



**Applied
Environmental
Services, LLC**

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Re: Comments on Draft Environmental Impact Statement (DEIS) of Proposed Tarmac American LLC's ("Tarmac" aka "King Road") permit to fill waters of the United States for activities associated with limestone mining in Levy County, Florida
Supplemental DEIS Required
Cumulative Impacts from Combined Licenses for Levy Nuclear Plant Units 1 and 2 ("LNP"), Docket Nos. 52-029 and NRC-2008-0558 - Project No. SAJ-208-00490 (IP-GAH)

Dear Mr. Sarfert:

I would like to commend you on the quality of the DEIS for the proposed Tarmac mine compared to the vast majority of DEIS documents I have reviewed during the past 20 years and particularly compared to the DEIS for the proposed Combined Licenses for Levy Nuclear Plant Units 1 and 2 ("LNP" and "project") referenced above. Despite the relative quality of the Tarmac DEIS, the evaluation of the adverse direct, indirect and cumulative environmental impacts is inadequate and a supplemental DEIS is required, pursuant to 40 C.F.R. § 1502.9(c)(1) & (2).

A. Supplemental DEIS Required

Two circumstances require preparation of a supplemental DEIS. A supplemental DEIS must be prepared if either (1) [t]he agency makes substantial changes in the proposed action that are relevant to environmental concerns, or (2) [t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts (40 C.F.R. § 1502.9(c)(1) & (2)). See *Dubois v. U.S. Department of Agriculture*, 102 F.3d 1273, 1291-92 (1st Cir. 1996); *California v. Block*, 690 F.2d 753 (9th Cir.1982). See also *NRDC v. Hughes*, 437 F. Supp. 981, 990 (D.D.C. 1977).

Regarding the Tarmac DEIS there are significant new circumstances and information relevant to environmental concerns and bearing on the proposed Tarmac mining action and its impacts. For example, Section 1.5 of the Tarmac DEIS describes a number of "environmental documents" that were "evaluated for consideration of relevant issues." The LNP DEIS was the first in the list of those documents (Tarmac DEIS, p. 1-4). I did not find a definition of "environmental documents" in the Tarmac DEIS, but in my professional opinion, the DEIS for the proposed LNP should not be considered in the category of "environmental documents." More accurately, in my opinion the LNP DEIS merely is an attempt at agency justification for authorizing construction and operation of the proposed LNP without complying with the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Clean Water Act (CWA), the Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Fishery Conservation and Management Act ("Magnuson-Stevens Act") and other federal requirements.

In fact, none of the documents listed in Section 1.5 of the Tarmac DEIS appear to provide a scientifically based analysis of adverse direct, indirect and cumulative environmental impacts that the proposed Tarmac mine would have on the federally listed species and other wildlife in the zone of impact for the proposed Tarmac mine and related projects. Additionally, neither the LNP DEIS, nor the LNP final EIS included a copy of the “Environmental Monitoring Plan” (“EMP”) reference in the EIS as a document ensuring that the adverse impacts from the proposed LNP would not be LARGE. A copy of a grossly inadequate EMP for the proposed LNP, prepared by CH2M Hill, was released subsequently. In my professional opinion, that EMP constitutes both “substantial changes in the proposed action that are relevant to environmental concerns” and “significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.” Therefore, the release of the EMP for the proposed LNP requires a supplemental DEIS for the proposed LNP and negates the LNP DEIS that the agencies relied on for the proposed Tarmac mine.

Examples of other significant new circumstances and information relevant to environmental concerns and bearing on the proposed Tarmac mining action and its impacts are provided in the narrative provided below and in the referenced attachments including those listed at the end of this comment letter. Because these attachments are too voluminous to provide to you by Express Mail (EQ 784 333 517 US), with the electronic copy of this letter, I am providing a copy of those attachments on a CD mailed to your attention at the physical address provided above. I also am mailing copies of the attachments on a CD to Cynthia Dohner, SE Regional Director of the United States Fish and Wildlife Service (“USFWS”) and Gwendolyn Keys Fleming, Region 4 Administrator of the United States Environmental Protection Agency (“USEPA”). The Nuclear Regulatory Commission (NRC) already has a copy of the referenced attachments.

B. Purpose of the Proposed Tarmac Mine – Inadequate Alternatives Analysis

Section III.C. of the Tarmac DEIS Appendix discusses “Public Need for A Long-Term Supply of Construction Aggregate Within the West-Central Florida Market.” The first paragraph of this section (p. 13) states, “Examples of projects being considered with Levy County include Progress Energy’s Nuclear Plant, the Chiefland Hospital, and the Chiefland Community College.” Section III.B of the Tarmac DEIS Appendix also references “Tarmac’s Need for A Long-Term Supply of High-Quality Limestone” that “meets FDOT-specifications for quality aggregate (p. 9). In addition to the mined limestone from the proposed Tarmac mine that the Tarmac DEIS stated would be used to construct the proposed LNP, the LNP DEIS also stated:

“the review team considered the impacts if the proposed Tarmac King Road Limestone Mine provided the source of fill. . . . An additional 1300 ac would be used for the associated quarry, processing plant, roads, and buffers; 800 ac would be set aside for wetlands; and 4500 ac would be donated to the State of Florida for preservation.”

The alternatives analysis for the Tarmac DEIS (Chapter 2) does not consider alternative materials for construction of the referenced roads, hospital and community college that would **not** require filling of wetlands. This failure is despite the fact that less environmentally destructive materials that don’t require mined limestone and filling wetlands are readily available and are more economical. For example structures have been constructed in Florida and throughout this and other countries using less harmful and more energy-conserving materials such as repurposed tires, glass and styrofoam. In fact, Australia and New Zealand are examples of countries now using crushed glass bottles for road construction. The fact that FDOT and other alleged markets for the proposed Tarmac limestone have not considered alternative, less environmentally destructive materials for construction that require no filling of wetlands does not relieve the Corps and other federal agencies from the requirement to consider alternative materials in the DEIS when alternative materials can be and are being substituted for virgin raw materials proposed for mining.

With respect to the remaining alleged purpose of the proposed Tarmac mining neither the DEIS nor the final EIS for the proposed Progress Energy’s Nuclear Plant (“LNP”) included an adequate analysis for alternatives for meeting existing and future energy needs. The proposed LNP would be constructed approximately two miles east and on the opposite side of U.S. Highway 19 (US-19) from the proposed Tarmac mine. Neither the LNP DEIS nor final EIS included an adequate analysis of initiating mandatory conservation alternatives and initiating rooftop solar alternatives, using existing rooftops. Both of those alternatives would require **no** mining of limestone to meet

existing and future energy needs. Those inadequacies in the LNP DEIS and final EIS were addressed in my previous comment letters on the LNP DEIS to the Corps and NRC. I am including a copy of those previous comment letters dated 10/26/10, 11/27/10, 3/12/12 and 4/26/12 with the related attachments, as part of the attachments incorporated into this comment letter. All of my comments in those letters are relevant to the irreversible environmental impacts that would occur from the proposed Tarmac mine.

C. Examples of Adverse Environmental Impacts Not Considered in the Tarmac DEIS

Neither the LNP DEIS nor the LNP final EIS adequately considered the adverse direct, indirect and cumulative environmental impacts of the proposed LNP. Therefore, the reliance of the Tarmac DEIS on the LNP DEIS to consider adverse direct, indirect and cumulative environmental impacts of the proposed LNP is without scientific basis. Specific examples of the gross deficiencies of the LNP DEIS, which were not remedied in the LNP final EIS, are described in the sworn testimony that I prepared for the Intervenors of the proposed LNP to file on 6/26/12 and in the sworn testimony prepared by additional witnesses Gareth Davies, Dr. Timothy Hazlett and David Still on the same date for the Intervenors for the proposed LNP. A copy of the testimony I prepared and corrected to eliminate scrivener errors and supporting exhibits are provided as Attachment INT 301. A copy of the testimony for Davies, Hazlett and Still are provided in attachments INT001, INT101 and INT201, respectively, in addition to a copy of the supporting exhibits for their testimony.

These written testimonies and supporting exhibits show that the LNP EIS failed to consider preferential flow paths that would increase the magnitude and extent of the adverse impacts far beyond the three-mile area of the 0.5-foot drawdown predicted by the re-calibrated model analysis relied on in the LNP final EIS. That model also failed to consider the impacts of proposed supply well #5, which is closest to the proposed Tarmac mine and surface water alterations from construction and operation of the proposed LNP and hydroperiod alterations for the proposed Tarmac mine and hydroperiod alterations for the proposed Knight Farm Sand mine, that also would be located east of the proposed Tarmac mine, and the proposed "Adena Ranch" project within the impact zone of the proposed LNP, Tarmac mine and Knight Farm mine. The proposed Adena Ranch requires a Consumptive Use Permit ("CUP") for the proposed withdrawal and consumption of 13.267 millions of gallons per day (MGD) of groundwater from the same aquifer system that the proposed LNP, Tarmac and project would adversely effect. See my attached testimony, exhibits and <http://floridaswater.com/facts/AdenaSpringsRanchCUP.html>

Maps included in my testimony as composite Figures 1 through 4 also show a network of linear features identified as fractures and faults by Vernon (1951) with additional linear features mapped by Florida Department of Transportation ("FDOT," 1973) all extending through and connecting the proposed Tarmac, LNP and Knight mine sites with the most environmentally sensitive wildlife habitat in that region. Those fractures, faults and associated relict sinkholes distributed throughout and surrounding the proposed LNP and mine sites would result in increased drawdowns of the surficial aquifer and associated irreversible alterations of the natural hydroperiods and the source of public water.

D. Conflict of Interest

Determining whether the gross inadequacies in the water model prepared by CH2M Hill for the LNP DEIS and final EIS and in the EMP prepared by CH2M Hill and released subsequent to the LNP DEIS and final EIS were inadvertent or intended is beyond the scope of my comment letter and is a matter for the courts to decide. What appears to be clear, however, is that company's conflict of interest.

The 12 attachments related to CH2M Hill's conflict of interest that are incorporated herein as the initial attachments listed below, clearly show that CH2M Hill benefits financially as suppliers of public water and by the sale of various expensive water filters after water resources are depleted and destroyed by actions such as those proposed by LNP and the Tarmac mine. The exorbitant cost to the public after its water is diverted to private industry is described in the Bradenton Times article by John Rehill dated 9/8/11, using Tampa Bay Water and the phosphate mining industry as examples (**Attachment 1**). The following excerpt from the "WaterWorld" website (**Attachment 2**) confirms that the Tampa Bay Water desalination plant was "engineered, procured and constructed (EPC) by CH2M Hill" (<http://www.waterworld.com/articles/mem/articles/print/volume-1/issue-1/departments/briefs.html>):

Tampa Bay Seawater Desalination Plant

The initial cost to build the reverse osmosis plant and a nearly 15-mile pipeline was approximately \$110 million. Significant remediation throughout the plant brought the total capital cost of the project to approximately \$158 million, including membrane replacement.

Under the partnership agreement, the Southwest Florida Water Management District will reimburse Tampa Bay Water \$85 million of the plant's eligible capital costs in installments over the next 18 months. The partnership agreement earmarks locally collected ad valorem taxes to offset the cost of alternative water supply development.

The facility, engineered, procured and constructed (EPC) by CH2M Hill, is the world's first full-scale seawater desalination plant to use large-diameter SWRO membrane technology. Located on the petrochemical hub of Jurong Island in Singapore, the project was successfully delivered over a fast-track schedule of 18 months, from contract signing to plant handover. The SWRO plant uses 16-inch diameter membrane elements, instead of the current industry standard of 8-inch diameter – resulting in significant capital and operating cost savings to PowerSeraya.

It is important to note that CH2M Hill also was hired by the Corps to prepare the area-wide EIS for the proposed expansion of phosphate mining in the same area where the mining industry is exploiting “free” ground water while the public is forced to pay exorbitant prices for CH2M Hill's desalination water. A synopsis of the myriad problems and escalating expenses associated with the Tampa Bay Desalination Plant was included on pages 15 and 16 of Appendix A for the report, “Desalination, With A Grain of Salt: A California Perspective.” That report was prepared by the Pacific Institute. Appendix A of the report is incorporated herein as **Attachment 3** and the full report is available on line (<http://www.pacinst.org/reports/desalination/index.htm>). Other examples of the negative public sentiment regarding these types of public desalination projects by CH2M Hill and others are illustrated in the following excerpts from the “WaterWebster” website included as **Attachment 4** (<http://waterwebster.org/Desalination.htm>)

Opinion

Doing desalination wrong: Poseidon on the public dole

Desalination in California is an idea whose time has not yet come. It remains too expensive, compared to untapped conservation and efficiency, recycled water, capturing stormwater, and smart trades with agriculture. The Institute wrote about the pros and cons of desalination in one of our most downloaded studies. Even worse, the first effort to build a major desalination facility for urban water supply in California, by the private group Poseidon Resources, is poorly designed, badly financed, and environmentally unsatisfactory. It is going to become the new case study in how NOT to do desalination, replacing the previous case study (also of a Poseidon effort) of how not to do desalination - Tampa Bay, Florida. *SFGate_11/5/09*

Lawsuit filed to halt desalination plans in Northern California's Marin County

Opponents of a Marin Municipal Water District plan to desalinate bay water and pipe it to Marin homes filed a lawsuit Monday in an effort to stop the project from proceeding. The lawsuit seeks an injunction to halt progress on the proposed desalination project and "protect the San Francisco Bay and the citizens of Marin from the harmful effects" of desalination, according to the suit filed in Marin Superior Court by San Anselmo Councilman Ford Greene, an environmental group and several other plaintiffs. The suit alleges the proposed \$105 million desalination plant would induce population growth of up to an additional 85,000 people in Marin, discharge up to 30 million gallons of harmful brine into San Rafael Bay, increase energy consumption by the water district by up to four times and expose the public to potential contamination. In addition to Greene, Oakland-based attorney Stephan Volker filed the lawsuit on behalf of the North Coast Rivers Alliance, Larry Rose, Fairfax Councilman Larry Bragman, Ritchie Cook, Susan Kirsch, Frank Egger and Peter Lacques. The water district is listed as the primary defendant. *San Rafael Independent Journal_ 9/21/09*

The extent to which CH2M Hill is dominating and monopolizing the desalination industry is shown in **Attachments 5 through 12**, with its officers serving as President of the International Desalination Association (“IDA”) and editor of “Desalination Report” and “Desalination Technology Trends.” **Attachment 8** is one of CH2M Hill’s desalination brochures claiming to be “A proven international leader in water resource development.” **Attachment 9** confirms that not only has CH2M Hill “engineered, procured and constructed” these costly desalination facilities after public water supplies have been exploited, depleted and contaminated, but they also sell the costly membranes that must be replaced frequently – with the costs paid by the public (http://www.desalination.biz/news/news_story.asp?id=6459&channel=0).

The 5/21/09 New York Times article by Kevin Ferguson titled, “Water Needs Electricity Needs Water” (**Attachment 10**) further emphasizes the inseparable link between conventional power plants and desalination plants, particularly CH2M Hill’s desalination plants. Considering this inseparable link, it is difficult to comprehend how this apparently blatant conflict of interest in the LNP DEIS and final EIS occurred. The 4/4/08 article titled, “Large scale desalination: is there enough energy to do it?” (**Attachment 11**) considers whether there will be sufficient energy to provide power for these desalination plants. These attachments also emphasize the close ties between the conventional energy industry – which requires large volumes of water – and the desalination industry. Last, but not least, page 6 of CH2M Hill’s 3/12 “Water Client Newsletter” (**Attachment 12**) boasts how CH2M Hill’s Senior Vice President, Glen Daigger Chaired a Committee that questioned the validity of EPA’s cost analysis for the agency’s new rule for pollution criteria in Florida waters – during the same time period that CH2M Hill’s work on the LNP DEIS and final EIS would ensure increased pollution in surface and ground waters in an extensive multi-county area surrounding the proposed LNP.

D. Summary

In summary, the evidence provided in the sworn testimony, exhibits and other attachments incorporated into this comment letter by reference is sufficient for the Corp choose the “No Action” alternative and to deny the proposed Tarmac mine. More specifically, the proposed action is **NOT** a wetland-dependent activity and would result in irreversible adverse direct, indirect and cumulative environmental impacts on wetlands, floodplains, special aquatic sites, other waters including Outstanding Florida Waters, wildlife habitat and federally endangered and threatened species. Therefore, an alternative site is presumed to exist. Furthermore, the evidence provided with this comment letter is sufficient to conclude that these irreversible adverse direct, indirect and cumulative environmental impacts are **NOT** capable of being “mitigated” and that the proposed “mitigation,” “restoration” and “preservation” described in Chapter 5 of the Tarmac DEIS cannot be executed because of the hydroperiod alterations that would occur from the proposed Tarmac mine, singly and cumulatively in combination with those from any or all of the proposed LNP, the proposed Knight sand mine and the proposed Adena Ranch projects.

In the absence of choosing the “No Action” alternative and denying the proposed Tarmac project your agency cannot move forward with a final EIS without first preparing and releasing a supplemental DEIS to address the significant new circumstances and information relevant to environmental concerns and bearing on the proposed action and its impacts. Thank you for the opportunity to provide comments regarding the Tarmac DEIS. You will receive an electronic copy of the referenced attachments on a CD via US Express Mail (EQ 784 333 517 US). Please contact me if you do not receive the CD with the listed attachments. Please note that with the exception of the initial 12 attachments supporting the conflict of interest with CH2M Hill, your agency already has the remaining attachments in the files for the proposed LNP.

Sincerely,



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Proposed Tarmac Limestone Mine
July 10, 2012

cc:

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Karrie-Jo Shell, USEPA Region 4
Miles M. Croom, NOAA Assistant Regional Administrator Habitat Conservation Division
Mark Sramek, NOAA Habitat Conservation Division

Attachments:

1 Editorial_ Water_ The Hidden Tax on Phosphate Mining - The Bradenton Times9811.pdf
2 CH2M Hill Briefs - WaterWorld.pdf
3 CH2M HILL Desalination Appendix A pages 15-16.pdf
4 CH2M Hill WaterWebster Desalination News210.pdf
5 CH2M HILL elected President of International Desalination Association103107.pdf
6 CH2M HILL Tom Pankratz _ Desalination museum _ Desalination.com.pdf
7 CH2M Hill Tom Pankratz Desalination Technology Trends.pdf
8 CH2M HILL Desal_Brochure_2004.pdf
9 CH2M HILL New membrane and desalination leaders in CH2M Hill changes4512.pdf
10 CH2M Hill Water Needs Electricity Needs Water ... - NYTimes52109.pdf
11 CH2M Hill Large scale desalination_ is there enough energy to do it __ lightbucket4408.pdf
12 CH2M HILL Water Client Newsletter Access Water page6 312.pdf

INT001-009 Gareth Davies' Testimony and Exhibits*
INT101-105 Dr. Timothy Hazlett's Testimony and Exhibits
INT201-218 David Still's Testimony and Exhibits**
INT301-439 Dr. Sydney Bacchus's Testimony and Exhibits***

* Scrivener errors in Davies' testimony include no reference Exhibit #007 and references to Exhibits 208, 209 and 210 instead of to Exhibits 207, 208 and 209.

Proposed Tarmac Limestone Mine
July 10, 2012

** Scrivener errors in Still's testimony include references to the two sinkhole articles as Exhibits 204 and 205, instead of Exhibits 205 and 206; reference to Exhibit 205 for the Florida Administrative Code, which was not an exhibit; references to Exhibits INT206 through 210 instead of Exhibits 207 through 210; the second reference to Exhibit INT214 should be Exhibit INT215; the first reference to Exhibit INT218 in the testimony for the USGS letter dated 06-08-2011 should be Exhibit INT217.

*** Scrivener errors in Bacchus's testimony are shown as highlighted strike-through text for deletions and highlighted text for additions.