Statement of Ed Yankovich
United Mine Workers of America
House Majority Policy Committee Hearing
St. Vincent's College
September 6, 2012

Good morning, Chairman Reed and distinguished members. My name is Ed Yankovich. I am a Vice President and International Executive Board member of the United Mine Workers of America. I am here on behalf of Cecil E. Roberts, International President of the UMWA, and Dan Kane, Secretary-Treasurer of the UMWA.

I am here to express the UMWA's concerns about the lob losses associated with power plant closures resulting from compliance with U.S. EPA air regulations, and proposed EPA regulations that will prevent the construction of new, state of the art coal generation plants.

Overall, the UMWA has thousands of active and retired members in Pennsylvania. We work and live here. Our kids go to go school here. Our active members earn good wages and benefits and are the economic lifeblood of many coalfield communities. Our retirees depend critically on the wellbeing of our active members for their retirement and health benefits.

These are tough times for coal miners. Low natural gas prices are leading many utilities to decrease coal burn in favor of gas. Coal plants that used to run baseload 24-7 are now running at reduced

load or not at all. The recession and high unemployment are contributing to this situation.

Eventually, we expect natural gas prices to rise as gas flows into other markets, such as ethane and transportation fuels. But in the meantime, coal miners and their communities are challenged.

New US EPA regulations for mercury and other air toxics – the so-called MATS rule - have led many Pennsylvania generators to announce the closure of older and smaller plants in their fleet. The operators cannot afford the capital expenditures needed to upgrade the plants. Up to now, these plants had operated in compliance with all EPA environmental regulations by participating in various emission trading programs, such as the federal acid rain program, the NOx SIP Call, and the Clean Air Interstate Rule. Pennsylvania has an impressive record of both emission reductions and air quality improvements as a result of these programs.

Now the rules are changing and plants must install specific controls such as scrubbers and fabric filters or "baghouses" for particulate matter. The UMWA has always favored the installation of pollution control devices to enable coal to be burned cleanly. However, we have never before been in a situation in which 200 or 300 coal units around the country, including more than a dozen in Pennsylvania, will be shut down due to Clean Air Act requirements.

The last numbers that I have seen from the IBEW suggest that 22 coal units in Pennsylvania will close, involving nearly 2,000 megawatts of capacity and about 5,000 direct and indirect jobs. These closures will hurt the workers, coal suppliers and communities involved. Local tax bases will be stressed to provide for basic services like schools, police, and fire.

EPA estimates that the new mercury "MATS" rule will cost utilities and consumers $9 billion annually. EPA also reports that the total cost of all Clean Air Act regulations for the utility industry prior to MATS was $6.6 billion annually. So the MATS rule by itself increases costs by more than a third. We can expect to see these costs in our electric rates, just as we have begun to adjust to the increases that occurred with the lifting of rate caps.

An issue of equal concern to us is that the MATS rule, and a pending EPA rule on Greenhouse Gas New Source Performance Standards, will basically prevent the construction of state of the art new coal plants.

The MATS rule requires new sources to meet a mercury emission standard 98% more stringent than the standard for existing sources. Pollution control vendors say they cannot guarantee performance at such low levels – and that they cannot even monitor emissions at such low levels. EPA is now reconsidering this part of the MATS rule, and we are hopeful that more realistic standards will result.

EPA's proposed Greenhouse Gas standards for new coal and natural gas plants impose carbon capture and storage requirements on coal plants, but not on gas combined cycle plants. Carbon capture and storage has not been commercially demonstrated in this country. EPA and DOE estimate that it would raise the cost of electricity at a new plant by 80%. What bank is going to finance a multi-billion dollar new coal plant knowing that the power it produces can't be sold in the market?

Obviously, this regulation would kill any plans for new coal generation capacity. We cannot have an "all of the above" energy policy if our EPA issues regulations that ban new coal plants equipped with scrubbers, baghouses, selective catalytic reduction and other best available control technologies.

I am attaching to my statement a copy of UMWA's comments to EPA on the proposed Greenhouse Gas rule, which discuss these issues in greater detail. While the comment period for the proposed rule has closed, the final rule is not expected to be issued until December. There is still time to weigh in with EPA, Congress, and the Office of Management and Budget. We encourage the Pennsylvania General Assembly to do so.

There have been some encouraging developments lately, such as the August decision by the DC Circuit Court of Appeals striking down EPA's Cross State Air Pollution Rule (CSAPR). That rule required a 50% reduction of utility sulfur dioxide emissions from 2010 levels within a 2-year compliance timetable. While EPA works on a replacement rule, the Clean Air Interstate Rule (CAIR) will remain in effect, with additional reductions of SO2 and NOx scheduled for January 2015.

Owners of the Homer City plant were the first to challenge the CSAPR rule, because it did not provide them with enough emission allowances to operate the plant while they constructed scrubbers. The UMWA also participated in the court appeal because the rule simply did not provide enough time for the construction of emission controls. It was a bad rule for Pennsylvania coal miners, for Pennsylvania utilities, and for the Commonwealth.

We supported Homer City's application to PA DEP for permits to install scrubbers at Homer City, and we were glad that DEP acted promptly to issue the permits. We are pleased that construction of the scrubbers is now underway, and the extra time that the Court of Appeals has provided in its CSAPR decision should enable Homer City to be in compliance EPA's clean air rules by early 2015.

The UMWA represents workers at the Homer City prep plant. Most of the coal produced locally has high sulfur and ash content,

and the prep plant reduces both the sulfur and ash, resulting in lower emissions and lower O&M costs for scrubbers.

The UMWA strongly disagrees with those who simply believe that coal plants should be shut down. Coal is a mainstay of electric generation across the nation, responsible for hundreds of thousands of jobs in mining, transportation, and utilities. Coal built Pennsylvania's economy, and Pennsylvania is one of the largest exporters of coal-based electricity in the nation. We need policies in Harrisburg and in Washington that will enable us to further reduce emissions from the coal fleet in an orderly manner, including replacing older and less efficient plants with new state of the art coal plants.

Thank you for the opportunity to testify here today, and I am happy to take any questions.

Attachment – UMWA Comments on EPA Greenhouse Gas Rule

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Attn: Docket EPA-HQ-OAR-2011-0660

Proposed Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units

Ladies & gentlemen:

These comments are submitted on behalf of the United Mine Workers of America, AFL-CIO (UMWA). UMWA represents active and retired coal miners across the United States whose welfare will be critically impacted by U.S. EPA's decisions regarding the proposed New Source Performance Standards (NSPS) for greenhouse gas (GHG) emissions from fossil-fueled electric generating units.

For the reasons outlined below, we request that EPA re-propose this rule to provide a basis for the construction of well-controlled new coal generation facilities meeting Best Available Control Technology (BACT) Standards for GHGs and other air pollutants, consistent with the agency's current GHG BACT Guidance.[1] As proposed, the rule imposes an unworkable and infeasible carbon dioxide (CO2) emission limitation that would require the application of carbon capture and storage (CCS) technology during the commercial lifetime of any new coal generation unit.

The UMWA has actively supported legislation to provide funding for the commercial demonstration of CCS technology. To date, however, Congress has not acted

[1] U.S. EPA, "PSD and Title V Permitting Guidance for Greenhouse Gases" (November 10, 2010).

beyond the relatively modest funding provided for programs operated by DOE's Office of Fossil Energy. As a result, CCS technology has not been commercially demonstrated at utility scale applications in this country. The 2010 Report of the Interagency Task Force on CCS[2] recognizes this fact. The International Energy Agency's recent report, "Golden Rules for a Golden Age of Natural Gas,"[3] assumes that CCS will not be deployed until 2035.

The proposed rule envisions that new coal plants would be able to meet an average emission limit of 1,000 lbs CO2/MWH by installing CCS ten years after initial operation of a new coal plant. This is an unrealistic assumption. Plant owners would be unable to obtain financing for the future application of CCS technology due to the inherent uncertainties associated with securing all of the legal, regulatory, and permitting approvals associated with the application of an undemonstrated technology ten or more years after initial commercial operation of a new coal generation unit. We doubt that engineering and construction contractors would even be willing to bid on the future construction of CCS facilities so far in advance of construction and operations.

Our most fundamental objection to the proposed rule is its unprecedented combination of coal-based steam electric and natural gas combined cycle (NGCC) units into one category, requiring these very different generation technologies to meet the same standard of 1,000 lbs. CO2 per MWH. NGCC units can meet this limit with no additional controls. EPA acknowledges that the CCS requirement would raise the cost of electricity at coal plants by 80 percent. Faced with this magnitude of generation cost increase, no prospective plant developer could be assured of a future market for the output of the plant. State utility commissions are not likely to issue certificates of "convenience and necessity" for uneconomic generation facilities.

UMWA members are suffering significant job losses due to current low natural gas prices and the hundreds of coal plant retirements announced in response to EPA's Utility MATS rule. An NSPS rule that effectively bans the construction of new coal plants is fundamentally inconsistent with the Administration's commitment to an "all of the above" energy policy, and will deprive coalfield communities in dozens of states of any prospects for recovery from the job losses they are now experiencing.

We therefore respectfully urge EPA to re-propose the GHG NSPS rule on a basis that provides separate, achievable standards for steam-electric coal and NGCC technologies. As discussed below, we recommend that the standards for new coal-based units be based on the performance of supercritical or ultra-supercritical technologies equipped with scrubbers and other state-of-the-art emission controls.

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[2] **Report of the Interagency Task Force on Carbon Capture and Storage** (August 2010).

[3] International Energy Agency, "Golden Rules for a Golden Age of Gas," (World Energy Outlook Special Report on Unconventional Gas, 2012) pp. 91-92.

Coal and Natural Gas Require Separate GHG NSPS

The proposed NSPS combine natural gas combined cycle and steam electric coal-based generation into a single category for purposes of meeting a 1,000 lb. CO2/MMBTU emission standard over the lifetime of a new fossil-based electric generating facility. The "best system of emission reduction" EPA chose to set this standard is natural gas combined cycle generation, with no controls for CO2 emissions. Coal units are offered an alternative NSPS based on the application of CCS meeting either "day one" compliance or a 30-year average emission rate of 1,000 lbs/MMBTU.

We disagree with this proposed combination of source types for three reasons: 1) NGCC is not a "system of emission reduction" but is a form of electric generation technology that emits CO2 and other pollutants, and is itself potentially subject to the application of CCS technologies; 2) applying CCS only to coal units, but exempting natural gas, discriminates against the construction of new coal units and lacks any environmental justification; and 3) the selective application of CCS to new coal units is contrary to the Clean Air Act's requirement that NSPS be "adequately demonstrated."

EPA has not provided any justification for limiting the application of CCS to new coal-based units. However, CCS technology is potentially available to reduce CO2 emissions from NGCC units,[4] at estimated costs below those associated with the application of CCS to coal units.[5] While we are not now advocating for the application of CCS to natural gas units – for the same reasons that we do not support its application to coal units – the record of this rulemaking appears deficient in the absence of a justification for applying CCS solely to new coal units.

We note in this regard research by Dr. Tom Wigley of the National Center for Atmospheric Research[6] and the recent assessment by the International Energy Agency of policies encouraging the substitution of natural gas for coal in the electric generation sector.[7] This body of research illustrates that methane leakage associated with natural gas production, transportation, and generation produces lifetime greenhouse gas emissions and concentrations roughly equivalent to coal generation.

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[4] *See*, http://www.netl.doe.gov/energy-analyses/pubs/deskreference/B_NGCC_051507.pdf

[5] *See*, Ron Edelstein, Gas Technology Institute, "Natural Gas and Carbon Capture and Sequestration," (presented at NARUC 122d Annual Conference, Atlanta, GA, November 2010); http://naruc.org/meetingpresentations.cfm?7

[6] Tom M.L. Wigley (2011), Coal to gas: the influence of methane leakage, *Climatic Change* DOI 10.1007/s10584-011-0217-3.

[7] International Energy Agency, "Golden Rules for a Golden Age of Gas," (World Energy Outlook Special Report on Unconventional Gas, 2012) pp. 91-92.

CCS is Not Adequately Demonstrated

CAA section 111(a)(1) defines a "standard of performance" as a "standard for emissions of air pollutants which reflects the degree of emission reduction which (taking into account ... cost ... and any nonair quality health and environmental impact and energy requirements) ... has been adequately demonstrated."

In the proposed rule, EPA argues that "...CCS is technologically feasible for implementation at new coal fired power plants and its core components (CO2 capture, compression, transportation and storage) have already been implemented at commercial scale."[8] The agency cites DOE's National Energy Technology Lab findings that the application of CCS may cause the cost of electricity from pulverized coal power plants to increase by "around 80 percent."[9]

In contrast, EPA's November 2010 Guidance on GHG BACT in the NSR permitting process recognized CCS as an "available" technology option but declined to recommend its application, citing uncertainties about CCS commercial availability noted by the Administration's Interagency Task Force Report:

> For the purposes of a BACT analysis for GHGs, EPA classifies CCS as an add-on pollution control technology that is "available" for large CO2-emitting facilities including fossil fuel-fired power plants and industrial facilities with high-purity CO2 streams (*e.g.*, hydrogen production, ammonia production, natural gas processing, ethanol production, ethylene oxide production, cement production, and iron and steel manufacturing). For these types of facilities, CCS should be listed in Step 1 of a top-down BACT analysis for GHGs. This does not necessarily mean CCS should be selected as BACT for such sources. Many other case-specific factors, such as the technical feasibility and cost of CCS technology for the specific application, size of the facility, proposed location of the source, and availability and access to transportation and storage opportunities, should be assessed at later steps of a top-down BACT analysis. However, for these types of facilities and particularly for new facilities, CCS is an option that merits initial consideration and, if the permitting authority eliminates this option at some later point in the top-down BACT process, the grounds for doing so should be reflected in the record with an appropriate level of detail.[10]

The Interagency Task Force on CCS reached the following conclusions on the commercial readiness of CCS technologies:

> Current technologies could be used to capture CO2 from new and existing fossil energy power plants; however, they are not ready for widespread

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[8] 77 FR 22392 at 22417.

[9] *Id.*, at 22415.

[10] U.S. EPA, "PSD and Title V Permitting Guidance for Greenhouse Gases" (November 10, 2010) at 33-34 (footnotes omitted.)

> implementation primarily because they have not been demonstrated at the scale necessary to establish confidence for power plant application. Since the CO2 capture capacities used in current industrial processes are generally much smaller than the capacity required for the purposes of GHG emissions mitigation at a typical power plant, there is considerable uncertainty associated with capacities at volumes necessary for commercial deployment.[11]

The proposed rule's unprecedented combination of fossil generation sources ignores 40 years' of EPA regulation under Section 111 of the Clean Air Act. It would create severe market distortions favoring natural gas over coal even if the price of natural gas rises to the point that advanced coal-based generation becomes the clear economic choice for utility investments in 40-50 year generating capacity.

The history of establishing separate NSPS for coal-based steam electric generation began with the promulgation of the 1971 NSPS limiting sulfur dioxide (SO2) emissions from coal generation to 1.2 lbs. SO2 per MMBTU,[12] proceeded through the 1979 NSPS setting a sliding-scale SO2 percentage reduction requirement for new coal generation sources,[13] continued through the 2006 NSPS revisions for SO2, NOx, and particulate matter (PM) emissions for steam-electric generating units,[14] and concluded most recently with fuel-neutral revised NSPS for SO2, PM and NOx emissions from steam electric generating units, including coal-based sources.[15] The specific emission limitations that EPA set in the 2012 NSPS reflect the application of scrubbers, fabric filters, selective catalytic reduction and other technologies to coal-based generation sources.[16]

In all of these rulemakings, EPA set NSPS limitations reflecting the performance of commercially-available control technologies that the agency determined to represent

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[11] **Report of the Interagency Task Force on Carbon Capture and Storage** (August 2010) at 34-35.

[12] 36 FR 24876 (December 23, 1971).

[13] 44 FR 33580 (June 11, 1979).

[14] 71 FR 9866 (February 27, 2006).

[15] 77 FR 9304 (February 16, 2012). The SO2 emission limit for new and reconstructed EGUs is 130 ng/J (1.0 lb/MWh) gross energy output or 97 percent reduction regardless of the type of fuel burned. *Id.*, at 9423. In the initial proposal of the revised NSPS, EPA explained that coal-based units provided the bases for the Best Demonstrated Technology standards adopted as NSPS in the final MATS rule: "To develop a fuel- and technology neutral emission limit, we first analyzed data on emission control performance from coal-fired units to establish an emission level that represents BDT for units burning coal. We adopted this approach because the higher sulfur, nitrogen, and ash contents for coal compared to oil or gas makes application of BDT to coal-fired units more complex than application of BDT to either oil- or gas-fired units. Because of these complexities, emission levels selected for coal-fired steam generating units using BDT would also be achievable by oil- and gas-fired EGUs." 76 FR 24976 at 25062 (May 3, 2011).

[16] *See,* 76 FR 24976 at 25060-63.

Best Demonstrated Technology (BDT). The same policy rationale should apply to the limitation of GHG emissions from sources employing different fossil fuels and entirely different combustion technologies.

Coal-Based NSPS Should Reflect State-of-the-Art Generation Efficiency

CCS is not an adequately demonstrated technology, and is not economic in the absence of a carbon market or other financial program to defray its incremental costs. Consequently, EPA should establish NSPS for new coal generation plants reflecting state-of-the-art generation technology and emission control for criteria and hazardous pollutants. In the event that natural gas prices do not conform to current expectations, this would avoid locking in power providers to natural gas as their dominant generation choice.

We concur with EPA that supercritical and ultra-supercritical coal-based generation technologies offer superior energy efficiency at competitive costs:

> In determining the "best system of emission reduction" for this category of boilers and combined cycle units, we considered a range of natural gas-fired and coal-fired generation technologies, with available controls. We considered modern supercritical and ultra-supercritical coal-fired boilers. This technology is available — it is currently deployed in Europe and is now being widely deployed in Asia (especially China). ... These supercritical and ultra-supercritical boilers have CO2 emissions of approximately 1,800 lb/MWh and provide the lowest overall costs for conventional coal-based electricity.[17]

As an alternative to the proposed rule, UMWA supports a coal-based NSPS for CO2 emissions reflecting the performance of supercritical or ultrasupercritical units equipped with the emissions controls needed to comply with other applicable CAA requirements (e.g., scrubbers, SCRs, fabric filters, activated carbon injection.) Such an alternative would be consistent with the energy-efficiency emphasis of current GHG BACT Guidance, and could be revised in subsequent NSPS rulemakings to incorporate CCS technology if warranted.

International Considerations

The UMWA was the first U.S. labor union to engage the United Nations climate change negotiation process, immediately following the negotiation of the 1992 Rio Framework Convention on Climate Change. We have participated as a separately-accredited NGO at every major UN FCCC negotiation session over the past 20 years.

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[17] 77 FR 22392 at 22417.

We have consistently urged that domestic actions to reduce greenhouse gas emissions should occur in the context of a multilateral framework for reducing GHG emissions from major industrial and developing economies. Developing nations will account for 70% of global energy-related greenhouse gas emissions by 2050.[18] Without meaningful long-term commitments from these nations, unilateral domestic emissions reductions would do little to reduce global concentrations of greenhouse gases.[19]

Participation in a global climate change mitigation program, with access to international offsets, also could significantly reduce U.S. compliance costs and other economic impacts. EPA estimated that the marginal cost of GHG abatement under the proposed 2010 American Power Act would increase by 89% in the absence of international offsets.[20]

The "Durban Platform" agreed to in December 2011 at 17th Conference of the Parties (COP-17) to the FCCC sets in motion a three-year negotiation process intended to produce a global agreement "with legal force" applicable to all parties to the FCCC:

> *The Conference of the Parties*,
>
> *Recognizing* that climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires to be urgently addressed by all Parties, and acknowledging that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, with a view to accelerating the reduction of global greenhouse gas emissions …
>
> 1. *Decides* to extend the Ad Hoc Working Group on Long-term Cooperative Action under the Convention for one year in order for it to continue its work and reach the agreed outcome pursuant to decision 1/CP.13 (Bali Action Plan) …
>
> 2. *Also decides* to launch a process to develop a protocol, another legal instrument or an agreed outcome with legal force under the United Nations Framework Convention on Climate Change applicable to all Parties, through a subsidiary body under the Convention hereby established and to be known as the Ad Hoc Working Group on the Durban Platform for Enhanced Action; …

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[18] OECD, *OECD Environmental Outlook to 2050*, (November 2011, Ch. 3) at 5.
[19] *See, e.g.*, EPA, Analysis of the American Power Act (2010) at 21 (adding US action based on the APA to the reference case scenario lowers global CO2e concentrations in 2100 from 932 ppm to 868 ppm.)
[20] *Id.*, at 31 (scenario 7 versus scenario 2, H.R. 2454)

> 4. *Decides* that the Ad Hoc Working Group on the Durban Platform for Enhanced Action shall complete its work as early as possible but no later than 2015 in order to adopt this protocol, legal instrument or agreed outcome with legal force at the twenty-first session of the Conference of the Parties and for it to come into effect and be implemented from 2020. . . .[21]

Successful negotiation of a global climate agreement would provide a pathway for the U.S. to join its major international trade partners in a program covering both industrial and developing nations. The participation of developing nations is critical not only from the perspective of climate change mitigation, but also for reducing the domestic costs of compliance with any agreed targets and timetables through access to low-cost international offsets and other flexibility mechanisms. With the costs of CCS applied to new coal-based power plants likely to exceed $70 per ton of CO2 captured and stored, access to international offsets would substantially reduce U.S. costs of reducing GHGs.

As noted in EPA's analysis of the proposed 2010 American Power Act:

> If international offsets were not allowed, the allowance price would increase 34 to 118 percent relative to the core policy scenario, and household consumption losses would increase 31 to 114 percent, the large range due to the differing international offset core scenario usage projections of EPA's two models.[22]

Rational design of a global climate change program should coordinate policies governing the future application of CCS across utility and industrial sources on a multilateral basis, consistent with agreed targets and timetables for GHG emission reductions, including flexibility mechanisms such as offsets, credits for reducing deforestation, and emissions trading.

These international considerations, coupled with the fact that CCS is not "adequately demonstrated" for purposes of establishing GHG NSPS, support deferring judgment on the need to apply CCS technology to either coal or natural gas generation at this time.

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[21] Decision FCCC/CP.17/2011/LX, Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action, December 10, 2011 at 1-2.

[22] EPA, Analysis of the American Power Act (2010) at 4.

For these reasons, UMWA urges EPA to re-propose this rule on a basis that provides separate, achievable NSPS for NGCC and coal-based electric generating units.

Thank you.

Sincerely,

Cecil E. Roberts

Cecil E. Roberts