STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

FAMILY ORIENTED COMMUNITY UNITED STRONG, INC.; WANDA WASHINGTON; MARVIN WASHINGTON; CLIFFORD WARD; LAURA WARD; BRENDA PINKNEY; MELISSA WILLIAMS ROBINSON; AND TALLEVAST COMMUNITY ASSOCIATION, INC.,	)	
Petitioners,	)	
vs.	)	Case No. 11-0259
LOCKHEED MARTIN CORPORATION AND DEPARTMENT OF ENVIRONMENTAL PROTECTION,	)	
Respondents.	)	

RECOMMENDED ORDER

The final hearing in this case was held on June 7, 8, 22, 23, 28, 29, and 30, and July 1, 6, 7 and 8, 2011, in Bradenton, Florida before Bram D.E. Canter, Administrative Law Judge of the Division of Administrative Hearings ("DOAH").

APPEARANCES

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STATEMENT OF THE ISSUES

The issues to be determined in this case are whether the Department of Environmental Protection ("DEP") should approve Lockheed Martin Corporation's Site Assessment Report Addendum 3 ("SARA 3") and Remedial Action Plan Addendum ("RAP 3") to assess and remediate soil and groundwater contamination associated with property owned by Lockheed Martin Corporation in Tallevast, Manatee County, Florida.

PRELIMINARY STATEMENT

Following the discovery of contamination at the Lockheed Martin property, Lockheed Martin and DEP entered into a consent order that required Lockheed Martin to prepare and submit a site assessment plan and to proceed thereafter to remediate the site.

Lockheed Martin submitted a site assessment report and subsequent addendums. On September 25, 2006, DEP approved Lockheed Martin's SARA 3 as satisfying the contamination assessment required by the consent order and related statutes and rules. DEP and Petitioners reached an agreement that Petitioners would put off their challenge of SARA 3 until DEP took action on the Lockheed Martin's remedial action plan.

Lockheed Martin submitted a remedial action plan and three addenda to the plan. On November 4, 2010, DEP approved RAP 3.

On January 10, 2011, Family Oriented Community United Strong, Inc. ("FOCUS"), Tallevast Community Association, Inc., and several individuals filed a petition with DEP, challenging DEP's approval of both SARA 3 and RAP 3. DEP forwarded the petition to DOAH for assignment of an Administrative Law Judge.

Following motions to strike filed by Respondents, certain claims raised by Petitioners were stricken from their petition.

At the final hearing, Petitioners presented the testimony of lay witnesses Wanda Washington, Melissa Robinson, Brenda Pinkney, Laura Ward, and Clifford Ward and expert witnesses Simone Core, William Kutash, Paul Calligan, Nadia Locke, Randy Merchant, and R. Kevin Pegg. Petitioners' Exhibits 1-3, 5, 12-14, 17-19, 27-30, 31-39, 41, 50-52, 60-61, 65, and 70 were admitted into evidence. Lockheed Martin presented the testimony of expert witnesses Paul Calligan,

James Norman, Nadine Weinberg, Charles Faust, Guy Kaminski, Calvin Ward, and Mark Hemingway. Lockheed Martin Exhibits 1-115 were admitted into evidence. DEP presented the testimony of William Kutash. DEP's Exhibits 1-4, 6-8, and 10 were admitted into evidence. Joint Exhibits 1-43 were also admitted into evidence.

The 20-volume Transcript of the hearing was filed with DOAH and the parties filed proposed recommended orders that were considered in the preparation of this Recommended Order.

FINDINGS OF FACT

I. Background

A. The Former Facility and Property

1. The Lockheed Martin property is located at 1600 Tallevast Road. The property is slightly larger than five acres. It is bounded by Tallevast Road to the north; 17th Street Court East to the east; a golf course, undeveloped and residential areas to the south; and an abandoned industrial facility to the west.

2. From 1961 to 1996 the American Beryllium Company operated an ultra-precision, beryllium parts machine shop on the property where metals were milled, lathed, and drilled into various finished components. Some of the components were finished by electroplating, anodizing, and ultrasonic cleaning.

The facility once included five buildings, but the buildings have been removed.

3. The facility and property were acquired by Lockheed Martin in 1996 and the machining operations were terminated.

B. Contamination Discovery and Assessment

4. Although the details are unknown, it appears that over a number of years, leaks or discharges occurred at a series of "sumps" associated with the American Beryllium Company's on-site wastewater treatment system. The leaks or discharges allowed contaminants, primarily chlorinated solvents, to enter the soil and groundwater beneath the facility. The contamination migrated laterally in all directions away from the facility, as well as downward.

5. The hearsay report that a "dry well" (a gravel-filled pit) existed on the property and was used to dispose of acid baths is not supported by the non-hearsay evidence.

6. Environmental assessments performed by Lockheed Martin after purchasing the site, and a later assessment by a prospective purchaser, found contamination. In 2000, Lockheed Martin informed DEP that contamination had been discovered at the facility. In that same year, Lockheed Martin removed the sumps and some soil around the sumps.

7. Various contamination assessment activities were conducted by Lockheed Martin between 2001 and 2004. Contaminant

concentrations exceeding Groundwater Cleanup Target Levels ("GCTLs") were found at various depths.

8. In 2001, Lockheed Martin excavated and removed over 500 tons of contaminated soil in the area where the sumps had been located.

9. At the time the contamination was discovered, public water supply lines served most residences in Tallevast, but not the residences along 16th Street, 18th Street, 19th Street, and parts of Tallevast Road. On these streets, residents continued to use water from their wells for drinking, bathing, and other household uses. These private water wells were tested in 2004 and many were found to be contaminated.

10. Petitioners contend that Lockheed Martin was late in notifying Tallevast residents of the contamination, but it was beyond the scope of this proceeding to determine whether Lockheed Martin failed to timely notify the area residents of health threats known to Lockheed Martin.

11. In 2004, Lockheed Martin and DEP entered into a Consent Order that required Lockheed Martin to conduct additional site assessment and, ultimately, to prepare a remedial action plan to remediate the site in conformance with DEP rules.

12. Lockheed Martin submitted site assessment report addendums to DEP in 2004 and 2005.

13. In April 2006, DEP approved an Interim Remedial Action Plan (“IRAP”) for a groundwater extraction and treatment ("pump and treat") system. Extraction wells were constructed in the source area on the site to reduce the mass of contaminants and hydraulically control the plume so it would not spread. The treatment system has been in continuous operation since August 2006.

14. Lockheed Martin submitted a third site assessment report addendum, SARA 3, in April 2006 and it was approved by DEP on September 25, 2006.

15. Lockheed Martin submitted a RAP in May 2007. A revised RAP ("RAP 2") was submitted in August 2008. A third addendum ("RAP 3") was submitted in July 2009 and was approved by DEP on November 5, 2010.

C. Standing

16. The individual Petitioners, Wanda Robinson, Marvin Washington, Clifford Ward, Laura Ward, Brenda Pinkney, and Melissa Williams Robinson, reside or own property within the area established as the Temporary Point of Compliance (“TPOC”) by DEP. The TPOC encompasses the land overlying areas of groundwater contamination. Groundwater contamination exceeding GCTLs lies beneath the private properties of these individual Petitioners.

17. The Tallevast Community Association, Inc., operates a community center located at 7727 17th Street Court East, which is adjacent to the Lockheed Martin site. The community center property is within the TPOC. In 2008, the IRAP system failed and spilled contaminated water onto the community center property.

18. FOCUS is a Florida nonprofit corporation formed in 2003. The parties stipulated that "FOCUS' stated mission is to protect the health, environment, and quality of life of the Tallevast Community."[1] At least 25 of its members are residents of Manatee County.

II. SARA 3

A. Groundwater Contamination

1. Contaminants of Concern

19. Lockheed Martin tested for and assessed all of the contaminants in groundwater that were reasonably implicated by the site history and test data. Lockheed Martin incurred substantial costs for the assessment activities. The contamination assessment was not dictated by a motive to avoid costs.

20. Petitioners contend that every chemical listed on the Material Safety Data Sheet ("MSDS") for the American Beryllium Company should have been tested for in the soil and groundwater.

It is not the practice of DEP to require that every chemical on a MSDS be tested for in the environment.

21. The groundwater beneath the Lockheed Martin property and surrounding area is contaminated with a variety of pollutants, but the designated "contaminants of concern"--the contaminants which occur in concentrations that exceed GCTLs--are 1,4-dioxane, tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene, 1,1-dichloroethene, 1,1-dichloroethane, vinyl chloride, methylene chloride, bromodichloromethane, dibromochloromethane, and 1,1,1-trichloroethane.

22. TCE is the contaminant that occurs in the highest concentrations. It is estimated that 220 pounds of TCE is in the contamination plume. The 1,4-dioxane is the most frequently detected contaminant. It is estimated that 160 pounds of 1,4-dioxanne are in the contamination plume.

2. Area Geology and Hydrogeology

23. Lockheed Martin's geologic and hydrogeologic assessment to determine the water-bearing zones, the confining or semi-confining units, the potentiometric levels, and the hydraulic gradients in the area of contamination was thorough and produced a reliable characterization of the regional geology and hydrogeology.

24. Groundwater beneath the Lockheed Martin property and surrounding lands occupies three aquifer systems: the Surficial

Aquifer System, the Intermediate Aquifer System, and the Floridan Aquifer System.

25. The Surficial Aquifer System ("SAS") is divided into an upper and lower zone. The upper SAS begins at 2 to 5 feet below ground surface ("bgs") and extends to about 30 feet bgs. It is separated from the lower SAS by a confining unit referred to by the expert witnesses as the "hard streak." The lower SAS extends to about 45 feet bgs, where it intercepts a thick layer of Venice clay.

26. Beneath the Venice Clay begins the Intermediate Aquifer System, which is comprised of four water-bearing zones: the Upper Arcadia Formation ("AF") Gravels, the Upper AF Salt and Pepper ("S&P") Sands, the Lower AF Gravels, and the Lower AF Sands, extending to 290 feet bgs.

27. Separated from the Lower AF Sands by a thick clay layer, the Floridan Aquifer, consisting of limestone, begins at about 320 feet bgs.

3. Plume Delineation

28. Lockheed Martin used the “step-out” method to delineate the groundwater contamination plume for contaminants originating on the Lockheed Martin property, starting at a point of high groundwater concentration and then working outward horizontally and vertically until monitoring wells showed no contamination above GCTLs. This step-out method is the

generally-accepted practice for delineating a plume of groundwater contamination. A contamination plume is delineated, both horizontally and vertically, by “clean” monitoring wells--wells that show contamination at concentrations below the GCTLs.

29. Lockheed Martin installed 245 monitoring wells to define the horizontal and vertical extent of the contamination. A data set consisting of about 5,500 groundwater samples was compiled.

30. The amount of site assessment data collected by Lockheed Martin was described by several experts as much more data than is usually developed for comparable sites and the most that several of the experts had ever seen.

31. Lockheed Martin established the horizontal boundaries of the individual contaminant plumes by identifying a ring of clean wells beyond each layer (aquifer zone) of the plume.

32. Lockheed Martin used the same method to determine the vertical extent of the plume. It tested the aquifers at deeper and deeper depths until the contamination was below the GCTLs, indicating that the plume had not descended farther.

33. The maximum horizontal extent (for all contaminants above GCTLs in every groundwater-bearing zone) is approximately 1,200 feet north, 2,800 feet east, 1,600 feet south, and 800 feet west of the facility. The total horizontal area of the composite plume is over 200 acres.

34. The upper and lower SAS, the upper AF Gravels, and the upper AF S&P Sands are contaminated with site-related chemicals. The deepest extent of groundwater contamination is approximately 200 feet below ground surface.

35. Petitioners claim that the contamination plume was not adequately delineated, but their evidence was not persuasive. Petitioners did not prove that there are areas of the plume that extend outside the boundary of clean wells established by Lockheed Martin.

36. Petitioners contend that groundwater contamination in the residential area south of the Lockheed Martin property is not adequately delineated, but Lockheed Martin and the DEP proved otherwise. In their presentation on this issue, Petitioners failed to account for the fact that monitoring well data represent contaminant levels in an area of influence around each well.

37. Groundwater contamination in this area was adequately assessed by Lockheed Martin. Petitioners' objection is more about form than substance, because Lockheed Martin acknowledges that groundwater contaminants were detected in the area. However, the plume delineation is based on standard practices regarding the selection of sampling data and the computational mapping of the data.

38. Petitioners also object to Lockheed Martin's assessment near the airport. The assessment in this area is adequate and reasonable under the circumstances. There are obvious limitations encountered in accessing airport property because of the possibility of interference with aircraft landings and takeoffs.

39. The residential area south of the Lockheed Martin property and the area near the airport which Petitioners contend are un-assessed or under-assessed are within the capture zone of the pump and treat system proposed in RAP 3. The contamination in these areas will be cleaned up.

40. If the rumored dry well actually existed on the Lockheed Martin property and was a source of contamination, the contamination is part of the delineated plume and will be remediated.

41. The 2010 groundwater sampling indicated some movement of the plume. Petitioners contend that the new data contradicts the earlier results and, therefore, Lockheed Martin is required to conduct additional site assessment. However, some variability and fluctuation around the edges of the plume are expected due to heterogeneities in the geology and in lab analyses. It does not necessarily mean the plume is moving.

42. It is the practice of DEP when more recent sampling data indicates small changes to a plume that do not reach

perimeter clean wells, to accept the plume as sufficiently delineated.

43. Groundwater monitoring data developed since SARA 3 was approved indicate that the plume has been relatively stable within all four affected aquifer zones. The 2010 data do not contradict the plume delineation.

44. Lockheed Martin showed that the deepest layer in which groundwater contamination was detected is the Upper AF S&P Sands, about 140 to 160 feet bgs and about 200 feet above the Floridan aquifer.

45. Petitioners claim that the plume should be shown as extending deeper, but their evidence was not persuasive. The detections in the Clay/Sand Zones 3 & 4 were shown to be caused by a mis-labeled monitor well. There were only a few detections, and no exceedances, in 25 groundwater samples taken from the Lower AF Sands.

46. Lockheed Martin installed a sufficient number of monitoring wells in the Floridan Aquifer to demonstrate that the plume (above GCTLs) has not reached it. Early exceedances detected in the Floridan Aquifer were likely due to “dragdown,” which can occur when a well is drilled through contaminated soil and drags down some of the contamination to deeper zones.

47. A report that an on-site production well was drilled to the Floridan was hearsay and is not supported by the record

evidence. However, if a pathway exists through the confining layers to the Floridan Aquifer, the upwardly-directed, potentiometric water pressure of the Floridan Aquifer should prevent the contamination from moving down the pathway.

4. Vinyl Chloride

48. There were numerous instances when laboratory detection limits were reported as being above GCTLs for vinyl chloride. Detection limits above GCTLs can occur when a groundwater sample contains high levels of another compound and must first be diluted by the laboratory with de-ionized water before it can be analyzed, which has the effect of raising the detection level for other contaminants in the sample. Petitioners assert that these samples could have been above GCTLs. These samples are unreliable, but there are a sufficient number of uncompromised water samples to assess the vinyl chloride contamination.

49. Lockheed Martin did not delineate a separate plume for vinyl chloride. It could not draw an isoconcentration plume map for vinyl chloride because the detections were sporadic in space and time. Vinyl chloride is a breakdown product of PCE and TCE and would be expected to be detected where PCE and TCE concentrations are highest. The vinyl chloride contamination is tied to the plumes for the parent compounds and is within the mapped plumes in each aquifer zone.

5. Lab Contaminants

50. Four compounds detected in groundwater samples at the Tallevast site--methlyene chloride, carbon disulfide, acetone, and methyl ethyl ketone--are common laboratory and sampling contaminants. Because of the large number of wells and sampling events, it is likely that these compounds appeared in the data as artifacts of the sampling procedures.

51. These contaminants appeared infrequently, in scattered zones, and sporadically over time, often coming up "non-detect" in subsequent samplings. The lack of a pattern of detections indicates that these contaminants are not part of the contamination plume originating at the Lockheed Martin property.

52. There is no evidence that bromodichloromethane and dibromochloromethane were released from the facility. Detections of bromodichloromethane and dibromochloromethane are sporadic and transitory across the plume. There is no pattern connecting them to the site. These compounds are known to be byproducts of the chlorination of drinking water. They can also appear when people use chlorination products to treat wells themselves, for example to treat sulfur smells or disinfect the well. In the most recent sampling event, bromodichloromethane and dibromochloromethane were not detected in any wells.

6. NAPL

53. Lockheed Martin looked for non-aqueous phase liquid, or “NAPL,” but it was not found. Lockheed Martin had an incentive to locate and remove any NAPL to reduce its long-term remediation costs. Lockheed Martin used several accepted techniques and technologies to search for NAPL.

54. NAPL is either not present or is isolated in small amounts. If NAPL is present, it is not migrating away from the property.

B. Soil Contamination

55. Lockheed Martin removed contaminated soil from the sump area in 2000 and 2001. No other "hot spots" of soil contamination were found on the Lockheed Martin property.

56. Samples of on-site soil also exceeded soil cleanup target levels (“SCTLs”) specified in Florida Administrative Code Chapter 62-777 for arsenic, beryllium, copper, chromium, benzo(a)pyrene, and PCE. These contaminants were scattered about the Lockheed Martin property.

57. The off-site detection of these same contaminants in scattered locations and at relatively low concentrations is consistent with urban and former agricultural areas. There are industrial land uses near the Lockheed Martin property. Petitioners did not rebut the evidence presented that these soil

contaminants are ubiquitous in the human environment at these concentrations.

58. Lockheed Martin and DEP investigated a report that soil might have been obtained from the Lockheed Martin property and used as fill on some nearby private properties. The record evidence is insufficient to establish when, where, or how this movement of soil occurred.

59. Numerous soil samples were taken from areas where residents said fill was placed, but no contamination was found that was consistent with the proposition that it was contaminated soil from the Lockheed Martin property.

60. The soil sampling showed exceedances of SCTLs for some contaminants, but their distribution was random. The types of contaminants, the concentrations, and the sporadic and inconsistent findings indicate that the contamination is unlikely to be associated with a discharge or release from the Lockheed Martin property.

61. Petitioners contend that Lockheed Martin's assessment of this possible soil contamination was inadequate. However, Petitioners were in a better position to describe the location and other details associated with this alleged fill. Petitioners produced no details regarding the alleged fill and conducted no soil sampling of their own to show that contaminated soil was placed on their properties.

62. Petitioners contend that some of the off-site soil sampling conducted by DEP’s Site Investigation Section in 2004 was unreliable because the samples were taken to a depth of 3 inches, which is not consistent with the applicable DEP rule. However, the referenced DEP rule was not in effect at the time. In addition, the shallower samples taken by DEP are more conservative for estimating risk from human contact with soil contaminants. The data was properly included in the assessment.

63. Lockheed Martin's assessment to determine whether contaminated soil was transported from the Lockheed Martin property to nearby private properties was reasonable and adequate under the circumstances.

64. DEP determined that the off-site soil data and historical information were insufficient to conclude that operations at the American Beryllium Company were the source of the off-site soil contamination. Petitioners did not show that the Lockheed Martin facility was the source of the contaminants found off-site. The more persuasive record evidence supports DEP's determination.

65. Petitioners contend that Tallevast residents may be at risk from soil contamination caused when they watered their lawns with contaminated well water, but Lockheed Martin showed that this contention was implausible. Volatile Organic Compounds ("VOCs") sprayed through the air and onto the ground

would quickly volatilize. Moreover, the soils in the area are sandy, allowing water to readily penetrate below the soil surface so that a large accumulation of contaminants necessary to cause a threat to humans from direct exposure is unlikely.

66. When a pipe broke in the IRAP system in 2008, spilling 5,000 gallons of contaminated water onto the ground, the soil sampling conducted three weeks later showed that contaminant concentrations were orders of magnitude below the SCTLs for direct exposure. The concentrations that would be caused by watering a lawn with contaminated well water would be even lower.

67. Petitioners conducted no soil sampling of their own to support their contention that the application of groundwater to lawns and gardens resulted in the contamination of the their soil.

C. Soil Vapor Intrusion

68. Intrusion into buildings by contaminated vapor is possible if groundwater contamination is near the top of the water table. Volatile contaminants can then move into a gas or vapor phase and rise through the unsaturated soil where the vapor may enter buildings through various pathways.

69. Lockheed Martin assessed the area for potential vapor intrusion, using multiple lines of analysis. Soil gas levels should have been the highest on the Lockheed Martin property

where contaminant concentrations in the plume are generally the highest, but on-site soil gas levels were below applicable risk levels. No off-site soil gas levels exceeded soil vapor regional screening levels.

70. Soil gas levels are generally higher than indoor levels because only a fraction of the soil gas will find a pathway into a dwelling. In this case, soil gas levels for the site-related contaminants were lower than detected indoor air concentrations, indicating that the source of the indoor contaminants probably was not soil gas.

71. The concentrations of contaminants in the indoor air samples were within the range of typical background levels attributable to the products commonly found in residences, such as household cleaning products and dry cleaning.

72. The volatile groundwater contaminants are in groundwater at about 20 feet bgs, or about 15 feet below the water table. The clean water layer between the groundwater contamination and the top of the water table prevents vapors from being created.

73. Petitioners did not produce competent evidence to rebut Lockheed Martin's showing that soil vapor intrusion is not a real risk associated with the groundwater contamination.

D. Conclusion

74. Lockheed Martin employed consultants who had extensive expertise in the contamination assessment sciences. Those experts who testified at the final hearing were highly competent and they were credible witnesses. There was no evidence presented to suggest that their efforts on behalf of Lockheed Martin had any purposes other than to comprehensively assess the contamination and develop an effective means to clean it up as quickly and as efficiently as practicable.

75. Site assessment involves a considerable amount of professional judgment. The significance of the sampling data, for example, is largely a matter of professional judgment. Petitioners' objections to Lockheed Martin's site assessment are, in most respects, based on different professional judgments (offered by Petitioners' expert witnesses) or the critique of professional judgments (by Petitioners' counsel during cross-examination of Lockheed Martin's expert witnesses) regarding the significance of sampling data and other technical analyses.

76. Petitioners failed to demonstrate that the professional judgments exercised by Lockheed Martin's experts were unsound or that they resulted in a contamination assessment that was inadequate to enable an effective plan for remediation.

III. RAP 3

77. Lockheed Martin considered numerous alternative remedies. Remedial alternatives were scored by a large consultant team that considered long-term and short-term human health and environmental effects, implementability, operation and maintenance, reliability, feasibility, estimated time to achieve cleanup, and cost.

78. RAP 3 is designed to achieve five remedial action objectives: (1) reduce potential for human exposure to site contaminants found in soil, (2) reduce potential for human exposure to site contaminants found in groundwater; (3) hydraulically control contaminated groundwater; (4) extract and treat contaminated groundwater, and (5) minimize disturbance to the community and natural resources. The evidence demonstrates that RAP 3 will achieve each of these objectives.

A. Groundwater

79. With respect to groundwater contamination, the objective of RAP 3 is to meet the active remediation requirements of rule 62-780.700(1) and to demonstrate at the end of the remediation that the cleanup qualifies for Risk Management Option Level I -- No Further Action, without institutional and engineering controls.

80. Lockheed Martin reduced human exposure to contaminated groundwater by locating and abandoning (plugging) private wells that were affected by the groundwater contamination.

81. To hydraulically control contaminated groundwater and remove it, Lockheed Martin proposes a “pump and treat” groundwater extraction and treatment system. This is a well-known and proven-effective remediation approach for the kind of groundwater contamination involved here and was determined to be the only effective remediation alternative.

82. This remedy was developed using groundwater flow and contaminant transport models. The models that were used and the modeling that was performed by Lockheed Martin were appropriate for the selection and design of the remediation system. The models incorporated all appropriate geologic, hydrologic, and contaminant data.

83. Lockheed Martin chose TCE and 1,4-dioxane as representative contaminants for modeling purposes. The selection of these contaminants was technically sound because TCE has similar transport characteristics as the other chlorinated solvents at the site that adsorb to soil and degrade in the natural environment, while 1,4-dioxane would represent the more mobile contaminants that do not degrade significantly.

84. The modeled remedy for TCE and 1,4-dioxane will effectively remedy all the groundwater contaminants, including

vinyl chloride and the other breakdown products of the site-related chemicals.

85. Petitioners did not present competent expert testimony to rebut the soundness of the groundwater modeling effort.

86. The final remedial design comprises 77 extraction wells and four trenches pumping about 200 gallons of contaminated water per minute. The extraction wells would withdraw groundwater from four aquifer zones: the upper SAS, the lower SAS, the Upper AF Gravels, and the Upper S&P Sands.

87. An array of closely-spaced extraction and injection wells will be installed in the on-site areas of highest contamination for focused "flushing" and extraction of contaminants.

88. Lockheed Martin minimized adverse impacts to private properties in its proposed location of well, trenches, and piping. RAP 3 calls for directional drilling for the installation of the majority of the conveyance piping.

89. The modeling showed that cleanup time could be optimized by placing the extraction wells along the “spine” of the plume rather than spreading them out over the whole footprint of the plume and by selectively shutting off wells and trenches over time.

90. Lockheed Martin created a "capture zone" large enough to recover all site-related contamination in 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. Any groundwater contaminant within the capture zone will be removed by the groundwater extraction system.

91. The estimated cleanup time is 48 years because that is the time needed to complete the cleanup for the most persistent contaminant--1,4-dioxane in the lower SAS. However, more than half of the mass of TCE and 1,4-dioxane would be removed within the first five years of operation. In ten years, 85 percent of the TCE and 71 percent of the 1,4-dioxane is projected to be removed and treated.

92. The proposed treatment system includes: (1) settling and filtration of iron and other metals in the ground water that would interfere with the treatment process; (2) advanced oxidation of VOCs followed by carbon adsorption to trap those compounds not treated by ultra violet light; and (3) discharge to the sewer for further treatment by the Manatee County treatment works.

93. A portion of the treated groundwater will be treated again with reverse osmosis to produce water of high quality and then re-injected near surface waters in order to prevent lowering of water levels.

94. The proposed remedy is flexible and adaptable to future conditions and changes in technology. RAP 3 includes a

schedule for performance monitoring. The remedy can be adjusted if the monitoring data indicates an adjustment is needed.

95. Some of the former employees of the American Beryllium Company stated that there was a production well at the facility. The significance of the well is that, if it remained as an open bore hole, it could be a conduit for contaminants to move between aquifer zones and interfere with the remedial action plan.

96. Before the production well was found, while groundwater flow and contaminant transport modeling was being conducted, the models evaluated potential effects of an open borehole on the Lockheed Martin site. Sensitivity analysis of the model showed that the open borehole would have an insignificant effect on the output.

97. After conducting five separate searches for the production well using remote sensing, ground-penetrating radar, and downhole side scan sonar, a well was found and properly abandoned.

98. The well was similar in size and casing material to the twenty other wells that had already been geophysically logged at the site. It is reasonable to conclude, therefore, that, like the other wells, the discovered well probably had an open borehole to the Upper AF Gravels. The hearsay report that

the production well was a 6-inch well drilled into the Floridan was not supported by the non-hearsay evidence.

99. Lockheed Martin obtained 13 of the 14 access agreements necessary to implement RAP 3. The only outstanding agreement is one for access to a railroad property. The property owner has agreed to provide access as soon as final design plans are provided.

100. Lockheed Martin rejected remediation technologies that required extensive access to install, operate, and maintain. In its selection of recovery well locations near the Sarasota-Bradenton International Airport, Lockheed Martin located them along 15th Street, as opposed to farther west, because it would be difficult to get access to install, operate, and maintain extraction wells at the end of an active runway.

101. In reviewing whether a RAP is implementable, it is the practice of DEP not to require the person responsible for cleanup to first obtain any permits needed from other agencies before DEP will approve the RAP.

102. With regard to the probable need for Lockheed Martin to obtain a water use permit from the water management district, the criteria for obtaining the permit were taken into account by Lockheed Martin in the design of RAP 3. Petitioners presented no competent evidence indicating that Lockheed Martin will not be able to obtain the water use permit.

B. Soil

103. Lockheed Martin chose Risk Management Option Level II ("no further action" with conditions) to reduce potential exposure to soil contamination. Lockheed Martin will use institutional and engineering controls that prevent direct exposure and infiltration of contaminants into groundwater. The engineering controls will include building pads or pavement on portions of the Lockheed Martin property to prevent exposure and infiltration of rain. The institutional controls include restricting access to the facility through fencing and on-site security. Deed restrictions will mandate soil management practices to protect against human exposure and prohibit inappropriate modifications to the property.

104. It is the practice of DEP to treat engineering and institutional controls as remediation measures to reduce human exposure risk.

105. Off-site soil excavation by Lockheed Martin is not required because (1) the off-site soil contamination was not shown to be attributable to on-site activities; (2) the soil contaminants are randomly distributed over a large area; and (3) excavation would be costly and disruptive for little or no gain in terms of reduced human health risk.

C. Temporary Point of Compliance

106. The TPOC established as part of RAP is appropriate and adequate to protect human health, public safety, and the environment during remediation.

D. Conclusion

107. The more persuasive evidence shows that RAP 3 would be effective in remediating the soil and groundwater contamination at the Tallevast site in a reasonable manner and timeframe and, if implemented, would advance the substantial interests of Petitioners and all other persons affected by the contamination.

CONCLUSIONS OF LAW

I. General

108. The individual Petitioners and Tallevast Community Association, Inc., have standing to initiate this proceeding because their substantial interests are affected by SARA 3 and RAP 3. See § 120.569(1), Fla. Stat. FOCUS claims standing pursuant to section 403.412(6), Florida Statutes, and its standing was stipulated by Lockheed Martin and DEP. See n.1.

109. Petitioners bear the burden to prove that SARA 3 and RAP 3 do not meet the applicable requirements of law. Fla. Dep't of Transp. v. J.W.C. Co., Inc., 396 So. 2d 778 (Fla. 1st DCA 1981).

110. Findings of fact in this proceeding must be established by a preponderance of the evidence. See § 120.57(1)(j), Fla. Stat.

111. An agency's interpretations of its own rules are entitled to great deference and should not be overturned unless clearly erroneous or otherwise unsupported by substantial, competent evidence. See Dep't of Envtl. Reg. v. Goldring, 477 So. 2d 532, 534 (Fla. 1985).

112. The final hearing in this case was a de novo proceeding to determine whether SARA 3 and RAP 3 should be approved. These determinations are not confined to a consideration of the sampling data and other information that was in existence at the time that DEP approved SARA 3 and RAP 3. The determinations are based on all of the evidence presented at the final hearing.

II. SARA 3

113. Florida Administrative Code Rule 62-780.600 sets forth the objectives of a site assessment.

114. The first objective of site assessment is to evaluate the current exposure and potential risk of exposure to humans and the environment, considering the characteristics of each contaminant and the individual site characteristics. See Fla. Admin. Code R. 62-780.600(3)(a). Lockheed Martin's assessment achieved this objective.

115. The second objective of the site assessment is to determine whether contamination (above contaminant target levels established in Florida Administrative Code Chapter 62-777) is present and the types of contamination present, and the horizontal and vertical extent of contamination in every medium. See Fla. Admin. Code R. 62-780.600(3)(b). Lockheed Martin's assessment achieved this objective.

116. The third objective of site assessment is to determine or confirm the source of contamination. See Fla. Admin. Code R. 62-780.600(3)(c). Lockheed Martin's assessment achieved this objective.

117. The fourth objective of site assessment is to establish the background concentrations. See Fla. Admin. Code R. 62-780.600(3)(d). This objective is only applicable to sites at which there is contamination exceeding CTLs for compounds that occur naturally. See Fla. Admin. Code R. 62-780.200(5). The contaminants discharged from the Lockheed Martin property do not occur naturally.

118. The fifth objective of site assessment is to establish the horizontal extent and thickness of free product. See Fla. Admin. Code R. 62-780.600(3)(e). Lockheed Martin showed that there is no free product present.

119. The sixth objective of site assessment is to determine whether source removal, in addition to any interim

source removal already performed pursuant to rule 62-780.500, is warranted. See Fla. Admin. Code R. 62-780.600(3)(f). Lockheed Martin's assessment achieved this objective by showing that additional source removal is unnecessary.

120. The seventh objective of site assessment is to describe relevant geologic and hydrogeologic characteristics that influence migration and transport of contaminants at the site. See Fla. Admin. Code R. 62-780.600(3)(g). Lockheed Martin's assessment achieved this objective.

121. The eighth objective of site assessment is to determine whether any public water supply wells are present within a half-mile radius of the site, whether the site is located within the regulated wellhead protection zone of a public water supply well or well field, and whether any private water supply wells are present within a quarter-mile radius of the site. See Fla. Admin. Code R. 62-780.600(3)(h). Lockheed Martin's assessment achieved this objective.

122. The ninth objective of site assessment is to determine whether any surface water will be exposed to contamination. See Fla. Admin. Code R. 62-780.600(3)(i). Lockheed Martin's assessment achieved this objective.

123. The tenth objective of site assessment is to report any off-site activities (for example, dewatering, active remediation, or flood control pumping) in the immediate vicinity

of the site that may have an effect on the groundwater flow at the site. See Fla. Admin. Code R. 62-780.600(3)(j). Lockheed Martin's assessment achieved this objective.

124. The eleventh objective of site assessment is to facilitate the selection of a remediation strategy for the site that is protective of human health and the environment, and considers the proposed property use, identifies risks posed by the contamination based on the proposed use, and describes how those risks will be managed. See Fla. Admin. Code R. 62-780.600(3)(k). Lockheed Martin's assessment achieved this objective.

125. Rule 62-780.600(4) requires analyses for contaminants to be performed using the appropriate analytical procedures referenced or listed in chapter 62-160. Lockheed Martin met this requirement. With regard to the soil sampling issues raised by Petitioners, the techniques employed by Lockheed Martin met the purposes of the rule and it was reasonable for DEP to accept the data.

126. Rule 62-780.600(5) requires that the site assessment include tasks that are necessary to achieve the objectives described in rule 62-780.600(3). Lockheed Martin met the requirements of this rule.

127. Lockheed Martin met the requirements of rule 62-780.600(6), regarding the contaminants that must be tested for

ion the environment. DEP's interpretation and application of this rule to not require that every chemical on a MSDS be tested for is a reasonable interpretation and application of the rule.

128. Lockheed Martin submitted contamination assessment reports and addenda as required by rule 62-780.600(7).

129. Rule 62-780.600(8) requires the site assessment report to include numerous described elements. Lockheed Martin's report, as supplemented by information presented at the final hearing, includes all the applicable required elements.

130. Rule 62-780.600(8)(a)28. requires the use of isoconcentration lines to help identify source areas and plumes. DEP interpreted and applied the rule in this matter to treat certain contaminants, such as vinyl chloride, as being included within the isoconcentration lines drawn for other contaminants. That is a reasonable interpretation and application of the rule.

131. In summary, Lockheed Martin demonstrated compliance with all applicable rule requirements for approval of SARA 3.

C. RAP 3

132. Lockheed Martin complied with the requirements of rule 62-780.700(1) for the establishment of a TPOC beyond its property boundary.

133. RAP 3, supplemented by the record evidence, includes all the applicable information required by rule 62-780.300(2) and rule 62-780.700(3).

134. Rule 62-780.700(3)(c) states that, if the latest analytical data were obtained more than 270 days before the submittal of the RAP, a confirmatory round of sampling and analyses is required. Lockheed Martin conducted the required confirmatory sampling in 2010 and submitted the results to DEP in the 2010 Groundwater Monitoring Report.

135. There is a sound rationale for the remediation methods selected, as required by rule 62-780.700(3)(d).

136. Lockheed Martin's proposal to address contaminated soils on the Lockheed Martin site by using institutional and engineering controls meets the requirements of rule 62-780.700(3)(h).

137. RAP 3 satisfies the applicable requirements of rule 62-780.700(4) pertaining to special conditions for certain types of remediation equipment.

138. The use of institutional and engineering controls for soil contamination on-site is permissible without a risk assessment. Lockheed Martin demonstrated that the proposed controls will be protective by meeting one or more of the direct exposure criteria and one or more of the leachability criteria in rule 62-780.680(2).

139. Once the criteria for a No Further Action proposal using Risk Management Options Level II have been met, Lockheed

Martin would be required to submit the proposal to the Department. See Fla. Admin. Code R. 62-780.680(4).

140. The permits and authorizations needed to implement RAP 3 are required at the time the remedial plan is implemented, not at the time RAP 3 is approved. See Fla. Admin. Code R. 62-780.700(10).

141. Lockheed Martin does not propose alternative GCTLs. Therefore, no risk assessment is required for its groundwater cleanup objective. See Fla. Admin Code R. 62-780.650 and 62-780.680.

142. RAP 3 is reasonably designed to reduce the groundwater contamination that extends beyond the Lockheed Martin property to below applicable GCTLs, thereby protecting human health, safety and the environment.

143. In summary, Lockheed Martin demonstrated compliance with all applicable rule requirements for approval of RAP 3.

RECOMMENDATION

Based on the foregoing Findings of Fact and Conclusions of Law, it is Recommended that a final order be entered by the Department of Environmental Protection that

1. approves SARA 3, as supplemented by the assessment and groundwater monitoring data and other information entered into evidence at the final hearing; and

2. approves RAP 3.

DONE AND ENTERED this 6th day of October, 2011, in Tallahassee, Leon County, Florida.

BRAM D. E. CANTER
Administrative Law Judge
Division of Administrative Hearings
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Filed with the Clerk of the
Division of Administrative Hearings
this 6th day of October, 2011.

ENDNOTE

1/ FOCUS' articles of incorporation state that its mission is to promote affordable housing, employment opportunities, and the availability of businesses and services to the Tallevast Community, as well as to respond to the American Beryllium Company contamination. It is not clear that FOCUS is the kind of corporation "formed for the purpose of protection of the environment, fish and wildlife resources, and protection of air and water quality" that is contemplated by section 403.412(6), Florida Statutes (2010). However, the parties' stipulation to FOCUS' standing and the participation of other Petitioners with standing renders the question moot for the purposes of this proceeding.

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NOTICE OF RIGHT TO SUBMIT EXCEPTIONS

All parties have the right to submit written exceptions within 15 days from the date of this Recommended Order. Any exceptions to this Recommended Order should be filed with the agency that will issue the final order in this case.