

NRW Annual
Submissions

Natural Resources Wales
Chester Road
Buckley
CH7 3AJ
Flintshire

Your Ref: LP 3738GG (BX4666IZ)

Date: 07th February 2022

Subject: 2021 Annual Submissions

Whomever it may concern,

Please find attached our updated annual submissions report for the Optical Shops manufacturing of Infra red Products Permit LP3738GG (BX4666IZ).

If there is any additional information required please do not hesitate to contact me.

Yours Sincerely,

Paul Carline

EHS & Quality Systems Manager

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Permit Number: BX4666IZ	Operator: Qioptiq LTD, St Asaph	

Facility: [St Asaph, Infra Red Optics](#) Form Number: [A1 – Air](#)

ANNUAL: Reporting of emissions to air for the period from [01/01/21](#) to [31/12/21](#)

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
A2	Particulate matter	Mg/m³	60 minutes	0.75	BSEN 13284-1	07/12/21 10 :31-11 :31	0.35
A5	Particulate matter	Mg/m³	60 minutes	0.46	BSEN 13284-1	08/12/21 11 :45-12 :45	0.34
A7	Particulate matter	Mg/m³	60 minutes	0.42	BSEN 13284-1	08/12/21 09:41-10:41	0.32
A10	Particulate matter	Mg/m³	60 minutes	0.39	BSEN 13284-1	07/12/2021 11:50-12:50	0.32
A11	VOC Cleaning line	Mg/m³	30 minutes	0.28	13649:2014	09/12/21 12:10-12:40	0.11
A11	VOC Spray booth	Mg/m³	30 minutes	0.03	13649:2014	09/12/21 11:55-12:25	0.02
A2	Specified metals Gas flow rate 814 m³/hr	Mg/m³	60 minutes	metals 0.001 Gallium 0.00080 Selenium 0.00016 Arsenic 0.00016	BSEN 14385	7/12/21 10:31-11:31	0.002

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Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
A5	Specified metals Gas flow rate 588 m³/hr	Mg/m³	60 minutes	metals 0.001 Gallium 0.00085 Selenium 0.00017 Arsenic 0.00017	BSEN 14385	08/12/21 11:45-12:45	0.002
A7	Specified metals Gas flow rate 852 m³/hr	Mg/m³	60 minutes	metals 0.001 Gallium 0.00079 Selenium 0.00016 Arsenic 0.00016	BSEN 14385	08/12/21 09:41-10:41	0.002
A10	Specified metals Gas flow rate 814 m³/hr	Mg/m³	60 minutes	metals 0.001 Gallium 0.00079 Selenium 0.00016 Arsenic 0.00016	BSEN 14385	07/12/21 11:50-12:50	0.002
A2	White spirit	Mg/m³	30 minutes	47	13649:2014	07/12/21 11:15-11:45	7.00
A10	White Spirit	Mg/m³	30 minutes	217	13649:2014	07/12/21 11:55-12:25	33

Operator's comments:

The above volumetric flow rate is an average of the data collected during the isokinetic tests. Mass emissions for non isokinetic tests are also calculated using these values

SignedPaul Carline.....
(Paul Carline EHS & Quality System Manager)

Date: 07/02/2022

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ANNUAL: Reporting of emissions to sewer for the period from 01/01/21 to 31/12/21 Form Number: S1 –Sewer

Emission Point	Substance / Parameter	Limit Value (mg/l)	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]
S1	Chemicals Oxygen Demand	500	50	Wessex Laboratories T 6904551	10/02/21 12:38
S1	Chemicals Oxygen Demand	500	50	Wessex Laboratories T 6961937	26/04/21 15:30
S1	Chemicals Oxygen Demand	500	50	Wessex Laboratories T7019992	08/07/21 15:37
S1	Chemicals Oxygen Demand	500	50	Wessex Laboratories T 7114403	29/10/21 13:32

SignedPaul Carline.....
(Paul Carline EHS & Quality System Manager)

Date: 07/02/2021

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Facility: **St Asaph, Infra Red Optics**

Form Number: **WU 1 – Water Usage**

Annual: Reporting of Water Usage for the year 2021

Water Source	Usage (m ³ /year)	Specific Usage (m ³ /unit output)
Mains water	228	0.018
TOTAL WATER USAGE	228	

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Facility: St Asaph, Infra Red Optics

Form Number: E1 – Energy

Annual: Reporting of Energy Usage for the year 2021

Energy Source	Energy Usage Quantity	Primary Energy (MWh)	CO2e Produced (Tonnes)
Electricity * (SSE)	14,606.94 MWh		1,830t
			Change to green sourced energy supplier in Sep 2021, 100% renewable energy sourced
Natural Gas (Total gas and Power)	321.99 MWh		

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Facility: **St Asaph, Infra Red Optics**

Form Number: **R1 – Waste Disposal**

Annual: Reporting of Waste disposal and recovery for the year 2020

Waste Description	Disposal Route	Tonnes	Recovery Tonnes
Hazardous waste Total	Optical IR	24.26	3.71
Non-hazardous Waste (Sevenways)	Segregation and recycling	39.04	
(30% of Site Total)	Landfill	.01	
TOTAL SITE: 58,570 kg			

Trends in Waste Disposal and Recovery		
Year	Parameter	
	Total Hazardous Waste (Tonnes)	TOTAL N/H Waste (Tonnes)
2016	51.00	30.00
2017	73	31.02
2018	80	44
2019	62.21	22
2020	44.97	17.57
2021	80.87	36

Facility: **St Asaph, Infra Red Optics**Form Number: **P/1 Performance****Annual: Reporting of other performance indicators for the period 01/01/21 to 31/12/21**

Parameter	Units	Trends in Environmental Performance		
Water Usage	228 m3	Year	Water Consumption Per Infra Red Optic	Energy Consumption Per Infra Red Optic
Energy Consumption	14,928.93 Mwh	2015	0.066 m3/lens	0.752 MWh/IR Lens
		2016	0.041 m3/lens	0.84 MWh/IR Lens
		2017	0.090 m3/lens	1.289 MWh/IR Lens
		2018	-	-
		2019	0.020 m3/lens	0.246 MWh/IR lens
		2020	0.018 m3/lens	0.231 Mwh/IR lens
		2021	0.014 m3/lens	0.397 Mwh/IR lens

Operator's comments :

Total 15,440: Typically Gallium Arsenide Lens: 36.2g from a 70g blank. Viewed as the typical lens and produced in volume.

15,440 lenses as defined in the permit have been processed throughout 2021; this is approximately 16% of the lens total processed on site at St Asaph. By dividing the defined permitted lens against the Optical Shop meter readings and MWh this has generated this specific usage figure.

Signed
(Paul Carline EHS & Quality System Manager)

Date: 07/02/2021