THE OHIO VALLEY COAL COMPANY

December 18, 2009

Scott Hans
Chief, Regulatory Branch
US Army Corps of Engineers, Pittsburgh District
William S. Moorhead Federal Building
1000 Liberty Ave., Suite 2200
Pittsburgh, PA 15222

In regards to: Proposed Dam No. 3 Slurry Impoundment Supplemental Information

Dear Mr. Hans,

Attached please find The Ohio Valley Coal Company's (TOVCC) response to questions raised by US Environmental Protection Agency, Region 5 (US EPA) in the letter dated October 30, 2009.

TOVCC would like this additional information to be included with the Section 404 Application currently under review. This information should be attached as an addendum to the application.

Sincerely,

David L. Bartsch, P.E.
Environmental Coordinator and
Permitting Administrator

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Addendum 1: Section 404 Permit Application, Proposed No. 3 Dam Slurry Impoundment, Washington County, Belmont County, Ohio Dated December 4th, 2009

The Ohio Valley Coal Company Response to USEPA Comments

1. Ohio Valley Coal needs to fully define the plant yields and actions required to decrease the reject percentage.

The Ohio Valley Coal Company ("Ohio Valley") preparation plant is performing to acceptable industrial standards for the equipment that is in use, which are primarily Jeffrey 738 jigs. This is documented by recent and previous refuse and plant performance studies. The plant could theoretically be converted to a primary heavy media process, but the additional 1.8 percentage points of yield will not materially reduce the amount of refuse that must be disposed of. Ohio Valley estimates the production improvement with heavy media to be 189,000 tons per year, which is worth $7.2 million in additional revenue to offset a capital investment of over $30 million. Ohio Valley has never considered this option because of the insurmountable obstacle of idling the plant for the conversion and the resultant interruption to coal supply contracts, coal shipments, and income. Even if it were possible to muster the financial wherewithal to make the transformation to a heavy media plant, the reduction in the amount of refuse generated would not be significant enough to avoid an additional impoundment. The payback certainly does not justify building an entirely new plant in a new location with the necessary permits and coal transportation facilities. The plant itself would cost well over $80 million. The present competitive rail to river coal transportation system now in use could not be duplicated.

The theoretical preparation plant flow sheet provided to the USEPA, with arbitrary clean coal yield, cannot be taken out of context to compare to historical plant performance data. The flow sheet was not produced to represent the plant's true performance. It was developed to show higher recoveries capable with the addition of the floatation system.

The true plant efficiency must be measured by a comprehensive performance test with detailed circuit sampling and analysis. Ohio Valley periodically performs this expensive and time consuming analysis and will do so again after the new froth flotation circuit is fully functional. Recent stopped belt samples of the coarse refuse were collected to verify the percentage float in the refuse, the amount of material potentially recoverable by a more efficient heavy media system. The results verify that the plant is operating as expected, although there is some room for improvement in the finer fractions.

While the Ohio Valley plant performance is within industrial standards for a jig plant, a heavy media process would provide a recovery improvement on the plus 1mm fraction. This would make the performance similar to the American Energy Corporation ("AEC") Century preparation plant and a corresponding small refuse reduction.

For discussion purposes, the attachment illustrates the distribution factors for a jig and heavy media cyclone applied to a typical Ohio Valley "washability" (pre-flotation circuit addition) to generate yield and clean coal and refuse assays. At 1500 tons per hour (TPH), the nominal plant operating rate, and 84% feed to the coarse process, the yield increases by 27 TPH or 1.8 percent of the total yield. Assuming the plant would operate 7,000 hours per year, the annual increase in production would be approximately 189,000 tons, worth $7.2mm at a realistic $38.00 per ton without cost offsets. Any additional gain from increasing the BTU would be marginal and of no value since Ohio Valley can now only make the minimum contractual requirements for heat. Under the assumption that the reject is 34 percent, with a 3:1 coarse to fine ratio, 2.68 million tons of coarse refuse is generated per year, or 384 TPH. The theoretically projected 7 percent reduction in refuse at the Ohio Valley plant from replacing the jigs with heavy media cyclones (less than 2.5 percent of the total fines from both mines) will not significantly impact the need for additional fine refuse disposal area for the combined needs of the Ohio Valley and AEC preparation plants.

2. OVCC needs to verify the Casey Run Impoundment capacities and design assumptions

The Casey Run Impoundment design has evolved from a standalone fine refuse disposal area for just the Ohio Valley plant to an integrated disposal area for two high-capacity preparation plants. The redesigned impoundment services two large longwall mines and provides a dependable supply of fresh make-up water for the two preparation plants, with only a limited discharge utilizing existing permitted outfalls. This present design was derived through discussions with the Task Force in an effort to minimize any additional impact on Captina Creek. It cannot be ignored that for over 30 years the Ohio Valley plant, and the more recently added Century plant, have coexisted within the improving Captina Creek watershed. The proposed Casey Run Dam, with the remaining capacity in the existing No.2 dam, will hold all of the fine refuse projected to be mined from the existing reserves of the two Murray Energy Corporation mines, which is approximately 45 million tons total. This estimate discounts any additional slurry storage from underground injection.

A life of mine projection was made for the Ohio Valley and Century mines in September of 2008 and provided to Esmer and Associates. The projection estimated that 454 million tons of run of mine material (raw coal) would be mined from the two facilities. The estimated clean recoverable and salable coal was 264 million tons, leaving 190 million tons of refuse generated from the two preparation plants. This scenario projected 47 million coarse refuse tons from the Ohio Valley mine and 97 million coarse refuse tons from the Century mine, with 48 million tons of combined fine refuse from

both mines. Esmer calculated that the #2 Dam can store an additional 21 million tons of fine refuse and 12 million tons of coarse refuse (constructed to 1200 elevation, including abandonment cap, without calculating for settlement). The proposed Casey Run dam will store 29 million tons of fines and 19 million tons of coarse material. Therefore two dams will store a combined amount of 50 million tons of fines and 31 million tons of coarse used in the construction and abandonment, without settlement of abandonment caps.

The anticipated course refuse storage, calculated to be approximately 142 million tons, will be distributed into three separate areas: the construction of the Casey Run embankment, the existing No. 2 Dam continued dam, upstream construction and capping, and the areas in the vicinity of the Century preparation plant designated for course refuse. It has been Ohio Valley's practice to utilize the air space over former impoundments to provide additional storage space for coarse refuse. The No. 1 Slurry Impoundment, which operated from 1971 until 1975, was covered with coarse refuse until the Perkins Run refuse facility was opened in 2000. The No. 1 impoundment was much smaller than the No. 2 (Perkins Run) impoundment, so there is sufficient room to dispose of the coarse refuse from the OVCC plant for the foreseeable future.

3. The analysis of alternatives should review the disposal option for the coarse refuse separately from the fine refuse

The Task Force evaluated many other alternate disposal technologies. Those alternatives included:

1. Mining Practice Related Slurry Reduction/Elimination
    a. Room-and-Pillar
    b. Longwall
2. Coal Analyzer
3. Presses
    a. Filter Presses
    b. Belt Presses
    c. Rotary Presses
4. Thermal Drying of Fine Refuse
5. Dry Cleaning
6. Alternative Impoundment Locations
7. Direct Utilization – Conventional Coal-Fired Boilers
8. Direct Utilization – Alternative Combustion and Gasification Technologies
9. Incised Ponds (Cells)
10. Underground Injection
11. Off-Site Disposal
12. Geotubes
13. Relocation of Preparation Facilities to Powhatan Point, Ohio
14. Re-mining of Fines from No. 2 Slurry Impoundment

The executive summary of the first task force stated:

In 2004, OVCC submitted an application for a section 401 Ohio Water Quality Certification. In 2008, the Ohio EPA issued a draft denial of the application. After several meetings and a site visit to OVCC's operation, a task force was formed to examine potential alternatives to a proposed slurry impoundment in Casey Run, a tributary to Captina Creek. The Task Force was comprised of members of the Ohio Environmental Protection Agency, the Ohio Department of Natural Resources, the Federal Office of Surface Mines, the Federal Army Corps of Engineers, The Ohio Valley Coal Company, Esmer and Associates, and Stantec Consulting Services, Inc. The regulatory agencies were directed to support continued operations of OVCC and American Energy Corporation, who are independent operating subsidiaries of Murray Energy Corporation, protect Casey Run, and to:

a. Safely increase the capacity of the current Perkins Run slurry impoundment to allow mining operations to continue in the near term (Murray had stated that permit issuance would be needed within nine months or production cutbacks and layoffs would be required to extend the life for the Perkins Run impoundment to align with contracted coal sales commitments.).
b. Find suitable short term disposal solutions that do not include Casey Run.
c. Find suitable long term disposal options that do not include Casey Run (and as indicated by Murray Energy future impoundments in the equally or more sensitive watersheds of Reeves Hollow and Berry Run). OVCC was directed to approach the Task Force with open minds.

Fourteen alternatives were examined by the Task Force. The group reached a consensus on all but three of the alternatives. The remaining eleven alternatives were eliminated because they were technologically, or in some cases economically, infeasible. Members of the Task Force have differing positions on the remaining alternatives and could not come to a consensus opinion. These alternatives are being presented to the Directors of the Ohio EPA and Ohio Department of Natural Resources.

Plant Yield

The plant yield at both operations is at expected levels based on the characteristics of the raw material, the required coal quality and the processing equipment utilized. Raising the plant yield by degradation of the clean product is not possible due to contractual obligations with Murray Energy customers. Even if these obligations were relaxed, the refuse is of such poor quality that only minor amounts added to the product would have dramatic effects on its heating value.

Coarse Refuse Gradation

Gradation of the course refuse is also at optimum levels. The spiral refuse at Ohio Valley already reports to the jig refuse after dewatering on a high frequency screen, as does the equivalent Teeter Bed refuse at AEC. Only a few tons of the finest material, two

(2) to four (4) percent, ends up in the total fine reject. The vast majority of the slurry is derived from the secondary classifying cyclones that remove the slimes from the flotation feed. This material is basically dirty water and, even when the suspended solids are concentrated, cannot be combined with the already saturated coarse refuse material because of handling concerns and adverse construction characteristics. The second Casey Run Task Force final report detailed many of the material handling problems and engineering limits of the fine refuse from the preparation plants at Ohio Valley and the Century Mine. The discussion of why filter presses fail to dewater the fine coal refuse was well documented. It is not prudent engineering or mining practice to mix more fine refuse with the coarse because even a little of the fine refuse will create instability in the refuse pile. The Federal Mine Safety and Health Administration (MSHA) requires refuse piles to be well compacted and maintained in conditions where they are safe and do not retain water (drain properly). When even the coarse refuse is taken to the refuse facilities in the winter, the moisture levels present mobility problems for the haulage trucks. Adding a clay product that further retains moisture would complicate the problems and will make the haul roads unusable for several months each year. In addition, it is important to remember that disposal space is required for the slurry regardless of where it is placed, whether it be in an impoundment, or on a refuse pile. In either case, those facilities must be in valleys in southern Belmont County and, in fact, most of southeastern Ohio.

4. OVCC should consider mining disposal areas underground and the underground distribution of fine refuse

Both Ohio Valley and AEC are committed to storing slurry underground as an alternative to extend the life of the present No.2 impoundment and the proposed Casey Run impoundment. Underground injection must be viewed as a supplemental alternative only. The operational limitations of injection and the unpredictability of slurry capacity underground gives no confidence in meeting the operating needs of the preparation plants in the short term or the long term. Only selected abandoned sealed areas of the mine are viable for underground storage due to safety concerns and practical ventilation reasons. There are no un-mined areas large enough that would not interfere with an acceptable mining plan that could be mined solely for future slurry disposal area. Adequate areas already exist that are suitable for slurry storage that will be abandoned and sealed in the future. Unfortunately, these areas are not available unless mining can progress using the needed Casey Run impoundment. Unintended subsidence, as a secondary consequence underground injection, has been identified as a possible risk in some of the previously-mined areas that will be utilized for underground injection. However, Ohio Valley believes potential problems can be handled through individual property owner negotiations. Nonetheless, this concern is a real problem that may limit the use of some areas.

Casey Run Task Force I considered mining of disposal areas in its deliberations. First, and foremost, disposal of fine refuse underground is a safety concern to the miners. The MSHA will not allow impoundments to be located higher in elevation than the active

portions of the mines. There are few, if any, locations at either mine where entries could be developed for slurry disposal. Second, the sheer volume of slurry produced at the preparation plants make underground disposal an inefficient way to dispose of the fine refuse. At best, the Task Force found underground injection to be suited only as a supplemental disposal method. Third, underground injection has the potential to produce surface subsidence. Pillars may "push" into soft fireclay bottoms found in many areas of coal mines, causing damage to structures on the surface and disrupting water supplies while at the same time "squeezing" the existing air space and eliminating the storage space . Fourth, both mines depend on highly productive, low cost longwall mining operations, and need available reserves and resources for this type of mining. To make mining of underground injection areas successful, enormous areas would have to be mined by the room and pillar mining method, depleting the reserve. Barrier pillars are developed as support pillars to protect surface structures or other areas of the mine. Many of these barrier pillars are located in or around areas that were sealed and abandoned many years ago. They are far-removed from the active workings of the mines where the infrastructure (conveyor belts, track haulage, etc.) are located. Sixth, both mines utilize longwall mining because it is not competitive in the marketplace to mine reserves in the Pittsburgh (No. 8) seam using room-and-pillar techniques. The cost to mine these reserves, even if it were feasible to access them, far exceeds the price of the coal in today's marketplace.

5. OVCC should consider the underground distribution of fine refuse to other surface disposal areas.

It is difficult to avoid running slurry lines on the surface for the transportation and injection of slurry underground. In most instances, the underground workings are not suitable for the installation and maintenance of a slurry injection system. While management has considered the routing of slurry lines to sealed areas via active underground workings in isolated instances, this does not allow for the practical distribution of the slurry. There is no way of pumping the water back from the established mine pool during the dry season when it is needed for plant make-up water. Cut and fill mining similar to that used in metal mines is not applicable because of the volume of slurry and the limited area that is actually exposed by mining.

Underground routing of slurry lines to a remote surface site is also impractical. The mine entries are not located correctly and cannot be maintained for extended periods of time for this purpose without great expense. Mining to a specific location on the surface for the sole purpose of laying a slurry line is not possible as it would take multiple entries and would negatively impact the economics of the entire mine plan. The line underground is also susceptible to damage from roof falls since it cannot be protected or buried. Additionally there are safety concerns as there is danger of inundation to the miners from such high capacity pumping systems in confined entries if the line were to break. Since mine safety is our foremost concern, this safety issue associated with underground injection cannot be ignored.

The USEPA advocates the underground distribution of fine refuse. This suggestion raises two critical issues related to the construction of coal slurry impoundments. First, coal mines use the coarse refuse to construct the embankment for the impoundment. For a slurry impoundment to be constructed in a cost-effective manner, mines make use of the coarse refuse as construction-grade material without having to excavate additional surface soil. The use of coarse refuse to build the embankment is the most efficient use of the coarse material. Excavating material on the surface will only increase the surface footprint, and will, no doubt, result in additional impacts to surface waters. The second aspect that the USEPA overlooks is one with which OVCC is very familiar: the maintenance of underground mine openings. It has been OVCC's experience that such openings remain open for five years with little maintenance but, after that time period, maintenance increases significantly. There are many sealed areas in the mine because maintenance of these areas is cost-prohibitive and highly labor intensive. Furthermore, there are safety concerns in maintaining these areas, and workers in these areas are exposed to many more hazards than in areas that were mined within five years. A conveyor belt would be needed to provide the coarse refuse material to build an embankment. It is likely that rail would be needed in a parallel entry so the conveyor belt and roof support material could be delivered where needed. The slurry line would probably be located in either of these two entries. However, the slurry impoundment provides the make-up water for the preparation plants, so a return water line would be needed. That line would need to be located in a second underground mine entry. Ventilation must be maintained throughout all active areas of the mine. A fan would be required to provide the needed ventilation. All of the entries in the mine would have to be maintained for the life of the impoundment. Old workings (those over 5 to 10 years) are notorious for falls of the immediate roof, regardless of primary and supplemental roof supports. These roof falls could take the slurry line out of service for days or weeks at a time until it is rehabilitated. MSHA requires all active areas of the mine to be inspected weekly, and requires all areas where workers will travel to be inspected three times per day. Maintaining an underground slurry delivery system would be a highly labor and management intensive operation that would be very difficult, costly, and impractical to operate. Therefore, the risks associated wit this idea would greatly outweigh the benefit.

The cost of pumping through the underground mine and back to the surface would require the same amount of horsepower as a pump on the surface, because horsepower would be required to overcome the friction loss of the pipe, the elevation difference of the seam (the seam dips at a rate of approximately 20 ft per mile to the southeast), and the elevation difference to raise the slurry from the seam to the surface.

The USEPA stated that there will be underground access to the reserves under the Lamira site. However, there is no guarantee that the reserves north of McMahon Creek, where Lamira is located (designated for longwall mining and subsequent subsidence), will ever be mined, or that the reserves will actually be mined at the specific time as per the present mining plan. The mining plan is dependent on too many variable factors, including geology, economics, and market conditions, all which influence the timing of the mine plan. In addition, there is insufficient capacity at the Lamira site.

For the aforesaid reasons the Lamira site has no advantage because of underground access. OVCC has developed its mining plans and has made financial commitments and has entered into long-term coal contracts that it will not be able to meet if it cannot guarantee the placement of fine refuse material. The Lamira site does not provide this assurance.

6. OVCC should define and consider the remaining capacity in the existing impoundment and evaluate other disposal options.

Refer to responses to recommendations two and three.

7. OVCC should define the remaining capacity in the existing Century coarse refuse disposal area and define options for additional disposal areas

AEC will generate over 95 million tons of coarse refuse over the life of the Century mine. Coarse refuse storage capacity, with the acquisition of additional neighboring property, is approximately 131 million tons, including the necessary four (4) feet of soil cover for reclamation. The extent of additional land purchase will be dependent upon the design of the refuse area with pertinent permitting requirements.

8. OVCC should calculate the transport cost for fine refuse based on existing pipeline costs and re-evaluate all sites excluded based on transportation costs

The USEPA requests that OVCC re-evaluate the cost to transport only fine refuse to a remote location, and wants the costs to be based on the costs of the existing pipeline. The costs in the Task Force 2 report were developed by an independent third-party that could be used by industry and regulators alike. They involve moving the coarse refuse to the Long Run watershed because it was a good example of the conditions that would be encountered virtually anywhere in Belmont County. The cost for the existing slurry line would not be a good example to use because it has been constructed entirely on OVCC property and additional property acquisition was not an issue. It will not be applicable for any site other than Casey Run. OVCC has already obtained the surface rights to this property, which is adjacent to the Perkins Run refuse disposal site. Alternative sites at greater distances will require booster pumps, power lines and access as outlined in the Weir report.

As stated in item 4 above, wherever the slurry is placed, an embankment must be constructed. The most cost-effective material that can be used for the embankment is coarse refuse. OVCC has 38 years of experience using this material for constructing an embankment. The cost of constructing an embankment from native material on the surface would require a blasting and necessary permit, crushing, dust permits, construction permits, road permits, and would equate to handling the same amount of

material twice (the coarse refuse must still be handled at the coarse refuse disposal site, plus the embankment material at the impoundment site). There is no guarantee that these permits can be acquired. Furthermore, disposal of the coarse refuse that is slated to be used for the Casey Run embankment would decrease the life of the existing coarse refuse site.

9. OVCC should complete calculations of the volumetric capacity for the Long Run Tributary at river mile 3.26 and the Lamira Alternatives.

Even if OVCC could maintain mine entries from the existing location of the preparation plant to either the Long Run site or the Lamira site, there are practical obstacles to overcome at both sites. Past surface mining in the Long Run tributary was located toward the mouth of the tributary. The northern portion of the Long Run tributary at river mile 3.26 is owned by a sportsman's club. They utilize this area for target shooting, hunting, and fishing from a large lake located there. OVCC has investigated the possibility of purchasing this property and has reached the conclusion that it is highly unlikely that OVCC could acquire the sportsman's club at a fair market value. Since the membership of the club will vote on acceptance of the sale, OVCC believes that sufficient members will vote no to turn down the purchase. OVCC will be required to maintain the slurry impoundment so that it does not encroach on the sportsman's club property. This can be done by constructing a second embankment south of the sportsman's club property, as well as the main embankment near the mouth of the tributary. The problem then becomes: how does one get the water from the sportsman's club property around the slurry impoundment? It would not be feasible to pipe sufficient quantities of water under the slurry impoundment. The size of a cut large enough to pass a large storm around the slurry impoundment, if feasible, given the elevations and slopes of the surrounding drainages, would be cost prohibitive. The cost factor must be considered as well. Building two embankments would effectively double the cost to build the embankment.

The Lamira Site was evaluated previously, during both the first and second phases of the Casey Run Task Force. The conclusion was that the Lamira Site is too small to replace Casey Run, and it is approximately nine (9) miles from the OVCC preparation plant. Since it is smaller than Casey Run, an addition site in another drainage area would be needed to handle the needs of the two mines for the foreseeable future. In addition, as stated above, the Lamira Site is slated to be undermined within the next several years. Undermining by the longwall unit will affect the strata between the impoundment and the mine. It is not prudent engineering practice to site an impoundment over longwall panels.

10. OVCC should consider the feasibility of a new preparation plant

It is not necessary to build a new preparation plant in an alternate location because of fine or coarse refuse storage capacity considerations, as follows: (1.) it is not feasible because of the high capital cost and the lack of suitable alternative coal transportation facilities. Ohio Valley and Century exist today only because the mines are low cost and have a competitive rail to river transportation system. The very high cost of construction

of a new preparation plant would render the mine uncompetitive in the marketplace, thereby causing the mine to permanently close: (2.) Even though small improvements in recovery would be possible, this would not justify the cost of a complete new preparation plant; 3.) MEC has two longwall mines that can utilize the two existing preparation plants in a central location with a common fine refuse storage area and fresh water supply, mutually dependent of each other; 4.) MEC relies upon using this defined preparation capacity to support both mines and execute its future business plan.

The Casey Run Task Force I evaluated building a preparation plant in Powhatan Point, Ohio, which is located approximately 15 miles east of the existing Ohio Valley preparation plant. Apparently the goal of constructing a new preparation plant is to upgrade the existing plant and move the plant and slurry facilities out of the Captina Creek watershed. The USEPA recommends locating the plant on some of the abandoned mine sites to the west of the current operation. Please be advised that the only previous mining located to the west of the existing facilities is the Long Run river mile 3.26 site. There are other previously-mined sites further west, but OVCC does not own the reserves to reach those sites. The Task Force evaluated all watersheds within ten miles of the existing facilities, and the only previous mining is in Long Run which is still in the Captina Creek watershed. This site is located approximately seven miles away, and it would take several years to access this site underground. By the time mining reached this site and a new slope is developed to access the surface, we would just then begin to process coal at that location. The No. 2 slurry impoundment will not last that long, thus eliminating this alternative as feasible.