RAMBOLL

ENVIRONMENT
& HEALTH

Ms. Wanda Washington
FOCUS
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Re: Review of the FDEP's Comments on the 2023 RASR, Lockheed Martin Tallevast Site, Manatee County Florida

July 17, 2024

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Dear Ms. Washington,

I have recently reviewed FDEP's comments (dated June 26, 2024) on the 2023 Remedial Action Status Report (RASR) for the Tallevast Site. These comments were from Mike Bland in the District Support Program (DSP) for the Division of Waste Management (DWM) in Tallahassee to the Southwest District office, specifically to Robert Sellers, FDEP's Project Manager for this site. The letter indicates that it is meant to supplement the District's review and defers any potential approval or disapproval of Lockheed's 2023 RASR to the District office. Additionally, it indicates only that Mike concurs with AECOM on a number of points in the RASR, but it does not seem to identify all recommendations that the RASR includes nor address pending requests of actions from FDEP to Lockheed. For these reasons, it is unclear whether FDEP is preparing any further review for Lockheed on its RASR submittal. In the event there are additional comments, I will supplement this letter at that time. For now, however, I would offer the following brief comments mostly focused on Mike's identified comments:

Status of Specific Extraction Wells

In evaluating the status of individual extraction wells at this site, it is important to remember that despite it not being standard operating practice, FDEP has allowed Lockheed to utilize its extraction wells both for extraction of contaminated water but also as critical monitoring points in delineating contamination. Therefore, decisions regarding these wells must consider both roles.

In comments 1 and 2 FDEP discussed the status of extraction wells EW-2006 and EW-2035. EW-2006 is apparently planned to be deactivated in-place, having completed Post Active Mediation Monitoring (PARM) monitoring. This is a decision with which I concur. EW-2035 has been in PARM since its pumping ended. PARM monitoring continued into 2023. Assuming that concentrations of CVOCs remain below GCTLs in the 2023 monitoring record, I anticipate Lockheed will recommend closure of this well in the 2024 RASR. I have noted in my earlier comments on the 2023 RASR that this well is located in a residential area where USAS monitoring wells

are few and widely spaced, and where sporadic amounts of CVOCs have been detected in historic investigations of the USAS. I have previously recommended an additional investigation of ground water conditions in this area by a direct-push survey to verify if any CVOCs now remain. Although FDEP concurred with my recommendation and requested Lockheed to proceed, thus far they have declined to do so.

Based on Lockheed's monitoring data, once pumping of the USAS from EW-2035 and EW-2006 ended, the USAS capture zone boundary in the area shifted eastward such that there is now a residual area of CVOC contamination located outside the capture zone boundary, in the vicinity of MW-35. This area of contamination is free to migrate, likely to the west, under the adjoining golf course property. Although the concentrations of individual constituents in this well are less than their respective GCTLs, the fact that this area remains contaminated further demonstrates that some CVOCs likely still remains south of the Lockheed facility in the USAS. This finding warrants the direct-push investigation I previously recommended and that FDEP has requested Lockheed to perform. In Mike's letter the status of this investigation is not specifically addressed, but I would continue to encourage FDEP to require Lockheed to conduct this investigation before making final decisions on closure of remediation systems in this area.

Also, the shifting of the capture zone boundary eastward is problematic in that it is no longer fully controlling the residual area of contamination around MW-35. In retrospect it would have probably been more prudent to first suspend pumping in EW-2006 and continue to pump EW-2035 a while longer to ensure any remaining contamination was fully removed from the surrounding residential area. This new monitoring information should be considered, and the completion of the direct-push investigation required by FDEP, before agreeing to abandon EW-2035, if Lockheed so recommends it.

Status of Piezometers and Monitoring Wells

With regard to comment 4 regarding removal of PZ-USAS-19 and several wells from the semiannual sampling FDEP seems to concur but then at the bottom of the letter indicates a later recommendation to continue the monitoring of PZ-USAS-19. This is confusing but to be clear, PZ-USAS-19 like the other PZ-USAS-15, 17, and 18 later referenced in this comment are at risk from new construction in the future. These piezometers effectively allow the monitoring of the GCTL boundary of the residual 1,4-Dioxane plume in the southeast area of the USAS. It is important that they continue to be used for this purpose. If they are removed in the future to facilitate development of the property, they should be replaced with permanent monitoring wells as construction and development plans allow. Based on FOCUS' information there is no active construction in this area, so this will need to be watched. I understand Lockheed submits field work notices if and when such new work will be taken. We should be sure that we are receiving notice of all fieldwork.

With regard to comment 5, this new LSAS well is not a replacement. There has been no monitoring of the LSAS near MW-260 in the past. This is an open-ended and undefined area of potential southward 1,4-D migration from a larger LSAS plume to the northwest. The monitoring data from this new well is important to understand if there is 1,4-D contamination this far south, and if so, whether-or-not the LSAS pumping is controlling migration. On a recent (April 2024)

Google Earth image, the development/construction of the property just to the south of this well location appears to have progressed sufficiently, with the completion of grading/stabilization of a storm water channel on the north boundary of the developed property, so that the new LSAS well construction just north of the drainage channel can now safely proceed. This should occur as soon as possible.

Recent PFOS/A Findings in the Area

Although not addressed in the 2023 RASR or Mike's comments, I recently was also provided copies of two reports involving the investigation of PFOS/A compounds in soil and ground water on properties to the east and south of the Lockheed facility. One report (GHD; January 25, 2024) was a Phase 2 due diligence investigation related to the property where Lockheed operates two large USAS galleries (EW-2103 and EW-2104) for ground water collection. Findings of this report showed that PFOS/A has spread in the USAS northward along the eastern side of the railroad ROW into the southwestern portion of the area captured by the Lockheed galleries. The second report (Arcadis, July 1, 2024) investigated PFOS/A contamination in ground water beneath properties south of Lockheed principally on the west side of the railroad ROW. In this investigation ARCADIS (contractor to FDEP) tested water from numerous Lockheed monitoring wells from the USAS downward to the S&P Sands. The findings of this investigation showed that the likely source of the PFOS/A contamination is a former fire training area operated by the Sarasota-Manatee Airport on property on Lindberg Ct., south of the current Chris Craft manufacturing facility. PFOS/A was found to have spread northward, particularly in the USAS, and to a lesser degree downward into the deeper intermediate aquifers Lockheed monitors at concentrations which in some cases exceed USEPA's recently promulgated MCL of 4 ng/L.[1]

Although to the best of my knowledge Lockheed has not been implicated as a source of this PFOS/A contamination in ground water, the fact that it has been found in the aquifers and areas it is pumping is a potential concern none-the-less. There are two potential concerns. First, the capture zones for Lockheed's pumping are mapped by AECOM as extending southward to just above the area where this PFOS/A contamination was released. The aerially largest and potentially more extensive of these capture zones are in the deeper confined aquifer units (the LSAS downward to the S&P sands)[2], but the most significant northward spreading of PFOS/A was in the USAS, which Lockheed also heavily pumps. There are few wells just north of the PFOS/A source area to accurately map the southern edge of the Lockheed capture zone boundary, but the fact that PFOS/A were detected farther north in Lockheed's monitoring network may suggest that the northward spreading of the contamination is being facilitated in part by its pumping. Further analysis of the potential interaction of this "offsite" plume and the Lockheed recovery system is warranted in light of these findings.

Second, Lockheed's Remedial Action Plan (RAP) identifies where and under what limits Lockheed may discharge water after it has been treated at their source site. The presence, if

[1] The Arcadis report does not suggest that the extent of this contamination has been fully delineated and additional work was recommended.

[2] It is currently unknown if the contamination extends even deeper than the S&P sands as ARCADIS did not test any Floridan aquifer wells in the area.

any, of PFOS/A in the influent/effluent of the Lockheed treatment plant would be a new development that needs to be evaluated regarding the future ability to discharge treated ground water to both the Manatee County POTW or back into the community via infiltration galleries. Any specific recommendations or implications for monitoring and operation of the remediation system in-light-of this potentially encroaching contamination problem would be premature, pend further investigation of the extent of the contamination by FDEP contractors; but as a first step in considering whether the Lockheed remediation system has been or could be affected, a current-day test for PFOS/A of the influent water to the Lockheed treatment plant in total, and if possible, from each discrete aquifer zone, would be helpful in establishing a current baseline 2024 condition.

If you have any questions regarding these thoughts and comments, I would be happy to discuss them with you further.

Very truly yours,

Robert L Powell, PhD, PE
Principal