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INTRODUCTION

During four months in 2009, American Electric Power (AEP) conducted its first-ever survey of the environmental, safety and health performance of its 31 coal suppliers. Of those, 24 responded. The survey yielded data for some 95 mines covering all six major coal producing regions in the United States. Those mines produced 549 million tons in 2008, essentially half of the total coal mined in this country.

This report presents the background, design, content, and results of the 2009 AEP Sustainability Survey of Coal Suppliers. The results are a compilation and analysis of the statistical data received and/or developed from the survey. The Sustainability Survey is a result of AEP’s sustainability reporting initiative. It involved multiple groups within AEP, which managed designing the survey, communicating with respondents, receiving responses, and managing the data collection. Coal Mining Consulting Service, (CMCS) was hired as a contractor to assist with the survey design, data collection and analysis, and drafting of this report. CMCS has considerable experience in health, safety, and environmental work in the coal industry. The work commenced in mid-2009. Preliminary results were presented at a meeting of stakeholders held at AEP Headquarters on Nov. 12, 2009.

This report includes an analysis of the data. However, the results will not divulge information for any specific coal supplier. Responses were voluntary, although some data was collected from public resources of the Mine Safety and Health Administration (MSHA) to augment the data from the suppliers. Some of the survey information is textual and does not lend itself to numerical analysis. However, that information is useful in evaluating suppliers’ programs and will become the substance of further discussions with both those suppliers that should be lauded for their results and those that are not performing to a level comparable to other AEP coal suppliers and/or to national norms.

COMMISSIONING

The 2008 AEP Corporate Sustainability Report discusses, beginning on page 17, AEP’s actions and plans for developing a sustainable supply chain, and in particular, working with their coal suppliers. It states, “Our choice of suppliers is determined largely by a least-cost procurement process to enhance our ability to receive full cost recovery from regulators. We are developing a process with coal suppliers to measure and track their safety, health and environmental performance, which we hope to implement in 2010.”

Further, the 2009 AEP Sustainability Report states, “In our last report, we committed to establishing criteria to evaluate the environmental, safety and health performance of coal suppliers. . . . and now have a timeline to develop this evaluation process by year end . . . We believe this process will help us begin to evaluate the social aspects of coal mining, give us an accurate understanding about how much of our coal comes from mountaintop mines and allow us to make more informed decisions in the future.”

The 2009 Sustainability Survey of Coal Suppliers is a direct result of these commitments.
GLOBAL REPORTING INITIATIVE

AEP uses the Global Reporting Initiative (GRI) framework for reporting its sustainability performance. It reports on more than 100 performance indicators each year. Although GRI is a broad framework, AEP also reports on indicators specific to its industry. In gathering the data from our coal suppliers, AEP is attempting to be consistent in its reporting and data collection process. Therefore, some of the questions in the survey come from GRI and from a new Mining and Metals Sector Supplement (MMSS).

The GRI began in 1997 as a joint initiative of the U.S. non-governmental organization – Coalition for Environmentally Responsible Economies (CERES) and the United Nations. The intent was to provide guidance that would enhance the quality, rigor, and utilization of sustainability reporting internationally. Today, the electric utility sector is the second largest sector that reports using the GRI framework. GRI, or G3 – the third generation of indicators, is the most universally accepted and used framework for sustainability performance reporting in the world. Although there are other tools, most companies and organizations subscribe to the G3.

According to GRI, “Today’s strategic and operational complexities require a continual dialogue with investors, customers, advocates, suppliers and employees. Reporting is a key ingredient to building, sustaining and continually refining stakeholder engagement. Reports can help communicate an organization’s economic, environment and social opportunities and challenges in a way far superior to simply responding to stakeholder information requests (on a piece-meal basis).”

GRI is in the process of finalizing a Mining and Metals Sector Supplement¹. AEP chose to select some of the indicators in that supplement to include in its survey. Those aspects allow for comparability and establish an accepted framework that lends credibility to the process.

Even though this is a diverse sector with a wide range of different business types and models, these guidelines give sustainability reporters an opportunity to describe their own scope of operation. The performance indicators developed for this sector focus on issues such as the control, use, and management of land; the contribution of a mining operation to national economic and social development; labor relations; community and stakeholder engagement; and environmental management. AEP believes these are relevant to helping us better understand some of the issues AEP is frequently asked about, related to mining operations and addresses the expectation that AEP can influence such operations in a more comprehensive manner.

A three-page matrix of applicable reporting guidelines was included in the survey.

¹ As of January 11, 2010, the GRI website states that the final version of this Sector Supplement is likely to be released in the second half of 2009.
DESIGN MECHANICS

AEP chose to use commercial survey software that theoretically offered flexibility, logic, security, and general functionality. However, some aspects of the software were cumbersome (hardcopy availability to respondents, editing responses by respondents or AEP, etc.) and the downloading/analysis was not well suited for a survey of this size. Use of such software in future surveys will be carefully evaluated before its reuse.

The survey was preceded by correspondence from Michael G. Morris, Chairman, President, and Chief Executive Officer of AEP, to the coal suppliers. In addition, an introductory letter from Tim Light, Senior Vice President, Fuel, Emissions and Logistics, was included at the beginning of the online survey. Both are attached.

The design of the contents of the survey was a joint effort of the Fuel, Emission and Logistics group headed by Tim Light. Nelson Kidder and Todd Adkins managed the project and provided significant input and critique. Sandy Nessing from AEP’s Corporate Sustainability staff provided valuable additional input and further critique for the survey. Coal Mining Consulting Service, LLC was selected to develop the detailed design and analyze the results, because of its principal’s background in health, safety, and environmental engineering in the coal industry.

THE SURVEY

INTRODUCTORY INFORMATION

Several pages of introductory information were provided at the beginning of the survey. It was recognized that some individuals that would be filling out the survey might not be familiar with the GRI and sustainability reporting in general. Information included an introductory letter by Tim Light, general information on GRI, and matrices for the Mining and Metals Sector Supplement of the GRI model. Also included were guidance and instructions for completing the survey.

SOURCES AND MINE DEMOGRAPHICS

The survey requested certain identifying information to determine the scope of the supplier’s relationship with AEP, its contracts, and purchase orders.

It specifically asked if the supplier issues an annual sustainability report. It also requested the listing of the mines that would be included in the survey response. Recognize that the survey did not request information about the supplier’s other mines that did not produce coal for AEP. For each mine included in the survey, the federal Mine Safety and Health Administration’s identification number (MSHA ID) was requested. This provided specific and unambiguous identification of each mine or facility.

MINE-BY-MINE SURVEY

To provide a broad platform for the supplier to provide its information, up to 10 separate mines
could be entered into a single survey response. Within each of these 10 mines, provisions were included to report for up to 10 mining permits for a single mine. AEP recognized that some mines, especially surface mines, might operate on multiple permits within a single operation or MSHA ID.

The county and state for each mine enabled AEP to group the data for specific coal regions. The regions and areas used in the analyses are listed below, which generally follow the U.S. Energy Information Administration’s (EIA) glossary:

- **Northern Appalachian (NAPP)** – Maryland, Ohio, Pennsylvania, and Northern West Virginia
- **Central Appalachian (CAPP)** – Eastern Kentucky, Virginia, Southern West Virginia, and certain northern counties of Tennessee
- **Illinois Basin** – Illinois, Indiana, and Western Kentucky
- **Powder River Basin** – Wyoming and Montana
- **Uinta Basin** – Colorado and Utah (selected counties)
- **Gulf** – Arkansas, Louisiana, Mississippi, and Texas

One question asked for the proportion of the work force that lived within 50 and 75 miles of the mine. This information was associated with the localized nature of the labor force as indicated in GRI MMSS.

### Permit Information

Several questions about tonnage under permit and current additional permitting were asked to determine the supplier’s status with permitting actions. The primary post-mining land use for the permit was requested.

However, since individual states administer permitting, the nomenclature used varies and is not uniform from state to state.

An important and high profile issue exists regarding mountaintop mining. Mountaintop surface mining is a method of mining where the mining operation removes an entire coal seam or seams running through the upper fraction of a mountain, ridge, or hill by removing all the overburden and creating a level plateau or a gently rolling contour with no highwalls remaining. This method requires that the operator be granted a variance from reclaiming to the approximate original contour (AOC) and that the land would be capable of supporting post-mining industrial, commercial, agricultural, residential or public facility uses. The excess spoil is placed in a valley fill.

The regulatory requirement to reclaim to the AOC is a condition under the federal 1977 Surface Mining Control and Reclamation Act (SMCRA). The variance to AOC typically is for either mountaintop mining and/or steep slope mining.

The survey asked those with AOC variances to indicate what the post-mining land use would be for those variance areas. The reclamation for those areas may differ from that of the remainder of the permitted area or mine. In fact, many permits have a mixture of post-mining land uses, not necessarily a single use. The choices offered in the

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1. The Surface Mining Control and Reclamation Act of 1977, Public Law 95-87, created the federal Office of Surface Mining (OSM). The law allowed for individual State programs to establish “primacy” for the implementation and enforcement of the Act. “Each state … which wishes to assume exclusive jurisdiction over the regulation of surface coal mining and reclamation operations… shall submit to the Secretary… a State program which demonstrates that such State has the capability of carrying out the provisions of this Act and meeting its purposes…. “ (Section 503)
survey for this response regarding AOC variances included the following post-mining land uses:

- Industrial
- Commercial
- Woodland
- Agriculture
- Residential
- Public (facility)
- Public (recreational facility)

As discussed in the Nov. 12, 2009, stakeholder meeting, the definition of mountaintop mining differs among stakeholders. The survey focused on the regulatory definition, whereas environmental groups tend to define mountaintop mining in a much broader sense.

The U.S. EPA, Region 3 defines mountaintop mining as, "Mountaintop coal mining is a surface mining practice involving the:

- removal of mountaintops to expose coal seams, and
- disposing of the associated mining overburden in adjacent valleys -- “valley fills”

Valley fills occur in steep terrain where there are limited disposal alternatives."

The statistical results of this survey were based on the regulatory definition. Therefore, they can differ in magnitude than if the broader definition were used.

Production and Mining Methods

The Survey requested historical production figures for 2006 through 2008 and estimated production for 2009. Two types of tonnages were requested; first, the total mine production as reported to MSHA, and second, the tonnage that was delivered/shipped to AEP. This latter information was important to weight average other aspects of the survey. However, this latter information can be difficult to obtain if the shipments come from centralized facilities, which compile tonnages from multiple mines and which might include multiple types of surface mining and underground mines.

In addition to the production aspects, the survey asked for an estimate of the proportion of the various types of surface and underground mining methods used in each year of the three-year history. For surface mining, the categories and descriptions are:

- **Area Surface Mining** – A method used on relatively flat terrain to recover coal by mining long cuts or pits successively. The material excavated from the cut being mined is deposited in the cut previously mined.
- **Contour Surface Mining** – A method used in steeper terrain to recover coal by mining the coal seam along the contour of the hill. Typically, some or all of the material excavated from the initial cut that is mined is then placed in a valley fill. Material excavated from successive cuts is deposited in the cut previously mined.
- **Auger Mining and Highwall Mining** – Auger surface mining is a method where coal is recovered through the use of a large diameter drill driven horizontally into a coal seam in a hillside or from a highwall. It usually follows contour surface mining.

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1 These limited post-mining land uses for AOC variances are specified by federal law Sec. 515(c) (3) for mountaintop mining and Sec. 515(e) (2) for steep slope mining. There also are additional provisions for "equal or better economic or public use."

2 [www.epa.gov/Region3/mtntop/](http://www.epa.gov/Region3/mtntop/)

3 Shipped production was to be considered “delivered” for the survey.
particularly when the overburden is too costly to excavate. Highwall surface mining is a more sophisticated form of auger mining, with improved technology that can recover coal at greater distances from the opening than auger mining.

**Mountaintop Surface Mining** - A method of mining where the mining operation removes an entire coal seam or seams running through the upper fraction of a mountain, ridge, or hill by removing all the overburden and creating a level plateau or a gently rolling contour with no highwalls remaining. This method requires that the operator be granted a variance from reclaiming to the approximate original contour (AOC) and that the land would be capable of supporting post-mining land uses of industrial, commercial, agricultural, residential or public facility. The excess spoil is placed in a valley fill.

For underground mining, there were three categories:
- Continuous mining
- Secondary recovery using continuous miners
- Longwall mining

However, care must be taken in using this data because mines practicing secondary recovery and longwalling also must use continuous or conventional mining for development purposes. Many longwall producers consider the entire mine production as longwall, even though continuous miners are absolutely required to develop the individual longwall panels and the supporting main and submain networks necessary for the infrastructure and coal transportation elements of an underground mine.

**HEALTH AND SAFETY SEGMENT**

The ability to compare results across an industry using consistent, standard measures of performance is critical to identifying trends, issues of concern, best practices, and opportunities for improvement. Mine safety and health comparisons are facilitated by a national database of information that is maintained by the federal Mine Safety and Health Administration (MSHA). This database is available online for anyone to review. This portion of the survey primarily centers on this statistical data.

The health portion requests information regarding compliance with respirable dust and noise provisions of the Coal Mine Health and Safety Act of 1977 (CMHSA), as amended.

The safety aspects requested in the survey included each individual mine’s MSHA compliance history for 2006 through 2008. This data relates to the most frequent enforcement actions taken by MSHA, not the particular safety (or health) provisions of the CMHSA, such as ventilation, roof control, etc.

An additional subpart of the compliance performance was to request information on newer aspects of MSHA’s enforcement efforts in the last several years, one of which is a “pattern of violations.” MSHA uses an initial warning letter that puts the mine operator on notice that it is approaching a Notice of Violation for a Pattern of Violations. The consequences of an actual notice of violation are quite severe. Several mines in our survey did receive such warning notices. One mine erroneously reported that it actually was

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1. Current federal mine safety legislation history dates to 1969 when the Coal Mine Health and Safety Act was created following the mining disaster at Farmington, West Virginia in 1968. It was substantially amended in 1977 following several other mining disasters. The Mine Improvement and New Emergency Response Act of 2006 followed the Sago and Aracoma mine disasters.
cited. Upon further verification, that mine had not received a citation for a pattern of violations.

Furthermore, questions asked for public information (DRS – Data Retrieval System) regarding the penalties assessed by MSHA\(^1\), which provides a sense of the seriousness of the citations issued by MSHA. Although such penalties are subject to informal and formal review and appeal, the public information at least provides an order of magnitude.

However, it should be noted that larger mines are subject to more inspections, which usually results in more citations, and therefore incur more penalties than smaller mines. One way to take this into account is the statistic MSHA began using recently, entitled Violations per Inspector Day (VPID.) The general magnitude of such a quotient is less than one violation per inspector day.

The third component to the survey for safety was the true result of the mine operator's safety program, regulatory enforcement actions, and the employees' actions to prevent accidents. It was the accident rate statistics. These questions included the number of accidents/injuries for the three-year historic period 2006 through 2008. The accident/injury categories were fatal accidents and non-fatal-days-lost (NFDL) accidents. This latter category is sometimes referred to as “lost-time accidents.” The severity rate was also requested. That rate factors in the duration of time lost due to these accidents. However, the severity rate data is not readily available on-line through MSHA and very few mines reported this figure.

Similar to using a quotient as in Violations per Inspector Day, accident reporting uses an incident rate, which is the number of injuries per 200,000 employee-hours worked\(^2\). This is noted as the NFDL IR\(^3\) rate but which includes fatal accidents as well. This statistic is most useful for comparison among mines and usually has a magnitude in low single digits on a national basis. Often the terms Incident Rate and Injury Rate are used synonymously as IRs. The rate is usually somewhat higher for underground mines than surface mines.

AEP chose to include another measuring tool for accidents by requesting the eligibility status of the mine in a program jointly run by the National Mining Association and MSHA, called Sentinels of Safety Award. These awards are limited in number, and within different mine size categories, the tie breaker is the number of hours worked. Thus, the larger mines within each category are more frequently the awardees. AEP requested information as to whether a mine reached the milestone for qualification for the award for each of the three-year history period 2006 – 2008. This information was not uniformly reported, believed to be a result of such award qualification not being spelled out in the DRS. As will be discussed in the survey results section of this report, this criterion will be dropped in future surveys.

Lastly, under the Health and Safety portion of the Sustainability Survey, AEP asked for a brief description of the mine's Health and Safety program and whether certain features were included. These features included (1) wellness program, (2) incentive program, (3) an audit program and its frequency, (4) a formal ergonomic program, and (5) employee participation in the program.

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\(^1\) MSHA uses a classification system that categorizes violations as “significant and substantial” or S&S as it is referred to in the industry. However, the classifying of violations has historically been quite variable. Therefore, AEP chose to use a more specific measure. It should be noted that penalties are increased for those violations classed as S&S.

\(^2\) The 200,000 hours represents the approximate work exposure of 100 employees working 50 weeks per year at 40 hours per week. An older rate formerly used by the industry was the “frequency rate”, which used 100,000 hours.

\(^3\) IR is defined by MSHA as “incidence rate” but it is common to use the term “injury rate” as well.
Environmetal Segment

There is more difficulty establishing trends, comparing performance, or identifying best practices with environmental performance because, unlike MSHA within the Labor Department, a national database of environmental data is not maintained at the federal level. The Office of Surface Mining Reclamation and Enforcement (OSMRE or OSM), the enforcement agency under the Surface Mining Control and Reclamation Act within the Interior Department, does not maintain an historical record of noncompliance. The statistics that are maintained only include the outstanding or unabated violations, making comparisons on a nationwide basis nearly impossible.

Environmental aspects of the Sustainability Survey were placed in two separate areas of the survey. The permitting section of the survey focused on environmental aspects on a mine-by-mine or permit-by-permit basis. The other environmental portions of the survey, in addition to permitting, included three specific sections on environmental information, environmental impact, and environmental compliance.

The permitting section asked about amount of coal that was under permit and whether additional permitting actions were ongoing, its proposed tonnage, and when additional permitting action was expected to be completed. Also requested was the primary post-mining land use for the permit in general. If an approximate original contour variance existed, the postmining land use for that area of the permit was requested.

These environmental segments were less statistics-based because there was no national data collection. Although the Surface Mining Control and Reclamation Act of 1977 (SMCRA) applies to coal mines nationwide, and the Office of Surface Mining (OSM) is a federal agency, the implementation of the federal law is through the various states with coal mining operations that elect to be the primary enforcement agency. (It should be noted that surface impacts of underground mining are also regulated under this act, not just surface mines per se.) The Office of Surface Mining provides oversight to the various primacy state programs, but the programs are individually managed by the states, have widely varying nomenclature, and are very difficult to compare.

Furthermore, OSM does not maintain a database similar to MSHA for accumulating statistics on a nationwide basis. For instance, violation statistics are not historically retained following its abatement. AEP’s consultant explored many of the state programs to determine the availability of statistical information. The findings ranged from fully computerized, publicly accessible databases, to some states that would have to respond to statistical queries by manually researching their internal files.

The questions regarding the suppliers’ environmental program in the survey first requested whether a formal program existed since they are not nearly as prevalent in the coal mining industry as health and safety programs.

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1Tennessee is an example wherein the federal Office of Surface Mining (OSM) provides the primary regulatory enforcement rather than the State of Tennessee.
If a formal program existed, the survey asked if certain components listed below were included:

- Compliance audits
- Programmatic audits
- Frequency of either type audit
- Recycling

In addition, an open question allowed for descriptive information of program components. Some respondents checked components even though they indicated that no “formal environmental program” existed per se. Subsequent surveys will encourage more responses describing proactive environmental initiatives rather than “formal programs.”

An important question asked was, “Does the mine have strategies, current actions, and/or future plans for managing impacts on biodiversity?” It allowed for open text response rather than a “yes” or “no.”

Another segment of the survey on the environment was entitled Environmental Impact Information. These questions were primarily sourced from the Mining and Metals Sector Supplement of the Global Reporting Initiative.

The first question asked for the stripping ratio\(^1\) (for surface mines), which indicates the quantity (cubic yards) of disturbance resulting from mining.

A series of questions inquired about aspects of coal preparation (coal washing) activities. In particular, the method of disposal of the waste or reject from the washing process was queried. The waste characteristically includes coarse material that is either land filled, returned to the mine pit, valley filled, etc. In addition to the coarse refuse, the liquid or semi-liquid material is either (1) further dewatered and mixed with the coarse material, or (2) it remains in liquid form and is impounded or injected underground. The quantity (tons) of this waste material was requested for each year. Further, the acreage disturbed by mining and preparing to mine was requested. That question also asked for the reclamation acreage. A separate part of the question asked for the Phase 1 acres reclaimed. The responses indicate some confusion in these questions, which will be clarified in future surveys.

An additional question asked whether the mine had a formal closure plan. The Surface Mining Control and Reclamation Act requires a final reclamation plan for all mines. Thus, the universal response was affirmative. This question will be dropped in future surveys.

Additional questions inquired about perpetual water treatment needs, significant air emissions, and environmental spills.

The last environmental section was entitled Environmental Compliance. Questions asked about notices of violations in general and separately for water quality excursions. Also, heightened enforcement actions such as failure to abate, imminent harm, pattern of violations, and show-cause orders were queried. Other noncompliance events were queried including permit blocks and reclamation bond forfeitures. Lastly, the number and magnitude of fines for environmental noncompliance during the historical period were requested.

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\(^1\) Stripping ratio is how much overburden must be removed expressed in cubic yards in order to obtain a ton of coal or product.
SURVEY RESULTS

Twenty-four suppliers responded to the survey, although some of the respondents did not fully complete it. Four entities were "facilities" rather than actual surface or underground mines. They were either preparation plants or loadouts\(^1\). The suppliers entered 95 total mines and facilities with MSHA ID's. Of those, 51 were underground mines and 40 were surface mines. Physically, the mines stretch from the Gulf coast to Wyoming and to Pennsylvania in the east. All six major coal producing regions were covered with mines from 10 states.

The number of responding mines and facilities are listed below by region:

<table>
<thead>
<tr>
<th>Region</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Appalachia (CAPP)</td>
<td>52</td>
</tr>
<tr>
<td>Gulf</td>
<td>2</td>
</tr>
<tr>
<td>Illinois Basin</td>
<td>6</td>
</tr>
<tr>
<td>Northern Appalachia (NAPP)</td>
<td>25</td>
</tr>
<tr>
<td>Powder River Basin (PRB)</td>
<td>8</td>
</tr>
<tr>
<td>Uinta (Colorado and Utah)</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>95</strong></td>
</tr>
</tbody>
</table>

Additionally, a table at the end of this report shows by region and by underground vs. surface mining, the total 2008 mine production along with the shipments to AEP that were reported in the survey. The total 2008 production from the surveyed mines totals 549 million tons or 47 percent of the national production of 1.172 billion tons. The surveyed mines produced 420 million tons from surface operations and 129 million tons from underground mines. Of the 420 million surface tons, 386 million was produced by the Wyoming mines in the Powder River Basin where very thick, low sulfur, sub-bituminous coal seams are mined. The remaining 34 million surface tons came from Central Appalachia (21.5 million tons), the Gulf region (7.4 million tons) and Northern Appalachia (4.8 million tons). These figures are the total production from the mines, not the amount provided to AEP.

Survey respondents indicated they shipped 59.8 million tons to AEP in 2008. To put that in perspective, the following table will be useful:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 purchases</td>
<td>78 million tons</td>
</tr>
<tr>
<td>2008 consumption</td>
<td>75 million tons</td>
</tr>
<tr>
<td>31 Suppliers Requested in Survey provided</td>
<td>72 million tons</td>
</tr>
<tr>
<td>24 Suppliers Responding provided</td>
<td>60 million tons</td>
</tr>
</tbody>
</table>

The 60 million tons is 83 percent of the coal provided by the 31 suppliers, which AEP believes is an excellent initial response rate. The 6 million ton difference between the 78 million tons purchased in 2008 and the 72 million tons purchased from the 31 suppliers surveyed is made up of synfuel purchases, financial house purchases, suppliers

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\(^1\) A loadout is typically a coal loading facility that loads either trucks or railroad cars for shipment to the customer.
who no longer exist (bankruptcy), and those 2008 suppliers who are not current suppliers to AEP.

**Sustainability Reporting**

From the results, only three of the respondents issue Sustainability Reports. AEP’s efforts in doing this sustainability report could spur an increase with the educational information provided in Mr. Morris’ letter and the introductory information in the survey. At the minimum, some suppliers will gain an awareness of such a reporting model.

**Workforce Proximity to Mine**

As expected, coal mining employment is highly localized. Of those responding, 85 percent live within 50 miles and the other 15 percent within 50 to 75 miles.

**Permitting and Additional Permitting**

In the 130 permits indicated by the respondents, the total tonnage covered was 2.4 trillion tons. Additional permitting was underway for 35 of those permits with an additional tonnage of 930 million tons or 38 percent of the total current permitted tonnage. Post-mining land use was indicated for 52 of the permits with three being industrial/commercial and the remainder evenly split between agricultural use and forestland/fish/wildlife uses.

**Variance from Approximate Original Contour (AOC)**

There were only three mines indicating they had a variance from reclaiming to the approximate original contour (AOC). Two of the three mines indicated that the post-mining land use would be “woodlands”. The other mine was an underground mine presumably with a highwall face-up. It did not specify the post-mining land use. From the low number of mines with AOCs, it appears this question may have been misunderstood because there were more than three mines reporting mountaintop removal. The proportion of mining by mining method also addressed mountaintop mining. See those results described in the subsequent section of this report.

**Production and Mining Methods**

The annual production of the mines reporting was 549 million tons in 2008, essentially half of the total tons produced in the United States. That figure should not be confused with the tons purchased by AEP, which is only a fraction of the 549 million tons. It does demonstrate, however, that on a production basis, the survey covered a wide range of coal mining in the country.

Not all the mines responding indicated the annual tonnages shipped to AEP. However, the shipments reported totaled 54.0, 54.6, and 59.8 million tons respectively for the three years.

The responding mines included 39\(^1\) surface mines, and 49\(^1\) underground mines reporting 2008 production tonnage. The production rate between the underground and surface mines is dissimilar because of the high output of the western surface mines in Wyoming.

Of the 420 million tons produced from surface mining, 386 million tons came from Wyoming. Underground mines accounted for 129 million production tons.

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\(^{1}\) These 88 mines supplied the 2008 tonnages. The complete survey response population for 2006 through 2008 was 95 mines. However, not all 95 mines supplied tonnage in 2008.
Of the 47 underground mines that reported mining methods, all used continuous mining for some portion of their production. Fourteen mines used longwall mining and were located predominantly in Northern Appalachia and the Uinta regions (Colorado and Utah).

Only 30 surface mines indicated the mining method used. These mines are from four of the six regions as shown below. The other two regions were the Illinois Basin and the Uinta Region. These two regions only had underground mines and therefore, do not apply to this table of surface mines.

### Health Provisions Compliance

Health provisions under the Coal Mine Health and Safety Act (CMHSA) as enforced by MSHA generally include two main aspects. Especially of concern with underground mining is respirable dust control. Generally, at the great majority of mines surveyed, no significant non-compliance exists. However, the survey did isolate four underground mines with significant numbers of violations. The mines had 9 to 11 citations in at least one of the three-year periods. Two of the four mines were longwall operations and the other two were continuous miner operations. Two of the mines were operated by the same supplier. This supplier had already been identified as a negative outlier.

Affecting both underground and surface mining are the provisions for noise control. Two underground mines had 7 and 10 violations respectively in a single year.

### Safety Compliance Information

Within the broad range of safety compliance data in the survey, the most important information identifying mines with significant safety compliance problems

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1 An additional mine indicated that 10 percent of its production came from mountaintop mining. However, in this survey, a mine was classified by its primary mining method.
was the Pattern of Violation (POV) warnings and citations. This provision of the Coal Mine Health and Safety Act is considered quite onerous within the industry. It was reported in the Nov. 12 stakeholder meeting that one mine had received such a citation. Although that information had been reported by a respondent, on further verification it was found that the surveyed mine had not received such a citation and the survey response had been in error.

Four other mines reported having been warned by MSHA that they were approaching a POV citation situation. These were also considered negative outliers. The four mines were all underground mines and two were in CAPP and two in NAPP. They included both large and small mines.

The most frequent type of MSHA citation is the 104(a) citation that is issued for a violation without imminent danger or willful connotations. The number of such violations is typically much higher in underground than surface mines. Because larger underground mines have more operating units or sections underground, they take longer to inspect and require more inspector shifts. They typically accumulate more violations/citations in number than small mines and the survey results reflect this.

The industry typically acknowledges this reality, leading to the frequent use of a quotient entitled Violations per Inspector Day (VPID). MSHA now uses this statistic as well and the survey collected this data. The survey also collected information regarding violations that were more serious. These included unwarrantable failure citations and orders, imminent danger citations, and withdrawal orders.

Within underground mine respondents MSHA violations (104a) averaged 286 per mine in 2008. The volume per mine increased from 2006 (227) and 2007 (253), an increase of 19 percent. Although this is a substantial unfavorable change, it is tempered by the fact that the number of inspections at surveyed underground mines increased by 52 percent using VPIDs information as an indicator. This increase was determined using MSHA’s figures for the VPID periods (15 month) ending at the end of 2007 and 2008 respectively. The number of violations cited increased considerably for underground mining in 2008 but not to the same degree that the inspections increased. The resulting Violations per Inspector Day actually declined among the surveyed mines from 0.67 to 0.59 or 12 percent. The increased inspections followed in the aftermath of the Crandall Canyon disaster in August of 2007.

The difference in magnitude of citations (104a) for surface mines was significantly lower in the survey data. Of the surface mines responding, the average was 13, 15, and 23 violations per mine for the years 2006 through 2008 respectively. The percentage increase from a base of 2006 and 2007 to 2008 was 64 percent, much more than the increase of the underground mines of 19 percent. It appears from the data, using MSHA’s two 15-month periods, that the increase in violations at surface mines directly parallels a 64 percent increase in inspections.

1 Withdrawal orders typically require all work including production, to stop in the affected area until the violation is abated. Other violations can be abated while other work including production continues.
2 Calculation: 286−[(227+253)/2]/[(227+253)/2]=19 percent
3 There is an overlap in that the 4th quarter of 2007 is included in both the end 2007 period and the end 2008 period because MSHA uses a 15 month period instead of a 12 month period for this statistic. AEP’s consultant does not believe this factor has a significant bearing on the figures used in this report.
4 Calculation: 23−[(13+15)/2]/[(13+15)/2]=64 percent
**ACCIDENT/INJURY INFORMATION**

The injury or incidence rate (IR) for coal mining on a national basis declined from 2002 (5.22)\(^1\) to 2008 (3.13). Of course, this reduction was marred by individual fatal accidents and several multiple fatal accidents in that period\(^2\) including Sago (January 2006, 12 deaths), Aracoma (January 2006, 2 deaths), Darby (May 2006, 5 deaths) and the Crandall Canyon (August 2007, 9 deaths) mine disasters. Nevertheless, the accident rate reduction of 40 percent is sizeable.

The injury “rates” used throughout this report include both fatal accidents and non-fatal-days-lost accidents. Together, these rates are often referred to as “lost-time accidents,” because the injured victims were not able to return to work the following scheduled day. There are other rates that include all accidents including those wherein no “lost-time” occurred. These are also referred to as “reportable.” The survey however, focused on the more serious, lost-time accidents.

Within the period covered by the survey 2006 through 2008, the national accident rate for surface and underground bituminous mines\(^3\) declined from 3.54 (2006) to 3.13 (2008), a reduction of 12 percent. AEP’s surveyed mines decreased from 2.59 (2006) to 2.36 (2008) or 9 percent. Although the AEP survey respondent mines’ reduction was not as large, the rates for the surveyed mines are significantly lower than the national averages. For example, in 2008, the surveyed mines were 25 percent lower (2.36 vs. 3.13) than the national average.

Exclusively within the underground mines, the national rate dropped from 5.17 to 4.50 or 13 percent from 2006 to 2008. The AEP surveyed underground mines dropped from 3.89 to 3.34 or 14 percent. Note that the AEP surveyed mine figures are considerably lower than the national average. For 2008, the rate is 26 percent lower.

The surface mines had a similar trend. The national average declined from 1.41 to 1.31 (7 percent). The AEP surveyed mines did not decline. They increased from 0.61 to 0.81 (33 percent) although still well below the national averages. In 2008, the 0.81 rate is 38 percent lower than the national average.

A serious negative anomaly occurred in the fatal accident category, however. The surveyed mines recorded zero fatalities in 2006, one in 2007, but five in 2008. All mines with a fatality were considered negative outliers. All the fatal accidents occurred at underground mines.

AEP reviewed the individual mine statistics and developed negative and positive outliers of the survey population. A table at the end of this report summarizes the criteria used for determining the outliers and how many outlier mines there are for each performance parameter. Follow-up communications are planned with the outliers.

**HEALTH AND SAFETY PROGRAM INFORMATION**

The descriptions of the Health and Safety programs were diverse. They ranged from programs that went well beyond the norm to those that were more typical and

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\(^1\) Injuries include both “fatal” and “non-fatal-days-lost” injuries per 200,000 hours worked.


\(^3\) MSHA Injury Experience in Coal Mining, IR1331-2006, IR1336-2007, IR1341-2008, TABLE 2B INJURY EXPERIENCE BY DEGREE, WORKTIME, AND PRODUCTION FOR WORK LOCATIONS AT BITUMINOUS COAL OPERATIONS IN THE US.
in some cases required by state regulators. As stated earlier in this report, these may become important in addressing mines that are negative outliers.

The survey asked the respondents several questions regarding components of their Health and Safety Programs. Three-quarters of the respondents indicated they included incentive programs, audits by personnel from outside the immediate mine employees, and employee participation. Furthermore, with regard to the safety audit programs, one-half conducted the audits more frequently than once per year. Wellness programs were included in 58 percent of the mines and only 26 percent had formal ergonomics programs.

**Environmental Information**

In the first section of this segment the questions centered on whether the supplier had a formal environmental program. Also, the survey questioned whether certain common components were present within their programs. Sixty-three of 94 mines or 67 percent reported having formal environmental programs. Of those mines with programs, 80 percent included compliance audits, 65 percent included programmatic audits, and 50 percent had recycling programs. Programmatic audits basically check the status of component portions of a program to see that the programs are in place and functioning. A strictly programmatic audit would not necessarily involve checking the compliance statistics. Thirty-five percent carried out their environmental audits (either type) more than once per year. (Note that these audits are for environmental performance and are in addition to health and safety audits mentioned in the previous paragraph.)

The last question about programs asked if they addressed biodiversity in their environmental program. Thirty-four percent indicated they did address biodiversity, although from the comments it appears that there may not be policies or programs, per se, but rather biodiversity is covered within their compliance/regulatory programs.

**Environmental Impact Information**

Within the environmental impact portion of the survey, the first topic was coarse refuse disposal. Only 33 mines, or 35 percent, specified what method of coarse refuse disposal was used. Of the 33 mines, 64 percent used landfills, 21 percent valley fills, and 15 percent in-pit disposal.

The somewhat low response rate could be because many mines do not utilize coal preparation or washing at the mine directly. Many truck the run-of-mine product to a coal washing facility that is remote from the mine and not under the umbrella of the MSHA ID defining the mine itself. Some ship to centralized washing and/or loadout facilities that are used collectively for multiple mines while other mines ship their product raw. The latter is especially true regarding many surface mines that can more selectively load the coal in the pit, thus avoiding the need to wash the coal. Furthermore, the large surface mines of Wyoming’s Powder River Basin do not wash their coal and thus do not have coarse refuse disposal as such, other than in minor amounts.
Forty-one mines specified their fine refuse disposal method. Of those, 66 percent use impoundments, and 32 percent use mixed methods\(^1\). Only one mine indicated underground injection of fine refuse.

Regarding the need for perpetual water treatment (post-mining), 65 of the mines responded and of those, only 11 percent indicated such a need. Regarding significant air emissions, 61 percent responded to the question with only 15 percent indicated having such. Those mines were predominantly the Wyoming surface mines (PRB) and the issue there was fugitive dust.

Several questions addressed the amount of reject material generated in the cleaning process. This was significantly higher for underground mines than for surface mines. This could have been the result of which mines responded to these questions, but generally speaking, surface mines can be more selective in the mining process by carefully loading out only the coal and leaving out-of-seam material in the pit. This contrasts with underground mining where out-of-seam material is typically loaded out along with the coal. Therefore, in the washing or cleaning process this added non-coal material is washed out.

For the 39 underground mines responding to the reject material questions, a total of 54.5 million tons in 2008 was generated and disposed. This contrasts to only 4.6 million tons for surface mines. In addition to the tonnage of reject, the survey requested the percentage reject. For underground mines, the average\(^2\) reject per mine for 2008 by region is listed below:

<table>
<thead>
<tr>
<th>Region</th>
<th>Tonnage</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Appalachia</td>
<td>9.5 million tons</td>
<td>51.6 %</td>
</tr>
<tr>
<td>Northern Appalachia</td>
<td>6.3 million tons</td>
<td>31.6 %</td>
</tr>
<tr>
<td>Illinois Basin</td>
<td>8.5 million tons</td>
<td>28.4 %</td>
</tr>
<tr>
<td>Uinta</td>
<td>0.2 million tons</td>
<td>2.8 %</td>
</tr>
<tr>
<td><strong>Total Underground</strong></td>
<td><strong>54.5 million tons</strong></td>
<td><strong>39.4 %</strong></td>
</tr>
</tbody>
</table>

Of the 13 surface mines responding, a total of 4.6 million tons of reject was reported. Essentially, the Wyoming surface mines of the Powder River Basin generated a negligible amount that was less than 0.1 percent. The surface mines’ reject material for 2008 is shown below by region:

<table>
<thead>
<tr>
<th>Region</th>
<th>Tonnage</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Appalachia</td>
<td>2.7 million tons</td>
<td>34.4 %</td>
</tr>
<tr>
<td>Northern Appalachia</td>
<td>1.9 million tons</td>
<td>23.5 %</td>
</tr>
<tr>
<td><strong>Total Surface</strong></td>
<td><strong>4.6 million tons</strong></td>
<td><strong>26.8 %</strong></td>
</tr>
</tbody>
</table>

The averages used above are not weighted averages. The more important figure was the reject on a mine-by-mine basis rather than weighting the average and thus skewing the results toward the higher production mines.

Survey questions regarding acres of disturbance and acres reclaimed appear to have been misunderstood. From an analysis of the individual responses, many respondents provided the total acreage for the life-of-mine to date, rather than just for the particular year. Others interpreted the question correctly. In an attempt to elicit disturbed acreage from reclamation activities such as borrow areas, the total disturbed acreage by some respondents appears to have

\(^1\) Mixed methods typically dewater the fine refuse to some degree and then mix the fine refuse with coarse refuse for joint disposal. The dewatering method often utilizes either belt or filter presses.

\(^2\) For percent reject averages, the mean is used rather than a weighted average to avoid skewing the value, which would not be representative.

\(^3\) For the average calculation, the PRB mines were ignored.
included reclaimed acres in the disturbed figure. The question’s wording will be changed for future surveys to more explicitly define the quantities requested.

**Environmental Compliance**

The environmental compliance portion of the survey requested figures for violations for each of the years 2006 – 2008. There were 69 mines responding and a total of 201 NOVs\(^1\) were reported during the three-years. The individual years were 62, 42, and 97, respectively. The more serious actions over and above the NOVs, namely the “failure to abate” and “imminent harm”, totaled 16 in the three years. They declined in each of the years, from nine in 2006, four in 2007, to three in 2008. Water quality NOVs totaled 36 during the three years as indicated for the 73 mines reporting for this item.

No “patterns of violations” or “show cause orders” were reported by the respondents. Likewise, none of the suppliers reported having had reclamation bonds forfeited or permits blocked.

Fines for environmental violations were reported as numbering 146 for a total of $179,533. The average fine was $1,230.

Spills reported in the survey numbered four, with two being cited according to the data received and augmented by AEP’s consultant. They were for coal slurry in unknown amounts. The four spills occurred at three different mines.

As was done with the health and safety data, AEP created criteria, evaluated statistical performance, and selected mines that were performance outliers. That criteria and the number of mines are shown in the table at the end of the report. They are combined in one table with the health and safety information.

\(^{1}\) Notices of Violation. This figure excludes those issued for violating water quality standards, which are discussed separately.
CLOSING

AEP is satisfied that an excellent start was made with this Sustainability Survey of Coal Suppliers. The overall figures from the surveyed mines indicate they produce nearly half the national tonnage. This clearly demonstrates that the survey is broad based. It was only made possible by the voluntary cooperation of the suppliers. Moving forward, AEP will take steps to further expand the participation by all its suppliers. It should be noted that, although a portion of the results are available through public sources, much of the information is not available except through voluntary participation. Furthermore, the public data, other than the health and safety data available from MSHA, is only available through records within 10 states’ regulatory agencies.

The survey was successful for establishing a baseline for understanding the sustainability status of the majority of AEP’s coal suppliers. It is recognized that the suppliers who responded to up to 207 pages of survey questions expended considerable effort and resources to collect, assemble, and input the information requested. Subsequent surveys should not be as onerous for those who responded in 2009, since it requested three years of history. A 2010 survey would only add calendar 2009 data.

Furthermore, AEP learned that several improvements are needed in the survey to simplify and yet maintain its flexibility for suppliers with either single or multiple mines.

The survey collects information but does not establish policy or direction for AEP in its future efforts to encourage sustainability and sustainability reporting. The survey is an extremely useful tool for such use, however. It provides an educational tool especially for the smaller supplier that may not have the sophistication of the larger companies. At a minimum, each respondent becomes familiar with the parameters used to measure sustainability.

ATTACHMENTS

Mike Morris Letter to Coal Supplier CEOs Introducing the 2009 Sustainability Survey of Coal Suppliers

Tim Light, SVP, AEP, June 8, 2009, Introduction Letter in 2009 Survey

Table of 2009 Survey Segments and Topics

Table of Responding Mines, Number of Mines, Total 2008 Production, and 2008 Shipment Tonnage

Table of Criteria Used to Determine Negative and Positive Outlier Mines

1 Colorado, Illinois, Indiana, Kentucky, Ohio, Pennsylvania, Texas, Virginia, West Virginia, and Wyoming
Coal plays a critical role in meeting today’s energy needs and will continue to be central to America’s energy future. However, we must continue our efforts to make coal more socially acceptable to ensure our long-term ability to use and mine this vast resource. We must continually be aware of the perceptions some people have about coal and mindful of the impacts coal has on the environment and our customers. As one of the largest coal consumers in the Western Hemisphere, American Electric Power has been engaged with a variety of stakeholders, including the environmental community, our customers, legislators and suppliers during the last three years to listen to their concerns and to help educate and inform them on issues that have implications on the continued sustainability of AEP. We have committed ourselves to understanding what it takes to be sustainable for future generations, which includes learning more about the impacts that all of our suppliers, fuel and non-fuel, have on our business, the communities we serve and the customers who use our electricity.

Today, approximately 66 percent of our generating capacity is coal-fired and approximately 50 percent of our country’s daily electricity supply relies on coal. As a leader in our industry, we are committed to advancing the continued use of coal to preserve the value and security of coal generation to our customers and the country. As you may know, AEP has been very focused on developing new generation technologies such as IGCC and ultra-supercritical coal generation to advance the next generation of coal fired capacity. In fact, we are building the nation’s first ultra-supercritical coal plant in Arkansas.

Also, we are driving carbon capture and storage (CCS) forward. We will begin operation this fall at our Mountaineer Plant in West Virginia of the first fully integrated CCS facility on a pulverized coal power plant in the United States. The success of this technology will further demonstrate the viability of coal-fired electricity generation, allowing us to continue to safely and responsibly consume this
abundant, domestic resource. This deployment is good for our customers, good for the electric utility and coal industries, good for the economy and good for America.

Our engagement with stakeholders has produced an interest in not only what AEP is doing concerning the environmental implications of coal, but also what our suppliers are doing as well. As you would expect, issues such as the environmental and health effects of coal mining are often a topic of these discussions.

To help us gain a better understanding of some of the social and environmental concerns around coal mining, we have committed to establishing a framework to collect information from all of our coal suppliers on their environmental, safety and health performance and practices. We believe this will help us understand what percentage of our coal supplies come from various types of mining practices, how our suppliers reclaim land, their compliance with regulations and how safe their operations are for their employees. We place a high value on the safety and health of our employees and contractors and we invest billions of dollars to mitigate our own environmental impacts. We want to know that our suppliers share the same values and are also acting responsibly. This process will help to tell us that.

As a coal supplier to AEP, you are important to us. Attached is a copy of the survey we are asking your company to complete; I would personally appreciate your ensuring that your organization completes it in a timely manner. The survey, along with a link and instructions for completing it also are being sent to our regular contacts within your company. This data will not be shared publicly, but will be used by AEP to help us analyze and identify best practices, and to aid us in understanding some of the social ramifications of our industries. This process will include a stakeholder meeting that we will convene later this year.

Being a sustainable company means being transparent and candid. Our experience with stakeholder engagement has been positive and we believe this process gives us a credible forum to respectfully and productively share information, opinions and concerns.

Let me stress again that AEP strongly supports the continued use of coal to meet America’s energy needs; by extension, we believe this also will aid in the nation’s economic recovery. The other reality is that times have changed dramatically; a severe recession, pressure to enact climate change legislation and a movement towards “green” energy require us to be agile and willing to find common ground on difficult issues. I believe that by working together to improve the transparency of our respective industries, we will achieve the secure, lower-carbon energy future that supports long-term sustainable economic growth for our companies, our industries and for America.

Thank you in advance for your support.

Sincerely,

Michael G. Morris

cc: Nick Akins, executive vice president, Generation
    Dennis Welch, executive vice president, Environment, Safety & Health and Facilities
Dear AEP Coal Suppliers:

Recently, Mike Morris, AEP’s Chairman, sent a personal letter to your company concerning an online survey that AEP is conducting with all of its coal suppliers. The purpose of this survey is to help AEP gain a better understanding of some of the social and environmental concerns around coal mining. This includes understanding the types of mining that are used to supply coal to AEP, and the environmental, safety and health performance and practices of our suppliers.

As Mike’s letter stated, as a coal supplier to AEP, you are important to us. We view you as an essential partner in our efforts to supply electricity to our customers. We also believe that the incorporation of new technologies that allow coal to be used more efficiently and in a more environmentally acceptable manner are critical to both AEP and its coal suppliers, as well as to the future of our country. This requires that AEP become a more sustainable energy provider - and to this end, we have prepared the attached Sustainability Survey that we are asking all of our coal suppliers to complete.

Let me assure you that any company specific information supplied to AEP in this survey will not be shared publicly. Your name will not be used outside of AEP. We hope to use the data you supply to help us analyze and identify best practices for environmental, safety and health performance among our coal suppliers.

We recognize that this survey is rather lengthy and will require some time and effort to complete. However, your cooperation in completing this survey is important to AEP, and I want to personally thank you in advance for taking the time to answer these questions. Should you have questions regarding the purpose of the survey, please contact either Todd Adkins, Manager – Fuel, Emissions and Logistics (614-583-7452), or Nelson Kidder, Director – Reclamation and Coal Development – FEL (614-583-6080). If your question is in regard to a particular question, or concerns the format of the on-line survey, please contact our consultant, J. K. (Jim) McWilliams, Coal Mining Consulting Service, LLC at 614-738-8822.

We ask that you complete this survey no later than August 15, 2009.

Once again, “thank you” for your time and cooperation with AEP in our sustainability efforts.

Tim Light
Senior Vice President, American Electric Power
Fuel, Emissions and Logistics
# TABLE OF SURVEY SEGMENTS AND TOPICS

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  - Safety
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  - Reject percentage
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- Closure Plan
- Perpetual Treatment
- Air Emissions
- Environmental Compliance
- Notices of Violations
- Penalties/Fines
- Slurry Spills
<table>
<thead>
<tr>
<th>REGION</th>
<th>TOTAL TONS Mines</th>
<th>AEP TONS Mines</th>
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<tr>
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<td>TOT</td>
<td>88</td>
<td>549,017,207</td>
<td>50</td>
</tr>
</tbody>
</table>

# of mines apply to 2008 only and may differ slightly from # of mines in 2006-2008 period
## CRITERIA USED TO DETERMINE POSITIVE AND NEGATIVE OUTLIER MINES

<table>
<thead>
<tr>
<th>PERFORMANCE PARAMETER</th>
<th>SCORE BASIS</th>
<th>OUTLIER BASIS</th>
<th>UG SUR</th>
<th>NEG OR POS OUTLIER</th>
<th>OUTLIER THRESHOLD</th>
<th>NUMBER OF OUTLIER MINES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MSHA Compliance - Pattern or Potential Pattern of Violations (POV)</strong></td>
<td>Did mine receive a warning or citation for POV?</td>
<td>Yes</td>
<td>Both</td>
<td>Negative</td>
<td>Yes</td>
<td>4</td>
</tr>
<tr>
<td><strong>MSHA Compliance - Violations per Inspector Day (VPID)</strong></td>
<td>VPID in each of two years 2007 &amp; 2008</td>
<td>Weighted Avg ± 2 Std Dev.</td>
<td>UG</td>
<td>Negative</td>
<td>&gt;1.23 in 2007</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>UG</td>
<td>Positive</td>
<td>&gt;1.12 in 2008</td>
<td>0</td>
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<tr>
<td></td>
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<td>SUR</td>
<td>Negative</td>
<td>&gt;1.45 in 2007</td>
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<td></td>
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<td></td>
<td>SUR</td>
<td>Positive</td>
<td>0.00 in both years</td>
<td>0</td>
</tr>
<tr>
<td><strong>Accidents and Injury Rates - Fatal Accidents</strong></td>
<td>Did mine incur a fatal accident in 2006-2008?</td>
<td>Yes</td>
<td>Both</td>
<td>Negative</td>
<td>Yes</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Positive</td>
<td>Not considered</td>
</tr>
<tr>
<td><strong>Accidents and Injury Rates - Incidence Rate (IR)</strong></td>
<td>Weighted Avg ± 2 Std Dev.</td>
<td>UG</td>
<td>Negative</td>
<td>&gt;10.38</td>
<td>2</td>
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<td><strong>Environmental Compliance - Notices of Violation (NOV)</strong></td>
<td>Total number of NOVs in 3 yrs 2006-2008</td>
<td>Mean ± 2 Std Dev.</td>
<td>UG</td>
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<td>&gt;12.77</td>
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<td><strong>Environmental Compliance - Fines ($)</strong></td>
<td>Total fine dollars paid in 3 yrs 2006-2008</td>
<td>Mean ± 2 Std Dev.</td>
<td>UG</td>
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<td>&gt;$12,534</td>
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<td><strong>Environmental Compliance - Spills</strong></td>
<td>Did mine have slurry spill in 2006-2008?</td>
<td>Yes</td>
<td>Both</td>
<td>Negative</td>
<td>≥1</td>
<td>3</td>
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</table>

1. Weighted on inspector days
2. Weighted on exposure days
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www.AEP.com