser and sorted into cylinders/drums based on their suitability for reclamation using the equipment available at the facility.
3. ‘Tipping Lists’ are produced based on the analysis results and cylinder contents of the same refrigerant gas type are pooled into one tonne ‘Material for Reclaim’ drums. ‘Reject lists’ for cylinders below an acceptable purity level are produced and cylinder contents pooled into one tonne reject drums, where suitable. These reject drums are transferred off-site to Harp International Limited in Wales under TFS (see *Work Instruction 002 – Shipping Waste to the UK*).
4. ‘Material for Reclaim’ drums are processed using Harp’s stand-alone refrigerant reclamation plant. It is essential to ensure all hosing and connections are in good working order to ensure there is no fugitive gas release during the pooling or transfer process.
5. Specific training will be provided on the operations of the reclaim plant and recorded in accordance with *Work Instruction 003 – Training Procedure*.
6. The reclaim unit is fully automated and waste enters the unit as a liquid, passes through a dryer and oil separator then changes state to a vapour, filtering

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- contaminants during this process. The unit is completely enclosed and has zero emissions. An emergency stop is available to shut down the unit if needed. It also has an automatic fail-safe mode.
7. All hosing and connections are regularly tested to British Standards and records maintained of maintenance works.
 8. A sample of gas is taken from the reclaimed gas holding pot and sent to Harp International in the UK for analysis in their laboratory.
 9. Waste oil, air and molecular sieve (non-hazardous drying agent) will be removed in the reclaim process. Waste oil must be transferred on a regular basis to a larger bunded storage tank on site. Care must be taken in transferring the waste oil so as not to cause a spill. Any spillages must be managed in accordance with the *Emergency Response Procedure*. Molecular sieve will be removed during maintenance works and can be disposed of as non-hazardous waste through the appointed waste contractor.
 10. When the holding pot is approved as, at or above, specification grade material, a transfer to one tonne bulk storage containers is carried out. This reclaimed gas is now suitable for packaging and sale to the refrigerant gas market and is no longer classed as waste.

Accurate records of waste gas reclaimed and removed from site must be maintained at all times using the Harp bespoke software. Barcodes attached to the cylinders/drums will ensure this process is accurate and efficient (see *Work Instruction 001 – Acceptance, Recording, Handling and Storage of Cylinders or Drums containing Waste Refrigerants*).

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ATTACHMENT E EMISSIONS

Attachment E.1 – Emissions to Atmosphere

There will be no process emissions to atmosphere from the waste gas reclamation process. The distillation and drying process in the reclaim plant will remove air contamination from the refrigerant. This air will be vented to atmosphere through the side of the warehouse building.

The reclaim plant is operated under negative pressure so there is no release of waste refrigerant gas from valves during connection and disconnection of pipes and hoses to drums and cylinders.

The forklift used at site has a diesel engine which has emissions from the combustion process. The forklift is maintained and serviced on a regular basis to ensure the engine is operating as efficiently as possible.

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Attachment E.2 – Emissions to Surface Waters

There is no emission to surface water from the proposed activity.

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Attachment E.3 – Emissions to Sewer

There is no process emission to sewer from the proposed activity.

Domestic wastewater effluent will be discharged into the existing Whitestown Industrial Estate foul sewer network.

Surface water run-off from the warehouse roof and external hard-standing areas will be collected in the site surface water drainage network and discharged into the Whitestown Industrial Estate storm water network.

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Attachment E.4 – Emissions to Groundwater

There will be no emissions to groundwater.

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Attachment E.5 – Noise Emissions

The reclaim plant will generate some noise during operations but this will not be audible by neighbouring facilities when the warehouse doors are closed. It is considered that any noise inside the building will not affect neighbouring properties. The reclaim plant may be in operation at any time during the operating hours of the facility.

The nearest residential receptors to the facility are located over 250m to the north-east and noise from waste activities at the facility will not be audible at this location.

The only other plant/equipment associated with the activity is a forklift truck and weighing scales. The only external noise generating sources will be vehicle movements to/from the site (maximum of six movements per day) and the use of the forklift truck. There will be no fixed items of plant/equipment located externally. The noise associated with the vehicle movements to/from the site and operation of the forklift in the external yard will be similar to the existing vehicle movements within the Whitestown Industrial Estate.

Therefore, there will be no perceptible increase in noise levels over and above the background noise levels as a result of the proposed activity.

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