

**ADDENDUM**  
**BEST AVAILABLE RETROFIT TECHNOLOGY DETERMINATION**  
**INDIAN RIVER GENERATING STATION UNIT 3**  
**MILLSBORO, DELAWARE**

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Project No. 1009684012  
June 20, 2008

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***List of Acronyms and Abbreviations***

BART	Best Available Retrofit Technology
dv	deciview
DNREC	Delaware Natural Resources & Environmental Control
ESP	electrostatic precipitator
FLM	Federal Land Managers
Indian River	Indian River Operations, LLC
MPR	Multi-Pollutant Regulation
NP	National Park
NWA	National Wilderness Area

## *1.0 Introduction*

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On January 1, 2007, the Delaware Natural Resources & Environmental Control (DNREC) sent a letter to Indian River Operations, LLC (Indian River) regarding the applicability of the Regional Haze Guidelines for Unit 3 at the Indian River Generating Station in Millsboro, Delaware (Facility). This unit was considered by DNREC as “BART-Eligible” and was required to perform analysis for Best Available Retrofit Technology (BART) Determinations (70 FR 39104). A report was submitted in August 2007 that provided the BART determination for Unit 3 for PM10.

DNREC received comments on their draft Visibility State Implementation Plan from the Federal Land Managers (FLM). The FLM suggested using the 1<sup>st</sup> highest results for the BART analysis as opposed to the 8<sup>th</sup> highest values for visibility. This addendum addresses their comment and presents the BART determination using the 1<sup>st</sup> highest results. Section 5.7 and 5.8 of the August 2007 report is the only section that are updated due to the FLM comment. Therefore, this addendum only includes the necessary changes to Section 5.7 and Section 5.8.

## 5.0 BART Analysis and Determination

### 5.7 Summary

Tables 5-4a and 5-4b summarize the BART analysis for the Unit 3 for particulates. As shown in these tables, the changes in visibility impact for both alternative control technologies are minimal over the baseline for both emission scenarios.

Tables 5-5a and 5-5b show the cost effectiveness of the two alternative control technology options in terms of improvement in visibility over baseline. The cost for even marginal change in visibility is substantial for both options.

**Table 5-4a**  
**Change in Delta Deciview from Baseline Scenario (ESP)**  
**Emission Scenario 1: PM10 Emissions Only**

Class I Area	Parameter	Baseline	Pulse Jet Fabric Filter	Wet ESP after FGD
Brigantine NWA	1st Highest Delta Deciview	0.173	0.01	0.007
	Difference from Baseline	-	<b>0.163</b>	<b>0.166</b>
Shenandoah NP	1st Highest Delta Deciview	0.04	0.003	0.001
	Difference from Baseline	-	<b>0.037</b>	<b>0.039</b>

**Table 5-4b**  
**Change in Delta Deciview from Baseline Scenario (ESP)**  
**Emission Scenario 2: PM10/SO2/NOx Emissions**

Class I Area	Parameter	Baseline	Pulse Jet Fabric Filter	Wet ESP after FGD
Brigantine NWA	1st Highest Delta Deciview	0.466	0.404	0.367
	Difference from Baseline	-	<b>0.062</b>	<b>0.099</b>
Shenandoah NP	1st Highest Delta Deciview	0.273	0.237	0.227
	Difference from Baseline	-	<b>0.036</b>	<b>0.046</b>

**Table 5-5a**  
**Cost Effectiveness for Visibility Improvement for Alternative Control Technologies**  
**Brigantine NWA**

Control Technology	Emission Rate (lb/MMBtu)	Visibility Impact (dv)	Expected Change in Visibility Impact from Baseline	Capital Cost \$	Direct Cost \$	Indirect Cost \$	Total Annualized Cost \$	Average Cost Effectiveness (\$ per change in dv)
Baseline (existing Cold side ESP): Emission Scenario 1	0.3	0.173	-	-	-	-	-	-
Pulse Jet Fabric Filter: Emission Scenario 1	0.015	0.01	0.163	\$43,419,200	\$20,330,504	\$15,621,995	\$35,952,499	<b>\$220,567,479</b>
Wet ESP after FGD: Emission Scenario 1	0.01	0.007	0.166	\$88,270,292	\$39,882,776	\$31,759,177	\$71,641,952	<b>\$431,578,024</b>
Baseline (existing Cold side ESP): Emission Scenario 2	0.3	0.466	-	-	-	-	-	-
Pulse Jet Fabric Filter: Emission Scenario 2	0.015	0.404	0.062	\$43,419,200	\$20,330,504	\$15,621,995	\$35,952,499	<b>\$579,879,016</b>
Wet ESP after FGD: Emission Scenario 2	0.01	0.367	0.099	\$88,270,292	\$39,882,776	\$31,759,177	\$71,641,952	<b>\$723,656,081</b>

**Table 5-5b**  
**Cost Effectiveness for Visibility Improvement for Alternative Control Technologies**  
**Shenandoah NP**

Control Technology	Emission Rate (lb/MMBtu)	Visibility Impact (dv)	Expected Change in Visibility Impact from Baseline	Capital Cost \$	Direct Cost \$	Indirect Cost \$	Total Annualized Cost \$	Average Cost Effectiveness (\$ per change in dv)
Baseline (existing Cold side ESP): Emission Scenario 1	0.3	0.04	-	-	-	-	-	-
Pulse Jet Fabric Filter: Emission Scenario 1	0.015	0.003	0.037	\$43,419,200	\$20,330,504	\$15,621,995	\$35,952,499	<b>\$971,689,162</b>
Wet ESP after FGD: Emission Scenario 1	0.01	0.001	0.039	\$88,270,292	\$39,882,776	\$31,759,177	\$71,641,952	<b>\$1,836,973,128</b>
Baseline (existing Cold side ESP): Emission Scenario 2	0.3	0.273	-	-	-	-	-	-
Pulse Jet Fabric Filter: Emission Scenario 2	0.015	0.237	0.036	\$43,419,200	\$20,330,504	\$15,621,995	\$35,952,499	<b>\$998,680,528</b>
Wet ESP after FGD: Emission Scenario 2	0.01	0.227	0.046	\$88,270,292	\$39,882,776	\$31,759,177	\$71,641,952	<b>\$1,557,433,739</b>

### 5.8 Unit 3 PM BART Determination

There are no changes to the conclusions of the BART determination for Unit 3 due to the FLM comments. The above revised tables refer to the 1<sup>st</sup> highest visibility values as opposed to the 8<sup>th</sup> highest values that were reported in the August 2007 BART determination.

Due to insignificant predicted improvement in visibility and very high cost of the alternative control technologies, the existing ESP with emission limit of 0.3 lbs/MMBtu is considered BART for Unit 3 for particulate matter. However, NRG may voluntarily consider implementation of the wet ESP in future as part of multi-pollutant control in future in order to comply with the MPR and other future regulations. In such case, the visibility impact will be reduced from existing conditions.