Sparrows Point LNG

Mid-Atlantic Express

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2007 JUN 14 P 4:46
FEDERAL ENERGY
REGULATORY COMMISSION

June 14, 2007

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 1st Street N.E.
Washington, D.C. 20426

Dear Ms. Bose:

This letter is in response to the issues and/or questions raised in the minutes from the Meeting on Dredging / Dredged Material Disposal with the Federal Energy Regulatory Commission (FERC), the U.S. Army Corps of Engineers (ACOE), the U.S. Environmental Protection Agency (EPA) and the Maryland Department of the Environment (MDE) that were posted to the FERC website on June 12, 2007. Although many of the issues are new and have not previously been identified to AES as open issues by any agencies, we are aware that the ACOE plans to send a letter requesting more specifics about the project and that many of those issues were discussed in the meeting on June 5th and are addressed in the meeting minutes referenced above. Therefore in an effort to avoid further delay to the project, AES will attempt to respond to those questions with the hope that these responses will satisfy FERC's concerns and allow the process of preparing and issuing the DEIS to continue. The issues /questions recorded in the FERC minutes and AES comments on those issues/questions are listed below.

1. How much, if any, of the AES dredged material is included in the previous Barletta-Willis permit?
    - AES has obtained the bathymetric survey data from Barletta – Willis, Inc. (BWI) that was performed after the dredging that occurred earlier this year, January 2007. We have overlaid this survey data on the survey information obtained in July 2006. The updated quantity of dredge material that needs to be removed by AES is approximately 3,700,000 cubic yards based on 1:5 slope and 400 foot channel width and assuming no additional siltation in this area between the time of the survey and the start of dredging for our project. The supporting methodology for the calculations are attached to this response as Attachment 1.

2. Barletta-Willis has no known disposal site for 2.0 mmcy of dredged material yet to be dredged under the existing permit.

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- Based on our review of the permit issued to BWI Sparrows Point, LLC on May 6, 2005 by the ACOE, this permit was approved with agency knowledge that there was not an identified disposal location for the material that would result from the Phase II dredge area (this material was not slated to go to Hart Miller Island for disposal). The 2.0 mmcy of material referenced above was approved to be dredged and disposed of in "locations yet to be determined." As explained below, AES is concerned that the ACOE may be applying a new and unsupported standard as to the need for or relevance of information regarding the final placement of the processed dredge material for AES, prior to the processing of its permit applications. In any event, AES has specifically addressed process dredge material placement in our response to MDE on May 7, 2007. A copy of the AES response relative to final placement options was also filed with FERC on May 7, 2007 and also sent to ACOE for reference.

3. The COE, EPA, and MDE are very concerned about permitting any further dredging without a specific destination for placement of the dredged material/recycled material.
   - AES feels we have adequately addressed potential placement issues for processed dredge material or "PDM" in our response to MDE on May 7, 2007. Since we are still in the permitting stage, actual volumes needed and commitments to and from customers cannot yet be made. AES has identified enough potential customers and uses of the material to satisfy any concerns regarding our ability to dispose of all the processed dredge material from this project. We have also provided detailed information on precedents for similar dredge material being processed and recycled for beneficial use in the case of other state, ACOE and EPA jurisdictional projects. Further, we are not aware of any existing or proposed ACOE, EPA, MDE guidelines that clearly impose this requirement to all dredge projects, especially within the Port of Baltimore, and if so when that guidance will be available to AES. Also, we are unclear that there is appropriate distinction being made here between disposal of dredge material (which BWI needs to do for its already-permitted dredging) and beneficial re-use of processed dredge material, a product derived from the dredged material (about which AES has provided significant detail to the agencies, and will fund, construct and perform). We believe that once the incoming dredge material is characterized, processed and turned into a usable product, using the process proposed by AES, it would be the responsibility of the end user of the processed dredge material to confirm that the material meets its acceptance criteria and applicable permit conditions for its intended use. And, there is no reasonable basis to question the availability of such permits to the end user.

4. Four or five of the 15 samples are not in the currently proposed dredge area. Additionally, much of the currently proposed turning basin and LNGC docking area have not been adequately sampled. Six to 10 additional sample sites/vibracores are needed by COE/EPA and will be further defined over the next two weeks. FERC will review Resource Report 13 for relevant data and report to COE/EPA. COE will check for relevant data in the Barletta-Willis application.
    - We are concerned with the statement being made above regarding the adequacy of the sampling. First, both the shipping approach channel and the area near the LNGC docking area have already been approved for dredging to a depth of 39 feet under a permit issued by ACOE to BWI- Sparrows Point, LLC, dated May 6, 2005. AES is dredging the same area for the dock and the same alignment of channel, but to a greater depth by approximately 6 feet. Therefore, there should be no question regarding the adequacy of sampling in these areas. In fact, based on samples analyzed, the material is cleaner with depth so the additional 6 feet in dredge depth is cleaner than what has already been approved. It is true that the turning circle was shifted during the FERC Pre-filing process slightly to the North from where it was originally proposed, and the net impact of the shift was to move approximately 20% of the northeast sector of the turning area to an area that fell outside of the area where we had performed our core samples. However, that shift was made to further minimize dredging and, while the shift was performed after the AES round of sediment samples was obtained, the area of shift was still encompassed by several AES sample locations and was also within area sampled by BWI prior to AES's sampling and by the Maryland Port Administration (MPA) after AES's sampling, thereby providing the agencies with three sets of independent, but comparable data and results covering the proposed dredge area. Notably, the data set results are consistent with one another as to the compounds detected and range of concentrations, thus it is also a logical and reasonable inference that there will not be any significant difference in the level of potential concern for the small portion of new area encompassed by the turning circle shift. All of the results, as well as comparison data for the remainder of the port, were provided with the filing to FERC, and within the ACOE and MDE permit applications. Additionally, this area, even with the shift in the turning circle, still falls within the approved dredge permit area outlined in the permit issued to BWI – Sparrows Point, LLC, which is referenced above and depicted in the overlay of the two dredge areas shown in Figure 1 attached .

      It should also be noted that for the BWI permit there were a total of 9 sample core locations that were composited down to 3 samples with no depth discrimination. In contrast, AES sampled an additional 15 locations and analyzed 16 samples covering 3 individual depth intervals (shallow,

intermediate, deep). In addition to this, MPA, subsequent and independent to AES's sampling effort, sampled an additional 12 locations and composited these down to 4 samples covering the proposed dredge location. When AES performed its analysis, we not only took into account the samples taken and analyzed by BWI, but all other previously available data for this area. AES also analyzed several additional parameters (such as tri-butyl tin) that were not looked at in previously permitted dredging, as a result of public input to the project. Taken together, this data exceeds the requirements for the previous permit covering much of the same dredge area (and, overall, a larger dredge footprint). Even if AES were to discount the 4 samples that fall outside of the dredge area due to the turning basin shift, there were not wide variations in the material and chemical properties of these samples across the area, and these samples still exceed the number of samples taken to issue permits for dredging the same general area.

Based on all of the foregoing, it is AES's position that the sampling it has performed is sufficient to properly characterize the material for issuance of a permit for the project. We are concerned that ACOE now appears to be changing its standard for this project and considering making it a requirement that we obtain even more samples at this juncture to obtain the permit and further delay the project. The sampling data has been made available as early as September 2006, when a pre-file draft of Resource Report 2 was submitted to FERC, ACOE and state agencies. We feel that there has been sufficient opportunity over this almost nine month period to identify this as a concern. Although, as stated in Resource Report 2, AES may need to perform additional sampling prior to dredging to further characterize the material for processing purposes, AES contends that the sampling information already presented is in excess of what has been previously provided for other dredge projects. The data provided, when coupled with the other information presented by two other independent sources in the same area, is more than adequate to allow processing and issuance of the dredge permit.

5. The AES spoil recycling proposal does not identify a final destination for the PDM, or an analysis of the make-up of the PDM, which is essential to permitting such a process.
   - AES filed a response to MDE's data request regarding this issue on May 7, 2007. That response presents a matrix identifying the make up and potential disposal options of the process dredge material. We understand that this is the first time that MDE is dealing with such a concept, and we fully expect that we will continue to work with MDE and other agencies to refine this matrix, provide additional information of specific material composition, and support the approval process to allow final determination for placement of the process

dredge material. There is no basis to delay the permitting process in light of this matter.

6. MDE will review the AES responses to the MDE May 7, 2007 data request for consistency with state permitting policies.
   - AES understands that MDE is still reviewing the responses and is prepared to assist where and if necessary.

7. Regardless of the disposition of the PDM, the EPA requires a complete characterization of the dredged material prior to recycling to meet its water quality impact analysis.
   - The only anticipated *potential* impact to water quality would be water decanted in the dredge material settling process and returned back to the waterbody from which it came. This decant water will be monitored and controlled prior to discharge; please refer to our response to MDE dated May 7, 2007 for further clarification. Beyond this, the potential for impact to water quality in this portion of the dredge process was addressed by AES with samples subjected to elutriate testing which showed little potential for impact on water quality during dredging; these data were reported in our filing with the FERC (Resource Report 2) and copied to the ACOE and MDE, and in our permit application submittals to ACOE and MDE. We note that neither BWI nor MPA performed similar testing for their evaluation of the permitted BWI dredging and that AES's dredging will not involve dredge methods that are different in any way that would present greater likelihood of impact. Further, the MPA concluded from the analyses it performed that "There were 34 priority pollutant organics detected in the four grab samples, but the majority of the concentrations were in the parts per billion range *and are not expected to have an impact on water quality*." (quote from MPA November 7, 2006 memorandum; emphasis added). We are not aware of any other issues that might be of concern here, but AES commits to respond expeditiously to any new issues that might be identified.

8. MDE is concerned about the impacts of overland transportation of dredged material or PDM to a disposal area.
   - AES believes that once this material is converted from dredge material to processed product through the pugmill process, there is no unique concern during transport to end users of the material. The material is dry in nature and can be transported the same as any other material (such as earth, aggregate, etc.) with the appropriate measures for fugitive dust control. In Resource Report 9, AES did address environmental impacts associated with processing, storage and load out of the process dredge material. With regard to transporting this material to end users, all transport vehicles will be required

to possess all necessary operating permits and registrations in order to be loaded at the Site, and will be subject to the same transportation requirements applicable to similar products while traversing public roadways. Such permits and license requirements may differ dependent upon destination and type of material, but ultimately these controls provide state and federal authorities enforceable mechanisms to address any concerns that may arise with the purchasers and transporters of the material. This matter also is not a basis for delay in the processing of AES's permits.

9. COE will address data deficiencies in a letter to AES as soon as feasible, in consultation with the other agencies.

AES submitted its application to the ACOE in January 2007. In early February, ACOE issued a letter to FERC stating the application was deficient and identifying areas of specific concern, to which AES responded with a reformatted application in early April 2007. In this reformatted application, AES attempted to ensure the points mentioned in the February 2007 letter to FERC were adequately addressed in an effort to avoid future inquires. AES has been made aware that the ACOE may now have additional questions that were not previously raised, and is prepared to respond to those inquiries as soon as they are received. However, to the extent that the ACOE will require additional samples to make its completeness determination, then AES respectfully submits that any such requirement is unwarranted. AES presented its core sampling data for the first time to the FERC and ACOE back in September 2006 in the pre-file draft of Resource Report #2. AES made subsequent filings of this Resource Report in October 2006 and updates to the sampling data format at this time also. The shift in the turning basin was also made during this period and agencies were informed of the change. FERC pre-filing conference call notes from December 14, 2006 even note that ACOE was to check on the adequacy of sample analyses for the dredging permit due to the change in location of the turning circle.

In short, AES feels it has provided more data than has been typical of other projects in the port; provided significant detail as to processing and ultimate disposition of the product that will be produced from the dredged material; provided evidence of the same dredge recycling being used for beneficial use in other ACOE and EPA jurisdictional projects; and provided objective analysis indicating the limited potential for environmental impact to result from the proposed project. Even though AES submits that this extensive information and data was fully adequate for purposes of agency approval of the permits involved, nevertheless AES stated in Resource Report 2 that it would work with the agencies on any additional sampling that may be needed for material process refinement and final disposition of process dredge material product, and it remains committed to that promise. However, at this time AES feels detailed review of the responses submitted to MDE and other agencies

over the past several months should be concluded and permits processed, as we feel that many of the potential questions have previously been addressed in those submittals. AES respectfully suggests that the ACOE be requested to reconsider any possible decision to require that additional core sampling be undertaken by AES prior to processing AES's permits.

We trust that this adequately addresses the majority of the issues raised in the meeting and are hopeful that this will preempt certain questions and concerns coming from ACOE or other agencies involved in review of this project. Please note that AES had requested to participate in this meeting in the hopes to address many of the issues raised by the various agencies. We feel our direct participation could have been advantageous in providing immediate responses to many of these issues and avoided the unnecessary delay associated with a formal data request. We would appreciate FERC's consideration in future requests that AES be allowed, as appropriate, to attend meetings of this nature, if for no other reason than to provide additional data to supplement the discussion.

Respectfully submitted,

Christopher H. Diez
Project Manager

Cc: Joanne Wachholder, FERC
Laura Turner, FERC
Medha Kochhar, FERC
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Joseph DaVia, ACOE
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Tressa Ellis, MDE
Randy Mathura, AMEC
Richard Yuill, AMEC
Kent Morton, AES
Aaron Samson, AES
Randy McManus, Baker Botts L.L.P.

Attachment 1 : **Quantity of Dredge Material for 400' Entrance Channel**

Project	DCAESG	**Date**	June 13, 2007
Note		**Ref**	
Author			

1 Introduction

This note describes the calculation of volumes to dredge in the Baltimore area, specifically at Sparrow Point. The volumes are calculated in cubic feet and cubic yards and using side slopes of the dredge area of 1:10 (vertical:horizontal) and 1:5 (vertical:horizontal). The proposed dredge depth is 45 ft below MLLW. The channel width is 400 ft.

2 Source Data

The source bathymetry data in the immediate port area is derived from soundings of a 2007 survey, recorded as XYZ points (drawings 3871-01-37-01.dwg, 3871-01-37-02.dwg, 3871-01-37-03.dwg). The soundings cover majority of the entire proposed dredge area (see Figure 1 – dredge area in red without side slopes). The depths are presented in feet below MLLW. The coordinate system is Maryland State Plane, NAD83 in feet.

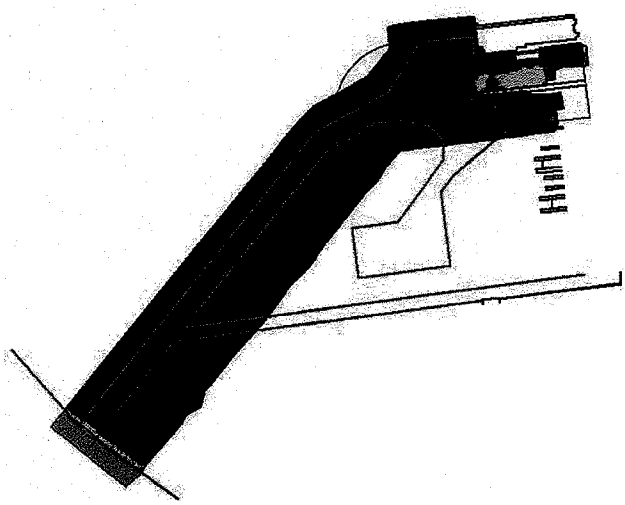

Figure 1 Proposed dredge layout and TIN of 2007 survey

The second data source is the proposed dredge area itself (drawing CAESG100-01A-S002-01.dwg). This was provided as a CAD drawing and comprised the channel, with a turning area and a docking area.

3 *Creating the bathymetry model for 2007 survey*

A TIN is a 3 dimensional model of the actual surface of the seabed (see Figure 2). The bathymetry model (TIN) forms the base of the volume calculations. A TIN is created of the 2007 survey points and an outline of the surveyed area.

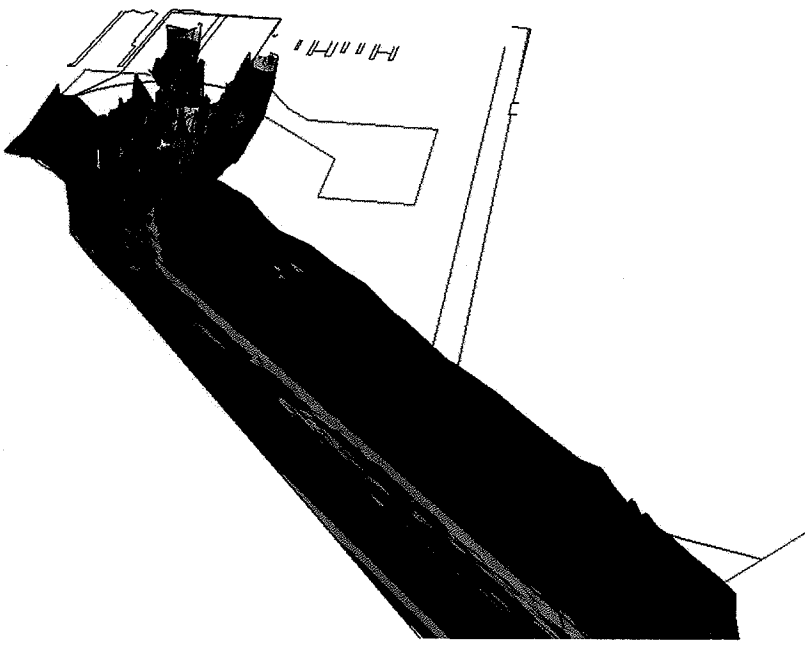

Figure 2 3-dimensional representation of the bathymetry model (TIN) showing part of the proposed dredge area (in red) and the current channel (in light blue).

4 *Creating the proposed dredge model*

A TIN model is created of the proposed dredge area and side slopes based on the following data:

- Outline of the proposed channel (CAD drawing)
- Side slopes of 1:10 and 1:5 as per specification
- No side slope at the pier area, i.e. the outline of the proposed channel is also the extent of the model, a vertical wall is modelled at that location

A cross section of the proposed dredge model is shown in Figure 3.

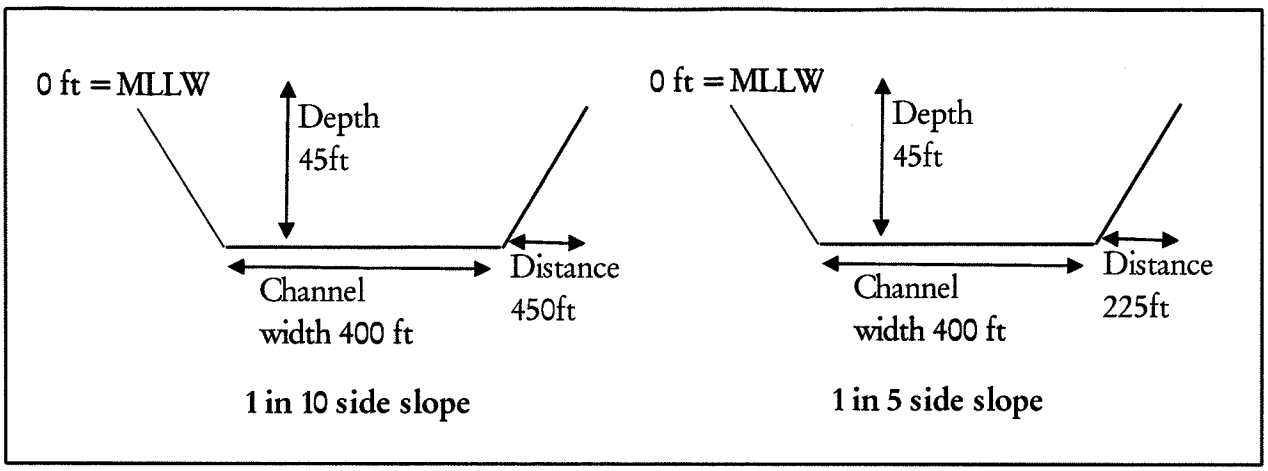

Figure 3 Schematic cross section of the proposed dredge model (1:10 and 1:5 side slopes)

The schematic of the proposed dredge model assumes a channel depth of 45.0 ft (below MLLW), channel width of 400 ft and a side slope of 1:10. When we extend the side slope to the water surface the edge is 450 ft outside the edge of the proposed channel. Figure 4 shows the TIN model of the dredge area in 3D.

The 3D model shows the side slopes and a flat channel bottom (in grey). The side slope is extended to the water surface for the purpose of the volume calculations. Where the dredge model intersects with the current bathymetry is the location of the actual top of the side slope and therefore the outline of the dredging. No side slope is visible at the pier, as a straight wall is used in the calculations.

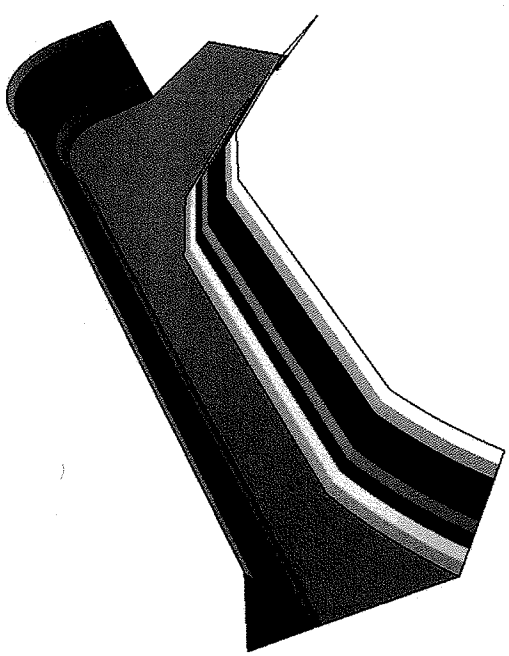

Figure 4 3-dimensional representation of the TIN model of the proposed dredge area (1:10 side slope).

5 *Estimating volumes*

The volume is calculated by comparing the bathymetry TIN model and the proposed dredging TIN model and taking the difference in depth for the entire area where the two models overlap.

Dredging is required where the bathymetry model is 'shallower' than the proposed dredge model. The edge of the dredge area is defined by the line where the bathymetry model and the proposed dredge model intersect (see Figure 5).

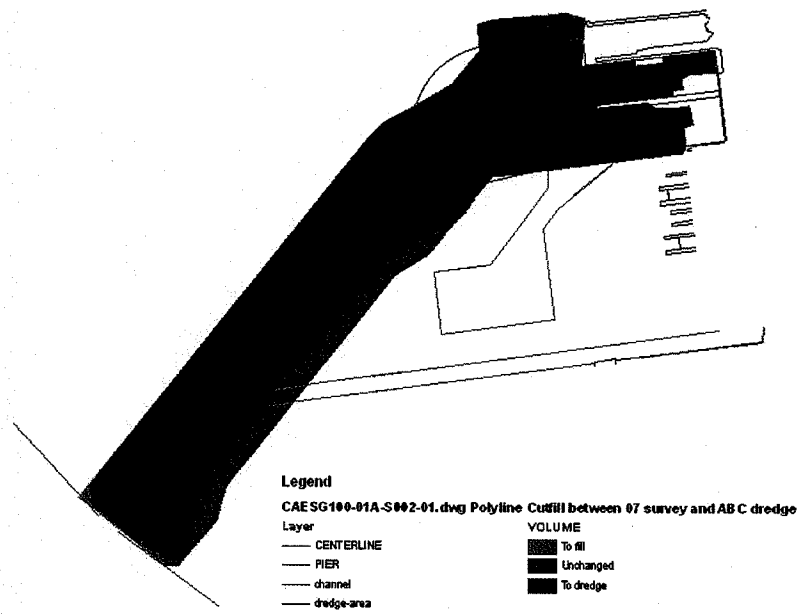

Figure 5 Dredge and fill locations for the 2007 survey (1:10 side slope)

6 *Volume calculations channel 400 ft*

The total volume to be dredged based on the 2007 survey data is listed below in Table 1:

Table 1 Results of volume calculations for 2007 survey data channel width 400 ft

2007 survey 1:10 side slope		**2007 survey 1:5 side slope**	
Dredge (cubic feet)	Dredge (cubic yards)	Dredge (cubic feet)	Dredge (cubic yards)
110,445,950	4,090,591	94,752,506	3,509,352
Estimated quantity outside survey area based on GEODAS	400,000	Estimated quantity outside survey area based on GEODAS	150,000
Total Dredge Quantity	4,490,591	Total Dredge Quantity	3,659,352

An additional TIN were created from the private survey carried out which was a combination of surveys conducted in 2004 and updated in 2006 (referred hereafter as 2006 survey) (please note that this was the data presented and used in 2006 volume calculations). The outline of the bathymetry models created with these data sources is identical to the area covered by the 2007 survey to allow comparison of results. The dredge volumes are then calculated using the 2007 proposed dredge TIN to obtain the results as listed in Table 2. Results in tables 1 and 2 can be directly compared.

Table 2 Results of volume calculations with previous bathymetry data channel width 400 ft

2006 survey 1:10 side slope		**2006 survey 1:5 side slope**	
Dredge (cubic feet)	Dredge (cubic yards)	Dredge (cubic feet)	Dredge (cubic yards)
118,094,225	4,373,860	100,918,619	3,737,727
Estimated quantity outside survey area based on GEODAS	350,000	Estimated quantity outside survey area based on GEODAS	150,000

Total Dredge Quantity	4,723,860	Total Dredge Quantity	3,888,727

A note of caution on the above results: the outline of the 2007 data does not cover the entire area of the proposed dredge model when taking into account the 1:10 or the 1:5 side slopes. The overall dredge volume is slightly underestimated as a result (see Figures 6) so to adjust for this, an estimated quantity based on available GEODAS data was made for these areas and included in the calculation tables above.

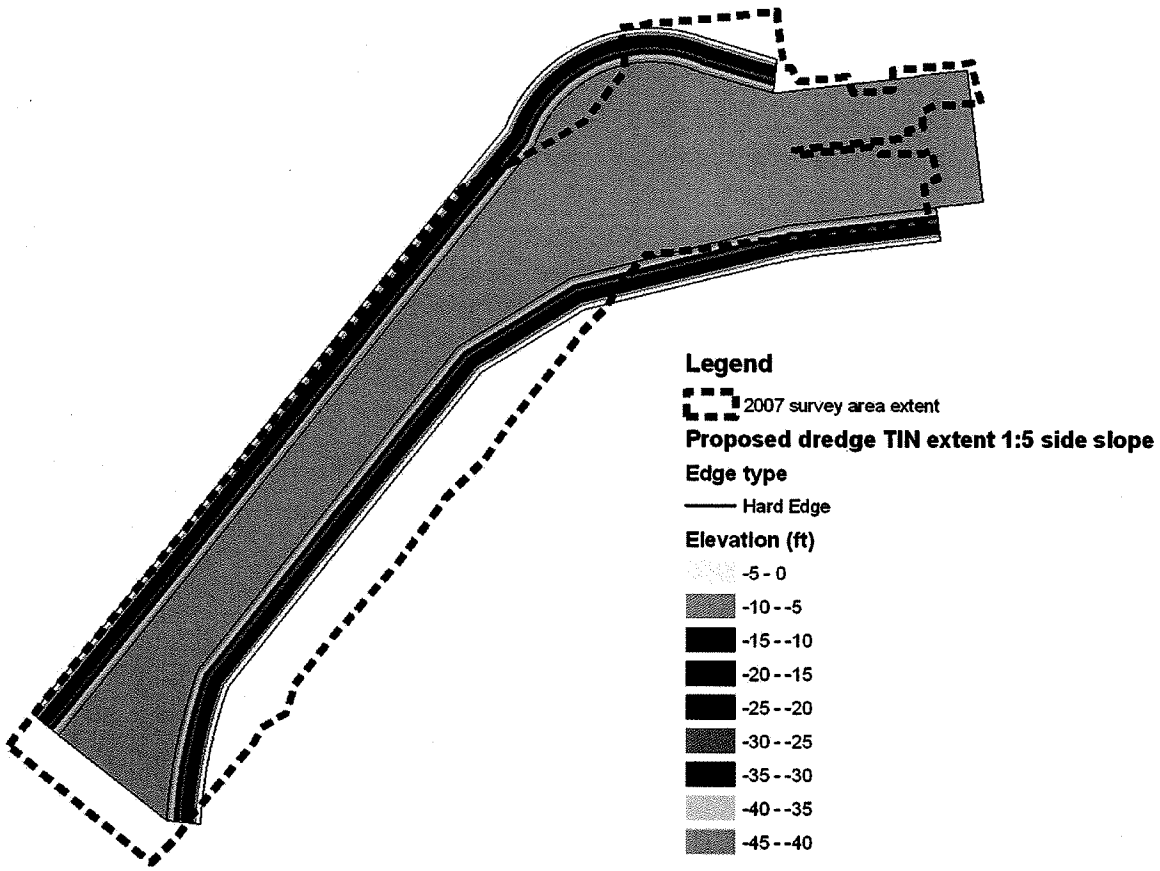

Figure 6 Proposed dredge model (1:5 side slope) compared to the 2007 survey extent

A direct comparison with the 2006 volume calculations is not possible for the following reason:

- The area covered by the 2006 volume calculations extends beyond the outline of the 2007 bathymetry model, and covers even a larger proportion of the proposed dredge model extent.

However, for use in comparison of the impact of the dredging performed by BWI – Sparrows Point, LLC in January 2007 on the quantity required to be dredged for the AES Sparrows Point LNG, LLC project the information above is applicable and the net volume differences are approximately 230,000 cubic yards.

FIGURE 1

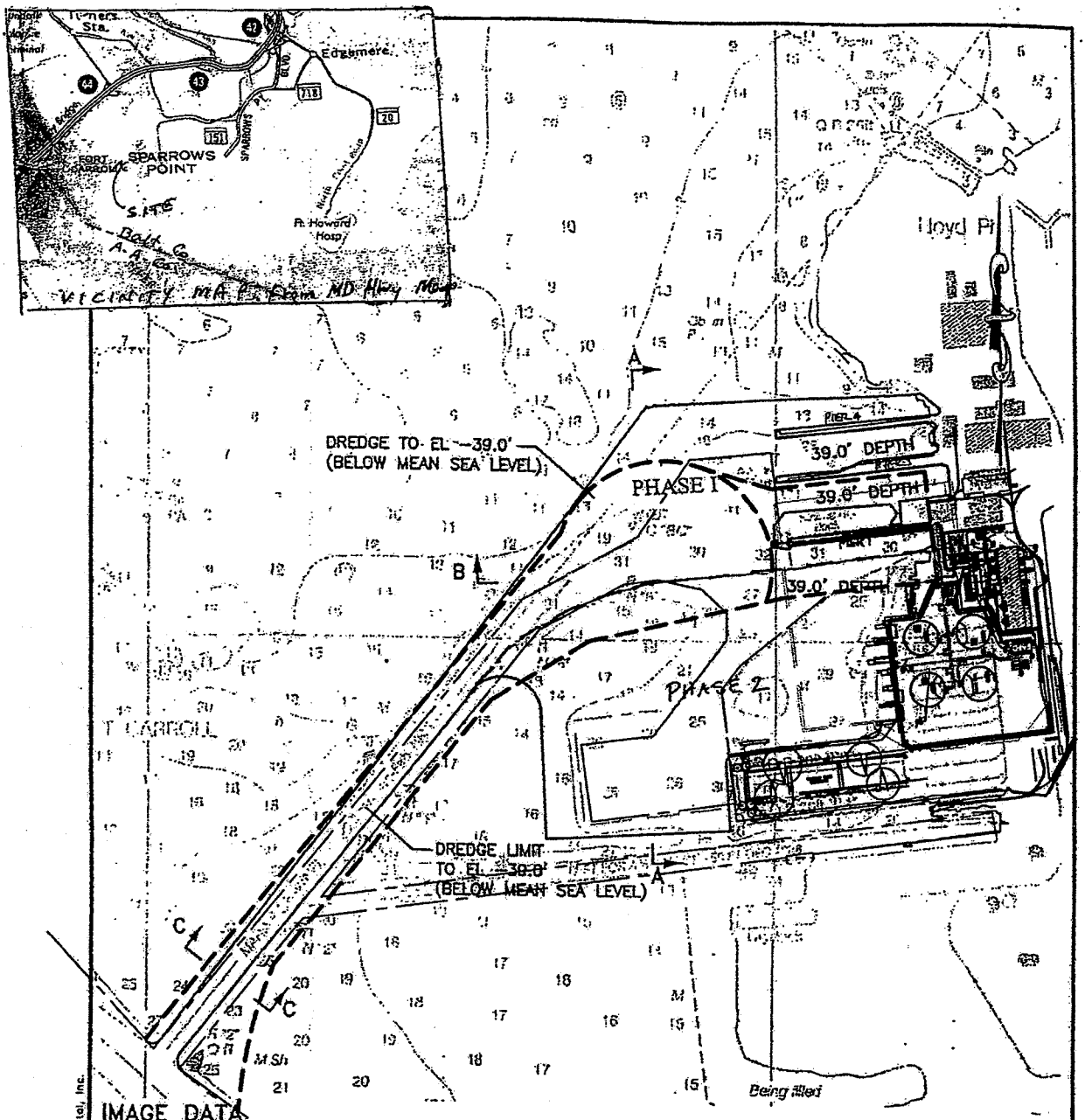

IMAGE DATA

IMAGE IS GENERATED USING NOAA COAST SURVEY DATED MAY 13, 2000, 49th EDITION, SHEET NUMBER 12281. SOUNDINGS ARE IN FEET BELOW MEAN LOWER LOW WATER (MLLW). SURVEY INFORMATION WAS CONDUCTED BY THE US ARMY CORPS OF ENGINEERS ON MARCH 2000.

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PROPOSED DREDGING
AT BWI SPARROWS POINT, LLC

February 2006

600 SHIPYARD ROAD
SPARROWS POINT, BALTIMORE COUNTY, MD 21219

H:\CAD FILES\Non-Wayne Projects_17983, Baltimore Piers\Dwgs\SD-01.dwg (FIGURE 1MOD)

Sheet 1 of 3

AES CORPORATION
SPARROWS POINT LNG
BALTIMORE, MARYLAND

HPA

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