

Table 2 – Emissions (releases) changes/updates/new for HPE Plant

This table shows all the point source emissions affected by the proposed changes for the purpose of this Permit variation application. If any emissions points or parameters are not included here then they are not affected by the changes and the original permit information applies. Furthermore, specifically the proposed changes are marked in red text.

* For locations, please refer to plant layout photos showing locations of existing permit air emission points and the proposed permit air emission points for HPE plant (document reference: VRL_AirEmissions).

Installation name	Runcorn Manufacturing Site, Vynova Runcorn Limited				
Point source emissions to air					
Emission point reference and location *	Source	Parameter	Quantity	Unit	Proposed Changes
HPE-1 (previously named DC-1)	Incinerator vent stack	Particulate matter (contribution from combustion activity)	30 (1/2 hour average)	mg/m ³	The monitoring frequency should be "Continuous measurement (inferred)" with a foot note for Table S3.1 in the permit to state that the parameter value is derived by applying the previously agreed 50% non-combustion factor to the CEM measurement, to compare against the consent limit for the contribution of particulate matter from combustion activity only.
			10 (Daily average)	mg/m ³	
DC-13	Effluent Wet vent header	-	-	-	Closure of the DC3 plant effluent treatment system. No longer an emission point. A new Effluent Treatment Plant (ETP) will be installed on HPE plant which will have a caustic scrubber installed and hence new emission point (HPE-23) to functionally replace this one.



DC-14a	Wet, acidic vents header from Direct Chlorinator to caustic scrubbing tower A	Hydrogen chloride	10	mg/m ³	<p>Closure of the EDC wash system on DC3 plant. No longer an emission point. New wash system on HPE plant will have new caustic scrubber installed and hence new emission point (HPE-21) to functionally replace this one.</p> <p>Closure of the vent connection from the INEOS Technologies (Vinyls) Limited PVC Pilot Plant on Runcorn Site, hence there will now be no VCM of any significance present on the Vynova asset.</p> <p>Modifications will be made to the wet vent header system so that ongoing plant equipment (e.g. drying still overheads vent) will be diverted to new HPE plant caustic scrubber (HPE-21).</p>
		Chlorine	4	mg/m ³	
DC-14b	Dry, chlorine-containing vents header from Direct Chlorinator to caustic scrubbing tower B	Hydrogen chloride	10	mg/m ³	<p>Closure of the DCA & DCB reactors on DC3 plant. No longer an emission point. New reactors on HPE plant will have new caustic scrubber installed and hence new emission point (HPE-22) to functionally replace this one.</p>
		Chlorine	4	mg/m ³	
HPE-15 (previously named DC-15)	Stock tank vents to Stack 49				<p>Stock tank vents from T201 and T703 will now divert to this emission point in the event that the normal operating route to the vents incinerator via the wet vent header is not available (Intermittent/Abnormal Operation ONLY).</p>
	Dry, non-chlorine containing vents header to Stack 49	-	-	-	<p>Vent has become Intermittent/Abnormal Operation ONLY – 6th Ave loading depressurisation venting will now be directed to the crude EDC stock tank T201.</p>
DC-16	Crude EDC stock tank D101, to local vent	TVOC	5	mg/m ³	<p>Tank remains out of service and has now been physically disconnected from the HPE plant. No longer an emission point.</p>
		Sum of EDC and VCM	1	mg/m ³	

DC-17	Pure EDC stock tank to local vent	TVOC	5	mg/m ³	Closure/demolition of the pure EDC stock tank D102. No longer an emission point.
		Sum of EDC and VCM	1	mg/m ³	
DC-20	Residues Stock tank T703 (converted crude EDC tank D103), to local vent	TVOC	5	mg/m ³	<p>The stock tank vent from T703 will no longer be directed to atmosphere, as it will be connected to a new vents blower system to push it into the wet vent header on HPE plant and onto the vents incinerator during normal operation. Hence no longer an emission point.</p> <p>During intermittent/abnormal operation ONLY the stock tank vent header will be diverted to HPE-15 emission point.</p> <p>Only in exceptional circumstances e.g. TAR event, the tank may be required to vent locally and standard calculation for emissions used.</p>
		Sum of EDC and VCM	1	mg/m ³	
PT-01	Vent from EDC stock tanks	TVOC	5	mg/m ³	Closure of the EDC1/2 stock tanks: T301 and T302. No longer an emission point.
		Sum of EDC and VCM	1	mg/m ³	
PT-04	Residues Storage Area vent	TVOC	5	mg/m ³	Closure of the EDC1/2 residues storage and handling vessels: T532 and T729. No longer an emission point.
		Sum of EDC and VCM	1	mg/m ³	
PT-09	EDC plant scrubber vents via quaternary refrigeration unit (2 vents at 40m)	TVOC	5	mg/m ³	Closure of the EDC1 & EDC2 plants. No longer an emission point.
		Hydrogen chloride	10	mg/m ³	
		Chlorine	4	mg/m ³	
		Ethene	50	kg/h	
		Sum of EDC and VCM	1	mg/m ³	
PT-23	Effluent neutraliser vents (2 off)	-	-	-	Closure of the EDC1/2 effluent neutraliser vessels along with caustic/acid reagent systems. No longer an emission point.
PT-37	Hydecats reactor vents (2 off)	EDC	-	-	Closure of the EDC1 & EDC2 plants. No longer an emission point.
		Other CHC	-	-	
		VCM	-	-	



PT-38	Hydecats pumping tank	-	-	-	Closure of the EDC1 & EDC2 plants. No longer an emission point.
VDC-09	EDC stock tanks – tanker loading	Sum of EDC and VCM	1	mg/m ³	Closure of the VDC4 stock tanks and road loading facility. No longer an emission point.
		TVOC	5	mg/m ³	
HPE-21	Wet, acidic vents header from HPE wash and distillation to caustic scrubbing tower C2351				<p>New HPE plant wash system & existing distillation wet vents will now divert to this emission point in the event that the normal operating route to the vents incinerator via the wet vent header is not available (Intermittent/Abnormal Operation ONLY).</p> <p>The discharge from the caustic scrubber will be directed up a new 60m high vent pipe which runs up the Stack 49 structure.</p>
HPE-22	Dry, chlorine-containing vents header from HPE Reactor(s) to caustic scrubbing tower C2350				<p>New Reactors R2101 and/or R2501 will now divert to this emission point in the event that the normal operating route to the vents incinerator via the dry vent header is not available (Intermittent/Abnormal Operation ONLY).</p> <p>The discharge from the caustic scrubber will be directed up a new 60m high vent pipe which runs up the Stack 49 structure.</p>
HPE-23	Wet, acidic vents header from ETP to caustic scrubbing tower C629				<p>Process vents from the new ETP will divert to this emission point in the event that the normal operating route to the vents incinerator via the wet vent header is not available (Intermittent/Abnormal Operation ONLY).</p> <p>The discharge from the caustic scrubber will be directed to a 20m high vent pipe on the ETP structure.</p>



Point source emissions to water (other than sewers)					
Emission point reference and location	Source	Parameter	Quantity	Unit	
W49 discharge to Weston Canal	Surface water from south HPE Plant area	All existing parameters	As existing		<p>Closure of the contaminated drainage system on DC3 including the BASF Separator and associated tank/pumps/connecting pipework which previously pumped potentially contaminated water (& stormwater) to INEOS Inovyn Central Effluent Plant (EIP).</p> <p>The stormwater drains located in the south area of HPE Plant will no longer be pumped into BASF separator and sent to EIP, they will flow directly to Outfall.</p> <p>Hence Source description updated.</p>
W56 discharge to Weston Canal	<p>Cooling Tower purge/drain (X102A/B, X133)</p> <p>Surface water from north HPE Plant area and further north/east areas (INEOS Inovyn and EDC1/2 areas).</p>	All existing parameters	As existing		<p>Closure of the Cooling Tower No. 5 which predominantly served the EDC1 & EDC2 plants. No longer an emission point for this source (cooling water purge/drain).</p> <p>Full-cleaning and filling of drainage pits, overflows & channels across EDC1/2, leaving only stormwater drains.</p> <p>HPE's Cooling Tower (X102A/B and X133) will purge/drain to this Outfall system.</p> <p>Hence Source description updated.</p>

Point source emissions to sewers, effluent treatment plants or other transfers off site					
Emission point reference and location	Source	Parameter	Quantity	Unit	
E1 discharge to INEOS Inovyn Central Effluent Plant (EIP)	HPE Effluent Treatment Plant (comprising process liquid effluent streams)	Dioxins / furans	WHO-TEQ Human / mammals WHO-TEQ Fish WHO-TEQ Birds	ng/l	<p>Closure of the existing DC3 Plant Effluent Treatment facility.</p> <p>Installation of a new Effluent Treatment Plant (ETP) on HPE, purposely designed to neutralise the various waste water streams from the plant and strip them of organics. The resultant waste water will still be pumped to the INEOS Inovyn Central Effluent Plant (EIP) due to solids content.</p> <p>Source description updated.</p>
E2 discharge to Environmental Improvement Project (EIP) Plant operated by Inovyn CV	DC3 BASF Pit (comprising collection from plant contaminated drains)	Dioxins / furans	WHO-TEQ Human / mammals WHO-TEQ Fish WHO-TEQ Birds	ng/l	<p>Closure of the contaminated drainage system on DC3 including the BASF Separator and associated tank/pumps/connecting pipework which previously pumped potentially contaminated water (& stormwater) to INEOS Inovyn Central Effluent Plant (EIP).</p> <p>No longer an emission point.</p>
E4 discharge to Environmental Improvement Project (EIP) Plant operated by Inovyn CV	EDC East Effluent Pit (comprising process liquid effluent streams)	-	-	-	<p>Closure of the EDC1/2 effluent neutraliser vessels along with caustic/acid reagent systems. Full-cleaning and filling of this drainage pit.</p> <p>No longer an emission point.</p>