Chemours Status Report on Interim Remedial Actions

Date: Friday, August 24, 2018

Below please find the status of the actions which Chemours' committed to undertake in its February 26, 2018 Response to NC DEQ.[1]

1. Pumping of Perched Zone

Purpose: Investigation of the subsurface geology across the site in late 2017 indicated that concentrations of PFAS constituents in the Perched Zone (as identified and discussed in previous RCRA Facility Investigation (RFI) reports) beneath the site were elevated in comparison to concentrations in the lower surficial aquifer and the Black Creek aquifer. Development of a revised conceptual model indicates that this Perched Zone is local to the middle and eastern sides of the facility and that it is being recharged by infiltration from surface water, most notably from the Cooling Water Channel and the Sediment Basin Impoundments (which are both going to be lined, as discussed in more detail below). In addition, Chemours is investigating the extent to which the terracotta pipe that carried process water from the facility to the Waste Water Treatment plant was a source of contamination to the Perched Zone, an analysis that may lead to the development of further remediation measures. Chemours submitted a report on the terracotta pipe investigation to NCDEQ on Friday, June 29, 2018.

The conceptual model suggests that the artificial infiltration of the Perched Zone from the Cooling Water Channel and the Sediment Basin Impoundments causes the Perched Zone water (containing highest mass) to flow over its edge into lower water-bearing units. Therefore, reducing water content in the Perched Zone to a point where it no longer flows will lead to the removal of high mass in that zone and reduction of mass discharge into deeper zones and ultimately the Cape Fear River. Chemours has taken action to dewater the Perched Zone through both pumping and by cutting off infiltration routes from the surface channels and basins.

Status: Chemours began to pump water from the Perched Zone on February 28, 2018. Pumping began as soon as equipment could be procured and safely installed. Pumping began at PZ-18 on February 28, 2018, at NAF-12 on March 1, 2018, and at NAF-03 on March 6, 2018. On July 24, pumping from PZ-18 was stopped as the well is only ¾-inch diameter and was not producing much water. Well MW-24 was installed adjacent to PZ-18 as a 2-inch diameter well on July

[1] Please note that Chemours has been separately addressing with NC DEQ's Division of Air Quality the remedial and abatement actions related to air emissions. As that division is up to date on the status of those extensive remedial actions, Chemours will not address them in this report.

26, 2018. Pumping commenced from MW-24 on July 27, 2018 to replace the pumping at PZ-18.

Pumping from these wells is ongoing. As of August 22, 2018, approximately 28,000 gallons of groundwater have been pumped out of the Perched Zone.

Well	Start Date	Total Run Time (Minutes)	Total Gallons Pumped
PZ-18 (now closed)	2-28-18	7,814	4,267
NAF-03	3-6-18	58,193	22,479.41
NAF-12	3-1-18	43,869	1,142.04
MW-24	7-27-18	8,736	445
Total			**28,333.45**

Samples for laboratory analysis were collected from the Perched Zone wells on March 19, 2018, April 18, 2018, and May 16, 2018 were submitted to NCDEQ in a separate report entitled "Fayetteville Perched Zone Report" e-mailed and dated July 5, 2018. Additional samples were collected in late June and July 2018 and will be provided to NCDEQ as the result packages come in.

As proposed in the RAP, temporary vertical well points and headers will be installed to dewater the Perched Zone. A treatability study has been completed and design of the treatment and extraction systems are underway. The draft Basis of Design memorandum was prepared by Parsons and submitted to Chemours on August 22, 2019. A meeting was held with a dewatering contractor at the site on August 14 to discuss the groundwater extraction system.

Next Steps: Finalize the Basis of Design memorandum and begin detailed design of the treatment system. Begin extraction system design.

2. Design of Cooling Water Channel Excavation and Lining Project

Purpose: Approximately 5 to 10 million gallons of cooling water is run through the Cooling Water Channel each day. This water ultimately makes its way through the 002 Outfall. This water is non-contact cooling water that is extracted from the Cape Fear River upstream of the site, then run through cooling systems in the process plant before being discharged into the ditch. Currently, all pipes and discharges of anything other than non-contact cooling water and stormwater are permanently cut off from the channel.

The Cooling Water Channel contains soils and sediments that will be removed as part of this program. Additionally, because the bottom and sidewalls of the ditch are earthen (and based on piezometric mapping), water flow in the ditch infiltrates into the lower Perched Zone, causing water to build up and flow toward lower

water-bearing zones. It is our goal to dewater the Perched Zone of water to the point where it can no longer flow toward lower water zones. This requires cutting off downward flow (infiltration) from the Cooling Water Channel. Therefore, the purpose of this project is to remove soils and sediments that may contain elevated concentrations of PFAS constituents, and line the ditch so that water no longer infiltrates into the Perched Zone below.

Status: Construction activities are ongoing on the north and west portions of the channel. All materials have been ordered and 60% of the materials are on hand. Lining activities have started in the west channel and bulk heads installed in the north channel.

Next Steps: Construction has begun on the north channel and the full project will be complete by October 31, 2018.

3. Design of Sediment Basin Impoundment Sediment Removal and Lining Project

Purpose: The sediment basins contain sediments that are dropped out of the river water that is brought into the site as a cooling water and process water source. The river intake pumps bring in sediment along with water. The sediment is allowed to settle out and is deposited as a slurry into the basin impoundments. Water content in the sediments remains elevated and is allowed to infiltrate into the Perched Zone because the basins are unlined, earthen impoundments.

Because our conceptual model shows that the Perched Zone is artificially filled with water infiltrating from the Cooling Water Channel and the sediment basin impoundments, the goal of this program is to line the basins to cut off the infiltration of water into the Perched Zone, which will allow for a more efficient dewatering of the Perched Zone and cut off flow to lower water-bearing units and the river.

The lining system and new effluent piping will be installed in the South Basin this year (2018) and the water flow into the basins will then be entirely in the South Basin. The North Basin will be taken out of service and construction in this basin will begin as soon as the South Basin is online.

Status: Chemours will complete permanent lining of (1) the south sedimentation pond no later than November 1, 2018 and (2) the north sedimentation pond no later than December 1, 2018. Chemours intends to complete this project two months ahead of the schedule proposed in the RAP.

Next Steps: Construction activities have begun in the “South” basin. Work appears to be moving along very well with no major issues to note. South basin work should finish ahead of schedule, giving us more time to work in the north basin.

4. Design for Piping Old Outfall 002

Purpose: Chemours plans to capture the water from Old Outfall 002 for treatment.

Status: Chemours is evaluating two options for controlling groundwater migration into the Old Outfall 002 and ultimately the Cape Fear River: (A) collect and treat seeps emanating from the headwaters, which appear to be fed from the Perched Zone, and pump the water to a new facility wastewater treatment plant designed to treat PFAS, and (B) collect and treat the entire channel base flow at a point on Chemours property immediately upstream of the access road. Chemours and Parsons are have collected data to determine which option is more appropriate partially based on those results. Chemours has also discussed these two options with NCDEQ but has yet to receive feedback on which alternative is preferred.

Preliminary estimates of the flow in the channel have been used to develop an approximate flow rate of 70 gpm at the Option A location and 500 gpm at Glenngerry Road (Option B). On June 14, 2018, samples were collected from the Option B location for laboratory analysis and treatability testing. This location was selected since it represents a worst-case condition (higher flow and higher iron levels). The laboratory sample was submitted to Eurofins Lancaster Laboratories for analysis of alkalinity, total dissolved solids, hardness, iron, 32 PFAS (EPA 537 ver 1.1 mod), HFPO-DA (8321B), Table 3 Compounds, and Appendix IX VOCs SVOCs, and metals. Results are not yet available.

We have identified wetland areas around both proposed options that will require permitting. We are awaiting a response from NCDEQ regarding the selection of a proposed treatment location, and will apply for the appropriate permits once an option is selected. Samples have been collected from the Option B location and a treatability study is underway.

The schedule proposed in the RAP included the Basis of Evaluation memo by June 15, 2018 and the Basis of Design report by October 31, 2018. The Basis of Evaluation memo is not complete as we are awaiting input from NCDEQ.

Next Steps: Pending approval of one of the above options by NCDEQ, continue with analysis of methods for controlling groundwater. Finalize treatability testing and prepare basis of evaluation.