PERMIT NUMBER BR9685IX

DOW SILICONES UK LTD

SCHEDULE 5 INCIDENT NOTIFICATION

To:	Process Industry Inspector
FAO: Mr Geraint Thomas	Natural Resources Wales Rivers House St Mellons Business Park Fortran Road St Mellons Cardiff CF3 0EY
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From: Name Of Operator Location of Process:	Chris Chadwick Dow Silicones UK Ltd Cardiff Road, Barry, Vale of Glamorgan
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Date Information Provided:	11th February 2022

Part A

Permit Number	EPR/BR9685IX
Name of Operator	Dow Silicones UK Ltd
Location of Facility	Barry, South Glamorgan, Wales
Time and Date of Detection	7/2/2022

a) **Notification requirements for any activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment**	
To be notified immediately	
Date and time of event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substance(s) potentially released	
Best estimate of quantities or rate of release	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident	

b) **Notification requirements for the breach of a permit condition**	
To be notified immediately	
Emission point reference source	**W1 Authorised discharge point to River Cadoxton**
Parameter(s)	**pH**
Limit	**pH 6-9**
Measured value and uncertainty	**pH 10.5-12.1 based on dual analysers. High pH material, from storm sewer into final effluent flume, estimated to be approx. 10m3.**
Date and time of monitoring	**pH>9 at the following times** **13.41-14.16 & 16.06-16.12 on February 2nd 2022** **14.13-14.20 & 15.05-15.25 on February 7th 2022**
Measures taken, or intended to be taken, to stop the emission	**When waste-water treatment (WWT) was shut-down 7th Feb (14.13-14.20 & 15.05-15.25), the final effluent flow stopped being sent to river. Soon after the pH on the two final effluent pH probes increased to between 10.5 and 11.9, for the periods indicated. When the flow from the plant was reinstated at 14.20 and 15.25 respectively, the pH returned to normal (pH7.5-7.7).** **It was observed by the operator, that after the WWT plant flow had stopped and the final effluent flume had emptied, an additional flow**

	was seen, approx. 2 minutes after the sewer had emptied, from the storm water line from w952, which also connects into the final effluent flume, at a rate of <10m3/hr. This storm water line is not currently used and has not been used for several years. w952 storm sump goes directly to WWT, to verify this W952 storm sump was tested by the operator and was pH6 and the Vetter bag isolation at the storm sump was checked for its integrity, this was fine. **The source of the high pH material is a residual amount of lime-based material in the W952 storm water line, from a small lime spill within the w1205 area. Most of the spilt lime was contained and collected but a small amount did enter the storm sewer through a manhole in the road close to w1205.** **The investigation is ongoing, which has identified that there was also a pH breach, as shown above on Feb 2nd and that the initial spill causing the issue, occurred Jan 29th. During the Jan 29th incident the pH reached but did not exceed pH9.** **It is now believed that most of the lime that entered the storm sewer, has now been discharged, as subsequent WWT plant trips, which result in W952 storm sewer draining, have not resulted in the pH of the final effluent exceeding pH9.** **Impact to the river will have been minimal due to the river currently being at a relatively high level and flow being around the mean of 0.225m3/s or approximately equal to Q31 or Q32.**

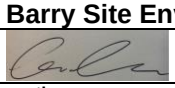
Time periods for notification following detection of a breach of a limit	
Parameter	**Notification period**

c) **In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment:**	
To be notified immediately	
Description of where the effect on the environment was detected	
Substance(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B- to be submitted as soon as practicable

Any more information on the matters for notification under Part A	After the RCI, the cause of the loss of containment of lime leading to it enter the storm sewer have been clearly identified. Overfilling Spent bed lorries in the area, had caused excess solids to block the chem sewer around the catalyst quench bay. A catalyst quench was undertaken and drain down of the lime solution from the quench attempted into the chem sewer but due to it being blocked it overflowed, with the majority being contained in other chem sewers but some entering the manhole over w952's un-used storm sewer line. This then subsequently caused the high pH at the final effluent.
Measure taken, or intended to be taken, to prevent a recurrence of the incident	• Inspect and clean sewers • Improve monitoring of spent lorry fill • Include additional checks on catalyst vessel dumps to monitor for blockages • Seal manholes on w952 storm system • Include check of underground drawings in ER procedures for spills in the area

Measure taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment, which has been or may be caused by the emission.	The relatively low amount of high pH lime solution and the high level/flows of river, will have resulted in limited and temporary effect on the environment
The dates of any unauthorised emissions from the facility in the preceding 24 months.	As of 18/2/2022 none, monitoring to continue.

Name	**Chris Chadwick**
Post	**Barry Site Environmental Manager**
Signature	
Date	**18th February 2022**