

expected to be 181 full-time equivalents (FTEs), which is 3.1 percent of total Gulf and Cook Inlet employment (minus baseline employment losses). Primary and secondary losses are expected to total 518 FTEs. Net employment losses (including secondary effects and accounting for employment gains) are expected to be 121 FTEs. Additionally, an estimated 1,561 FTEs would be lost in the Gulf, on average, five years sooner

(in 10 years rather than in 15 years) because of declines in wells' productive lifetimes. However, because these impacts are not felt, on average, for 10 years and because ample time is available for industry to adjust to declines in wells' productive lives through natural job attrition, these impacts are not considered major. This loss is equivalent to declines in total Gulf coastal employment averaging 3

percent per year over a 10-year period under the regulation, compared to declines averaging 2 percent a year over a 15-year period without the regulation or at most 337 FTEs on an equivalent first year loss basis. Table 7 summarizes the impacts discussed above. In Cook Inlet, platforms shut in, on average, 1 year earlier (in 10 years instead of 11 years). This impact is considered minor because ample time is still available for workers to find alternative employment.

TABLE 7.—SUMMARY OF ECONOMIC IMPACTS TO GULF OF MEXICO AND COOK INLET REGIONS FROM THE SELECTED BAT OPTIONS

Impact ¹	Option No. 4 produced water	Drilling waste			TWC		Total impacts ²
		OPT 1	OPT 2	OPT 3	OPT 1	OPT 2	
Number of wells or platforms shut in:							
Wells	111	0	0	0	0	0	111 wells.
Platforms	0	0	0	0	0	0	0 platforms.
Present value of lost production (million BOE).	15.2	0	2.7	5.4	Negl.	Negl.	15.2 to 17.9.
Total production lost (million BOE)	32.4	0	3.6	7.8	Negl.	Negl.	32.4 to 40.2.
Present value of producer income lost (\$000)	\$153,209	0	\$263	\$6,089	Negl.	Negl.	\$153,209 to \$160,409.
Present value of federal taxes lost (\$000)	\$84,903	0	\$2,586	\$7,925	Negl.	Negl.	\$84,903 to \$90,950.
Present value of lost severance taxes (\$000)	\$10,676	0	\$133	\$272	Negl.	Negl.	\$10,676 to \$10,815.
Present value of lost royalties to states	\$34,255	0	\$4,274	\$9,394	Negl.	\$34,255 to \$39,375.
Total present value losses (\$000) ³	\$283,043	0	\$7,256	\$23,680	Negl.	Negl.	\$283,043 to \$301,549.

¹ Impacts from selected options for other wastestreams are expected to be negligible.

² Impacts are not additive. Some double counting or undercounting of impacts occurs in the Cook Inlet analysis if produced water impacts are added to drilling waste impacts. The total reflects the removal of double counting, with corrections made for undercounting.

³ Includes only dollar figures in columns. Losses comprise both compliance costs and value of lost production (net operating costs). Note that these losses are not annual losses.

Based on the impacts predicted, EPA finds the costs of the proposed BAT limitations to be economically achievable for the Coastal Oil and Gas Industry.

NSPS requirements for produced water in the Gulf (Cook Inlet NSPS impacts are discussed below), for drilling wastes, and for miscellaneous wastes are equivalent to BAT requirements. Costs for designing in compliance equipment are typically less than those for retrofitting the same compliance equipment to existing operations. Since new sources would most likely face costs of compliance equal to or less than existing operations, NSPS for Cook Inlet produced water are projected to pose no barriers to entry.

NSPS for produced water in Cook Inlet are more stringent than BAT requirements; however, declines in net present value of production for existing platforms under Coastal Guidelines BAT limitations (2.4 percent) are only negligibly less than net present value declines modeled for new sources under a zero discharge scenario (2.9 percent). Further, the modeled NSPS platform shows excellent internal rates of return (a measure of profitability) postcompliance, so NSPS should not

play a major role in a decision to undertake the construction, development, and operation of a platform. Thus EPA finds that no significant barriers to entry will be created by NSPS for produced water in Cook Inlet and that these standards should be economically achievable, given the minimal impact on net present value and the internal rate of return.

D. Produced Water

1. BAT

As noted earlier, this analysis of impacts associated with the effluent guidelines for produced water does not consider the effects of the Region VI General Permit for produced water. Because the Region VI General Permit has been promulgated as zero discharge, the costs and impacts of the limits on produced water in the Gulf of Mexico would be substantially less.

Total production losses associated with the proposed option, Option #4 for produced water (zero discharge except for Cook Inlet), are expected to total 32.4 million BOE (or 15.2 million BOE in present value) over the lifetime of the

wells and platforms subject to the rule.⁵ In Cook Inlet, the production loss is expected to be 4.6 million BOE, which is 1.6 percent of the estimated lifetime production for the region. In the Gulf, the production loss is expected to be 27.9 million BOE. Lifetime production in the Gulf is estimated to be 1,055 to 3,183 million BOE (693 to 13,910 BOE in present value terms) (over a 30-year time frame, based on a low and high estimate of decline rate in the region). Thus, this lost production is 0.9 to 1.7 percent of expected lifetime production in the Gulf. For the two regions combined, the lost production of 32.4 million BOE would result in a loss of 1.0 percent to 1.7 percent of total lifetime production. These losses are associated with declines in the net present value of producer income totalling \$144.5 million in the Gulf and \$8.8 million in Cook Inlet for a total of \$153.3 million (total lifetime losses). These losses result from both immediate shut in of wells or platforms and

⁵ Total losses calculated independently for produced water and drilling waste will not add exactly to the number cited above for combined losses because the independent estimates double count a very small portion of lost production in Alaska (about 1.3 percent of production).