

utilization and generation, most would experience decreases in these measures. Exhibit 3 also indicates that the majority of facilities with changes in post-compliance variable production costs would experience increases. However, more than 80 percent of those increases would not exceed 1.0 percent. Changes in revenues at most Phase II facilities would also not exceed 1.0 percent. The largest effect of the preferred option would be on facilities' pre-tax income: over 80 percent of facilities would experience a reduction in pre-tax income, with almost 40 percent experiencing a reduction of 3.0 percent or greater.

C. Revised Results for the Waterbody/Capacity-Based Option

This section presents the revised impact analysis of the alternative waterbody/capacity-based option. Under this option, facilities that withdraw water from an estuary, tidal river, or ocean and that meet certain intake flow requirements, would generally be required to meet performance standards for reducing impingement mortality and entrainment based on a level that can be attained by using a closed-cycle, recirculating cooling system. These facilities would have the choice to comply with Track I or Track II requirements. Facilities that choose to comply with Track I would be required to reduce their intake flow to a level commensurate with that which can be attained by a closed-cycle, recirculating system. Facilities that choose to comply with Track II would have to demonstrate that alternative technologies would reduce impingement and entrainment to comparable levels that would be achieved with a closed-cycle recirculating system (see section VI.B.2 of the proposal preamble for a discussion of Track I and Track II under this option). Other facilities would be

required to reduce impingement mortality or impingement mortality and entrainment based on the performance of technologies such as fine-mesh screens and fish-return systems.

EPA's estimation of impacts associated with the alternative waterbody/capacity-based option is based on an electricity market model analysis that assumes that all facilities required to reduce impingement mortality and entrainment based on the performance of a closed-cycle recirculating cooling system would choose to comply with the requirements of Track I. This analysis further assumes that such facilities would install a recirculating wet cooling tower. These requirements would be met by the end of the term of the first permit after promulgation of the final rule (2005 to 2013), depending on when a permittee's first NPDES permit after promulgation expires. The impacts of compliance with the waterbody/capacity-based option are defined as the difference between the model output for the base case scenario and the model output for the post-compliance scenario.¹⁰

EPA analyzed impacts using IPM output from model run year 2013. 2013 was chosen to represent the effects of the waterbody/capacity-based option for a typical year in which all facilities are in compliance (compliance years for the waterbody/capacity-based option are 2005 to 2013; however, for the purposes of this analysis, all facilities are modeled to comply by 2012).¹¹ The analysis was conducted at two levels: the market level including all facilities (by NERC region) and the Phase II facility level (including analyses of the in-scope Phase II facilities as a group and of individual Phase II facilities), using the same framework as the analysis of the preferred option presented above. It should be noted that a direct comparison of the results of the

preferred option and the waterbody/capacity-based option is not possible because (1) the analyses use output for different model run years (2010 for the preferred option and 2013 for the waterbody/capacity-based option) and (2) the two analyses use different base cases with different assumptions about future growth in electricity demand. As noted above, EPA will provide analyses of both regulatory options for both base cases and intends to place these in the docket during the comment period on this Notice.

1. Market-Level Impacts of the Waterbody/Capacity-Based Option

The market-level analysis includes results for all generators located in each NERC region including facilities both in scope and out of scope of Phase II regulation. Exhibit 4 below presents the same five measures as discussed for the preferred option: (1) Incremental capacity closures, calculated as the difference between capacity closures under the waterbody/capacity-based option and capacity closures under the base case; (2) incremental capacity closures as a percentage of baseline capacity; (3) post-compliance changes in variable production costs per MWh, calculated as the sum of total fuel and variable O&M costs divided by total generation; (4) post-compliance changes in energy price, where energy prices are defined as the prices received by facilities for the sale of electric generation; and (5) post-compliance changes in pre-tax income, where pre-tax income is defined as total revenues minus the sum of fixed and variable O&M costs, fuel costs, and capital costs. Additional results are presented in Chapter B8 (Section B8-2) of the EBA, as updated for this NODA analysis. Chapter B8 also presents a more detailed interpretation of the results of the market-level analysis.

EXHIBIT 4.—MARKET-LEVEL IMPACTS OF THE WATERBODY/CAPACITY-BASED OPTION (2013)—

NERC Region	Baseline capacity (MW)	Incremental capacity closures (MW)	Closures as % of baseline capacity	Change in variable production cost per MWh	Change in energy price per MWh	Change in pre-tax income (\$2002)
ECAR	133,048	0	0.0%	0.5%	0.8%	1.3%
ERCOT	86,609	0	0.0	1.2	1.7	-0.1
FRCC	57,078	0	0.0	1.7	3.8	-5.4
MAAC	71,441	0	0.0	1.3	1.4	-4.1
MAIN	66,420	1,012	1.5	2.2	1.6	1.4
MAPP	39,694	0	0.0	0.3	1.8	2.0
NPCC	77,557	0	0.0	1.2	1.1	-3.3
SERC	220,567	0	0.0	1.0	1.4	0.2
SPP	55,711	0	0.0	0.6	1.5	1.2

¹⁰ Two base case scenarios were used to analyze the impacts associated with the preferred option and the waterbody/capacity-based option. See footnote 8 above for a full explanation.

¹¹ EPA also analyzed potential market-level impacts of the alternative waterbody/capacity-based option for a year within the compliance period during which some Phase II facilities experience

installation downtimes. This analysis used output from model run year 2008. See Chapter B8, Section B8-4 of the EBA, as updated for this NODA analysis, for the results of this analysis.