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February 18, 2016

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**Subject:       Review of Temporary Point of Compliance Status Update Notice  
Lockheed Martin Tallevast Site (Former American Beryllium Company Site)  
1600 Tallevast Road  
Tallevast, Manatee County, Florida  
FDEP Facility ID# COM169624  
E Sciences Project Number 1-1440-003**

Dear Mrs. Ward and Mrs. Washington:

Per your request, we have reviewed the letter dated January 7, 2016 prepared by Lockheed Martin Corporation (LMC) titled “*Tempory Point of Compliance (TPOC) Status Update 5-Year Notice for: Lockheed Martin Tallevast Site (Former American Berllium Company Site” FDEP Facility ID# COM 169624/Project #238148)*” (2016 TPOC Status Update). In addition to reviewing this letter, we reviewed portions of the following related documents:

- *Remedial Action Plan Addendum* dated July 14, 2009 prepared by ARCADIS (2009 RAPA)
- *Remedial Action Status Report* dated October 2015 prepared by AECOM (2015 RASR)
- *Groundwater Monitoring Report* dated May 2013, prepared by ARCADIS (2013 GMR)
- February 2011 TPOC notice documents
- *Response to Comments for 2015 Remedial Action Status Report* dated January 15, 2016, prepared by AECOM (2016 RASR Response to Comments)

Based upon a review of these documents, we offer the following comments for consideration. We understand that these comments may be provided to FDEP during the 30-day comment period associated with the latest 2016 TPOC notice.

- As stated in the Florida Department of Environmental Protection (FDEP) document titled *Guidance for Establishing a Temporary Point of Compliance Beyond the Source Property Boundary* dated May 2012 “the TPOC is the location beyond which a site’s contaminants of concern (COCs) concentrations in the groundwater do not exceed Groundwater Cleanup Target Levels (GCTLs)” as defined based on the outermost composite plume boundary. The TPOC line presented for the Tallevast Site has, in multiple instances, used monitoring wells that are located 300 to 500 feet from the TPOC line for delineation (e.g. monitoring well MW-115 north of the

TPOC line). Furthermore, we note that one of the goals of the remediation effort at the Tallevast Site is the hydraulic containment of the groundwater contamination plume, as stated in the 2009 RAPA and 2015 RASR. The large distance between the monitoring wells and TPOC line affects the ability to accurately evaluate migration and containment of the contamination plume in these gap areas where the edge of the plume is presumed. Based on the volatile and mobile nature of the contamination and to ensure that the objectives of the 2009 RAPA are being met, we recommend further review and consideration of the significant distance gaps and the suitability of the current monitoring well locations to reasonably establish and monitor the contaminant and TPOC delineation.

- Section 376.30701 of the Florida Statutes states that “When temporarily extending the point of compliance beyond the property boundary, it cannot be extended further than the lateral extent of the plume, if known, at the time of execution of a cleanup agreement, if required, or the lateral extent of the plume as defined at the time of site assessment.” Further, based on the FDEP May 2012 regulatory guidance document previously cited and the 2009 RAPA, the RAP Approval Order was to be issued by FDEP following finalization of the TPOC notification process. We note the following:
  - The RAP Approval Order was issued by FDEP on November 5, 2010, which was before the finalization of the TPOC and completion of the notice requirements in 2011. Based upon the regulatory framework referenced above, it is our understanding that the TPOC should have been established by the time the RAP Approval Order was issued.
  - The TPOC has been revised multiple times since the RAP Approval Order was issued. For example, the TPOC presented in Figure 10-33 of the approved 2009 RAPA document differs from the TPOC depicted on the map included with the notification letter provided to the residents/owners in 2011. For illustration purposes, the 2011 TPOC extended about 500 feet further into the private property located at 2411 Tallevast Road beyond what was depicted in the 2009 RAPA. The TPOC was later modified again for the current 2016 TPOC Status Update. These modifications were a result of GCTL exceedances documented beyond the TPOC established in the 2009 RAPA. These occurrences may be considered as a possible violation of the TPOC.
- Section 376.30702 of the Florida Statutes states that initial notice of contamination beyond property boundaries shall be provided to the Department no later than 10 days from discovery. The Department shall then send a copy of the notice, or similar notification, to all record owners of the real property within 30 days after receiving the initial notice. We note that the eastern boundary of the TPOC presented in the 2016 TPOC Status Update and the 2015 RASR document includes a property located at 2003 Tallevast Road (Parcel ID 1986100049) that was not previously included within the limits of the TPOC depicted in the February 2011 TPOC notification provided to the residents/property owners. This property was included in the contamination plume based on the contaminant concentrations documented above the GCTLs in the August 2011 sampling event (data provided in the 2015 RASR), which occurred after the initial 2011 TPOC notifications. Based on our cursory review of regulatory records on OCULUS, it appears that this property address was listed on the Notice of the Establishment of a Temporary Point of Compliance for a Contaminated Site issued in July 2011, but the TPOC included in this

notice did not extend to this individual property. We request that FDEP confirm that all affected properties have been provided proper initial contamination notification, including information required per Florida Statute 376.30702, and proper subsequent TPOC notification.

- The 2016 TPOC Status Update fails to provide the property owners with a list of the categories of COCs present in the contaminant plume as indicated in the 2009 RAPA. The property owners are entitled to this information, as the presence of the contamination has created stigma and impacted their property values. We request that FDEP review the prior and current TPOC notifications to confirm that all affected property owners and residents are notified of the actual environmental conditions affecting their properties in accordance with the Florida Statutes. Accurate notification of affected property owners is of paramount importance to the community. While the assessment/remediation information is considered to be public record, the regulatory file review process on OCULUS is somewhat cumbersome. It would be impractical and unreasonable to expect that individual property owners are be able to identify whether or not their properties are contaminated and monitor if the contaminant plume has changed since the time of assessment and remedial action plan development.
- The 1,4-Dioxane concentrations historically documented in groundwater samples collected from monitoring well MW-114 were reported to be above the GCTL in 2011, 2012, 2014 and 2015. However, this monitoring well location was not included within the boundary of the TPOC depicted in the 2009 RAPA and the February 2011 TPOC notification. The community is depending on the responsible party to provide accurate information and the FDEP to consistently review historical and current project data to ensure that the contamination and TPOC delineations are accurate, the plume is not migrating and the information is effectively conveyed to the affected community.
- The 2016 TPOC Status Update states that "...contaminant concentrations have decreased..." However, Section 5.4.4 of the 2015 RASR documents an overall increase of multiple COCs in the Lower Surficial Aquifer System, Arcadia Formation Gravels and Salt & Pepper (S&P) Sands strata based on comparison with the 2014 data. The concentration increase is as high as 1,866% in the case of 1,4-Dioxane in the S&P Sands stratum. The information and data provided to the community should refrain from using broad and generalized statements.
- The 2015 RASR further states that this increase in average concentrations described above "...may indicate reductive dechlorination." We note that natural attenuation was not the approved remedial approach. We understand that the remediation approach was to actively contain, recover and treat the source contaminants and degradation products, not to attenuate the source to produce an increase in the concentrations of these daughter products. The decrease in concentration of "parent" compounds (PCE and TCE) may be associated with this natural reductive dechlorination process rather than being a result of the active remedial process. These concentration trends of "daughter" and "parent" compounds should be reviewed and monitored.
- The 2015 RASR provides a comparison of the 2014 and 2015 groundwater laboratory data. However, the report does not provide a discussion comparing the current contaminant concentrations to the baseline data collected prior to remediation system initiation. The effectiveness of remedial efforts should be also evaluated with respect to the contaminant reductions since the remediation system startup initiation in November 2013.

- The 2015 RASR states that the mass removal rates are anticipated to decrease over time with the highest rates expected in the initial remediation stages. According to the information presented in the 2015 RASR, the mass removal rates averaged approximately 12 pounds per month over this reporting period compared to 20 pounds per month in 2014. This reflects a 40% decrease of the mass removal rates documented between the first and the second years of system operation. While we did not identify removal rate efficiency milestones established for the system in the 2009 RAPA, the need for more aggressive or amended remediation should be evaluated in the event that the recovery of contaminants becomes ineffective based on declining mass removal rates.
- The proposed capture zones depicted in the 2009 RAPA and the projected capture zones depicted in the 2015 RASR are largely different, which highlights and demonstrates the insufficiency of the groundwater model utilized during the 2009 RAPA development to predict the capture zone. The forecasted capture zone in some areas within the upper portion of the Upper Surficial Aquifer System (USAS) depicted in the 2009 RAPA extend well beyond the capture zone presented in the 2016 RASR Response to Comments (about 200 feet to the east, over 500 feet to the north, 800 feet to the south and 1,000 feet to the west). This difference is even more pronounced when comparing forecasted and reported capture zones in the S&P Sands and AF gravels strata, where the 2009 RAPA claimed that the capture zones would be so large that they extended beyond the figure. The 2009 RAPA design was based upon “a ‘capture zone’ large enough to recover all site-related contamination within a reasonable time. In each affected aquifer layer, the modeled capture zone extends at least 100 feet beyond the GCTL line for the composite plume.” (DOAH case No. 11-0259 Recommended Order). The location of the plume edge is often extrapolated into a large area (500 to over 1000 feet in many cases) between delineation wells, so it is possible that the capture zone is not influencing the extent of the actual groundwater impacts. Furthermore, the groundwater elevation contours depicted in the 2015 RASR do not appear to support the capture zone outline depicted. We understand that modeling and professional judgment are industry standard tools used to complement actual data, but the disparities in the actual groundwater elevation data and the capture zones as presented are large. We encourage FDEP to inquire further and to review the technical justification behind the modeling and professional judgment that was used to determine the estimated capture zones and the plume delineations to ensure that the extraction system is adequately recovering the extent of the contaminated groundwater.

Overall, we note that due to the social and economic detriment suffered by the community by the widespread migration of the contamination plume, we feel that FDEP should provide a higher degree of diligence and scrutiny to ensure that the rights of the affected parties and the public are met and protected.

We appreciate the opportunity to offer our professional opinions and continue assisting the affected community. If you have any questions, please contact us at 954-484-8500.

Sincerely,

**E SCIENCES, INCORPORATED**

A handwritten signature in black ink, appearing to be 'MP' or similar initials, written in a cursive style.

Maria Paituvi, P.E.  
Senior Engineer

A handwritten signature in blue ink that reads 'Nadia Locke' in a cursive script.

Nadia G. Locke, P.E.  
Associate