

PERMIT NUMBER BR9685IX

DOW CORNING LTD

SCHEDULE 5 INCIDENT NOTIFICATION

To:	Process Industry Inspector
FAO: Mr Tony Leakey	Natural Resources Wales Rivers House St Mellons Business Park Fortran Road St Mellons Cardiff CF3 0EY
Phone	03000 65 3000
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From:	Mike Squire
Name Of Operator	Dow Silicones UK Ltd
Location of Process:	Cardiff Road, Barry, Vale of Glamorgan
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Date Information Provided:	20 th January 2021

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	19:36 - 21:44 on January 19 th 2021

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	W2 Authorised discharge point to River Cadoxton
Parameter(s)	pH and Zinc
Limit	pH 6-9. Zn 0.375 mg/l (includes note 2 allowance for a spot sample)
Measured value and uncertainty	pH 3.16. Zn 0.396 mg/l. W2 Flowrate 112m ³ /hr (almost constant). Mass of Zn discharged over period = 0.1Kg
Date and time of monitoring	Sample result 19 th January 20:57 hrs. W2 Flowrate 19:36-21:44 hrs
Measures taken, or intended to be taken, to stop the emission	Waste-water treatment was shut-down so storm water from W413 was being discharged to river via W2 authorised discharge point. This had been ongoing for a few days without issue. On 19 th January sample results showed that water had been discharged for approximately 2 hours with low pH (3.16 - 3.33) and slightly elevated zinc (copper was also slightly elevated but within permit limits). The flow was stopped as soon as this was realised. A root cause investigation has been initiated to understand the source of low pH water and to review how low pH water was able to be discharged.

	Impact to the river is expected to have been minimal due to high flows in the river at the time. Calculation using a Q20 river flow (0.357m ³ /s) and river water pH of 7.9 (previously measured) combined with the low pH discharged would have dropped the pH to around 7.4 locally in the river when mixed.
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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	Results from the investigation established that the source of the low pH water getting into W413 storm sump was from two closed but passing valves from W413 chemical sump connected in series (KV5000 and a manual valve). The valves were only found to be passing using level trends and only occur when there is high level in W413 chemical sump, as there was on this occasion. W413 storm sump has an automatic pH and TOD analyser to prevent water with abnormal pH or organic content from discharging to the river. The analysers were operating normally but the pump supplying water to the analysers was not working and was in the process of being replaced. This was a known issue so manual sampling of the W413 storm water sump was used as an alternative practice to ensure compliance with permit discharge parameters. This procedure is normal practice if the analysers are not available. W413 storm water sample results had been taken the previous evening and were within permit limits so an instruction was left for the water to be discharged. During discharge the operator checked sample manager for results and noticed that another sample had been taken at 3pm that afternoon (19th) and that the pH was low. He then stopped the transfer to river via W2.
Measure taken, or intended to be taken, to prevent a recurrence of the incident	Actions to prevent a recurrence are: 1. Maintain KV5000 and the manual valve. This requires careful scheduling and confined space entry. The best time to attempt this work will be in the summer this year during a predicted dry period. The valves are not currently on a planned maintenance program. This will be reassessed once the valves have been replaced and the reasons for passing understood. NRW will be updated when this work has been completed. 2. The procedure for discharge to river via W2 without the online analyser was written and approved in December 2020. The procedure will now be changed following this incident so that

	discharge can only occur if the pH and TOD analysers and their sample stream supply and discharge are normal. Reliance on grab samples for pH and organic discharge will be stopped with the procedure updated to state that discharge can only occur if these parameters are online and reading accurately. Grab samples will still be needed, however, for routine compliance with other permit parameters e.g. suspended solids, visible sheen, Cu, Zn. An exception to this change in procedure would be emergency management e.g. site flood control.
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 dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name	Mike Squire
Post	Environmental Specialist
Signature	
Date	24 th March 2021