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## Anticipated Economic Impacts of the Office of Surface Mining’s Proposed Stream Protection Rules (SPR) – Analysis of Impacts on Jobs and Coal Reserves

This is a summary of the results of a preliminary analysis prepared by ENVIRON International Corporation (ENVIRON) of the anticipated economic impacts associated with the Office of Surface Mining’s (OSM) proposed Stream Protection Rules (hereinafter, “SPR” or “the rules”) that are expected to be promulgated in the near future. Our analysis contains the following findings:

- **Total number of jobs at risk of loss, including mining and linked sector employment is between 133,441 and 273,227 (29% to 59% of current employment levels), with the Appalachian region alone losing as many as 220,003 jobs.**
- **Direct mining jobs at risk of loss are predicted to be between 55,120 and 79,870, with the majority of these job losses being in the Appalachian region.**
- **The overall decrease in recovery of demonstrated coal reserves is between 30.4% and 41.5%; both surface and underground mines will be significantly impacted.**
- **The annual value of coal lost to production restrictions is \$14 billion to \$20 billion.**
- **Total annual federal and state tax revenue potentially foregone because of lost production is estimated at \$4 billion to \$5 billion.**

In order to estimate the economic impacts of the proposed SPR, ENVIRON evaluated the language of the October 2010 draft rule and assessed the impact of implementation against current industry statistics and trends. Compliance with the rule was evaluated for 75 current surface and underground mining operations in all regions of the country to determine the impact on access to demonstrated coal reserves. High and low ranges were calculated to account for various reasonable interpretations of certain key aspects of the rule.

The decline in annual coal production will have a direct impact on employment. At the national level, the implementation of the SPR is predicted to eliminate between 133,441 and 273,227 jobs, with the Appalachia region alone losing as many as 220,003 jobs. Nationally, direct mining job losses are predicted to be between 55,120 and 79,870. Changes in the coal mining sector also indirectly impact industries that provide products and services to the coal mining industry, and the change in employment means fewer workers will be earning an income, leading to additional impacts occurring in industries that support household consumption. Although the range of production changes is 30% to 41%, the potential impact on jobs ranges from 29% to 59% because the sectors of coal production anticipated to be most affected by the SPR are those that are more labor-intensive or have higher employment requirements per ton of coal produced.

<b>Type of Mine</b>	<b>Direct Employment</b>	<b>Direct Jobs at Risk</b>	<b>Total Direct and Indirect Jobs</b>	<b>Direct and Indirect Jobs at Risk</b>
Appalachia	89,712	39,788 - 64,311	306,897	96,323 - 220,003
Interior	21,642	9,965 - 10,035	74,037	24,125 - 34,328
Western	24,178	5,367 - 5,524	82,712	12,992 - 18,896
Underground	77,521	32,574 - 50,035	265,192	78,859 - 171,165
Surface	58,012	22,546 - 29,835	198,454	54,582 - 102,062
<b>U.S. Total</b>	<b>135,533</b>	<b>55,120 - 79,870</b>	<b>463,646</b>	<b>133,441 - 273,227</b>

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The percent decrease in access to recoverable reserves was determined for both surface and underground mining, and for each of the three regions in the country. The largest decrease in recoverable reserves is expected in the Appalachian region where 45% to 79% of the recoverable reserves will be lost if the proposed rule is implemented. Overall in the U.S., the decrease is anticipated to range between 30% and 41% in total coal production.

<b>Table 2: Anticipated Percent Decrease in Recoverable Reserves with SPR in Place</b>			
<b>Region</b>	<b>Anticipated Percent Decrease in Recoverable Reserves with Proposed Stream Protection Rules</b>		
	<b>Underground</b>	<b>Surface</b>	<b>Total</b>
Appalachia	38.1% - 68.0%	55.7% - 78.3%	44.5% - 78.6%
Interior	64.0% - 64.0%	22.7% - 23.4%	36.7% - 37.3%
Western	36.2% - 37.9%	16.1% - 16.3%	20.7% - 20.9%
<b>Total U.S.</b>	<b>43.1% - 62.3%</b>	<b>23.8% - 28.1%</b>	<b>30.4% - 41.5%</b>

The impact of sterilized coal reserves on annual production will occur over several years, as the rule is implemented and operators adjust to meet operational considerations and contractual obligations. Once the decrease in access to demonstrated reserves is fully realized, the lost value of produced coal is estimated to be between \$14 billion and \$20 billion annually.

<b>Table 3: Annual Coal Production Value at Risk with Proposed SPR in place (in Millions of 2010 Dollars)</b>			
<b>Region</b>	<b>Anticipated Decrease in Value under Proposed Rules</b>		
	<b>Underground</b>	<b>Surface</b>	<b>Total</b>
Appalachia	\$5,207 - \$9,295	\$4,547 - \$6,419	\$9,754 - \$15,714
Interior	\$2,001 - \$2,001	\$487 - \$503	\$2,488 - \$2,504
Western	\$787 - \$825	\$1,089 - \$1,102	\$1,877 - \$1,926
<b>U.S. Total</b>	<b>\$7,996 - \$12,121</b>	<b>\$6,124 - \$8,023</b>	<b>\$14,119 - \$20,145</b>