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Impacts of U.S. EPA's Proposed
Clean Power Plan

Good morning, Chairman Miller, Democratic Chair Vitali, and distinguished members of the Committee.

I am Phil Smith, Director of Government Affairs for the UMWA. The UMWA appreciates the opportunity to testify today on the impacts of EPA's proposed Clean Power Plan.

We strongly support legislation that has been passed in the Pennsylvania House (HB 2354) specifying procedures for the development of any Pennsylvania plan to comply with EPA's proposed carbon emission guidelines, including legislative approval of any plan to be submitted to U.S. EPA.

More than seven thousand UMWA and other union members joined together for a peaceful rally and protest march in Pittsburgh on July 31st while U.S. EPA was holding public hearings on the proposed rule. We chose this form of public expression to make clear to the citizens of Pennsylvania both the gravity of this rule's potential job impacts, and our commitment to protecting our members' jobs and economic well-being.

EPA's Clean Power Plan

On June 18, 2014, EPA published in the Federal Register proposed guidelines for reducing CO2 emissions from fossil-fueled power plants. The overall reduction is equivalent to a 30% cut from 2005 emissions, but is measured against each state's 2012 emission rate in pounds of CO2 per Megawatt-hour (MWh) of fossil-based electric generation.

EPA has provided interim and final targets for each state to meet in terms of reduced CO2 per Megawatt-hour (MWh) of electric generation. Progress toward meeting the interim target is to begin by 2020, with the final target to be achieved by 2030.

In 2012, Pennsylvania's fossil-based electric generators emitted on average 1,540 lbs. CO2/MWh. The Commonwealth's reductions required by EPA's proposed Clean Power Plan are:

CO2 Emission Reduction Targets for Pennsylvania

State	2012 Rate Lbs CO2/MWh	Interim goal 10-year average rate	Interim goal % reduction from 2012	Final goal rate 2030-on	Final goal % reduction from 2012
PA	1,540	1,179	-23%	1,052	-31%

Source: EPA Clean Power Plan.

EPA measured each state's emission reduction potential using 2012 data for several "building blocks," including 6% efficiency improvements at existing coal plants, redispatching coal units to increase the utilization of existing natural gas combined-cycle plants to 70%, increased use of renewable energy, ensuring the continued operation of nuclear plants, and enhanced energy efficiency programs. EPA's plan emphasizes that states will have flexibility in the means chosen to meet target CO2 goals, through these and other measures.

EPA's assumptions on the means that Pennsylvania would use to achieve a 31% reduction of its 2012 average CO2 emission rate include a mix of all of the "building blocks":

EPA's Assumptions on Pennsylvania's Emission Reduction Opportunities to Meet Proposed Clean Power Plan Goals

State	Coal heat rate improvement	Natural gas redispatch from coal units	Nuclear	Renewable energy	Energy efficiency
PA	11%	11%	7%	43%	27%

Source: Derived from U.S. EPA data at http://www2.epa.gov/sites/production/files/2014-06/20140602tsd-state-goal-data-computation.xlsx

Based on these data, Pennsylvania would need to dramatically increase its current renewable energy targets as well as energy efficiency programs. EPA's assumed goal for energy efficiency programs is an annual reduction of electric use of 1.0% to 1.5%.

EPA's proposal gives no credit to states such as Pennsylvania that already have reduced their CO2 emissions due to renewable energy deployment, increased natural gas use, or the retirement of existing coal units. Since 2005, CO2 emissions from all fossil-fueled plants in Pennsylvania have decreased by 9% (EPA 2013 CAMD Data Base). Further reductions will occur due to expected retirements of coal units in response to the implementation of EPA's 2011 Mercury and Air Toxics Rule (MATS). The Department of Energy projects that more than 50 GW of coal

capacity will retire over the next few years in response to the MATS rule and other factors (DOE/EIA AEO 2014).

Impacts on Pennsylvania Coal and Jobs

Pennsylvania is the 4th largest coal-producing state. Based on 2012 data from the U.S Department of Energy and U.S. Department of Commerce, we estimate that Pennsylvania's 54.7 million tons of coal production in 2012 generated $9.4 billion of state economic output, $2.3 billion of household income, and 48,500 direct and indirect jobs.[1] Estimating the impact of EPA's proposed Clean Power Plan on Pennsylvania coal and mining-related employment is difficult due to the uncertainty about the compliance methods that the Commonwealth and its electric generators would choose to meet EPA's targets.

The UMWA has analyzed EPA's Regulatory Impact Analysis for the proposed Clean Power rule in order to estimate the national direct and indirect job impacts associated with implementation of this rule.

Attached to this statement is a summary of our assessment of the potential job impacts of the Clean Power Plan. Our findings, based mainly on EPA's Regulatory Impact Analysis of the proposed rule, are:

- National coal production for electric generation declines by 25% to 27% in 2020 due to the Clean Power Plan from a 2020 base case level of 844 million tons to 616 to 636 million tons under EPA's regional and state compliance options.
- Coal production in Appalachia declines from a 2020 base case level of 140 million tons to 87 to 91 million tons in that year, a reduction of 35% to 37%. Historically, Pennsylvania alone has produced some 70 million tons annually.
- Coal-based generating capacity declines by 41 to 49 Gigawatts in 2020, from 244 GW to 195-198 GW with the Clean Power Plan.
- Estimated direct utility, rail and coal permanent jobs at risk in 2020 are 52,000 for the Clean Power rule.
- Estimated total direct and indirect jobs at risk in 2020 are 167,000 for the Clean Power rule. The indirect jobs at risk - typically in coal-dependent communities - are estimated using a U.S. Department of Commerce multiplier for the electric utility industry.
- The cumulative (discounted at 3%) loss of wages and benefits for direct and indirect jobs at risk from 2015 to 2035 are $52 billion for direct jobs, and $126 billion for direct and

[1] Calculated from EIA 2012 Annual Coal Report and U.S. Department of Commerce RIMS II economic multipliers for the Pennsylvania coal mining sector.

indirect jobs at risk. This is a measure of the potential gross loss of income to workers and communities affected by plant and mine closures, and reduced rail shipments.

We are mindful of PA DEP's independent assessment of the potential impact of EPA's rule on coal-based electric generation in Pennsylvania. DEP has estimated that application of the rule's building blocks would lead by 2030 to a 76% reduction from 2005 levels in coal consumption by Pennsylvania electric generators.[2] Clearly, this is an unacceptable level of disruption to coal-dependent families and communities.

We have not included in our estimates of potential jobs at risk the job impacts anticipated over the next few years as hundreds of smaller and older coal units retire in response to EPA's 2011 Mercury and Air Toxics Standards rule, and other factors. We have estimated MATS-related coal plant retirements at 56 Gigawatts, an estimate that has been validated by DOE, PJM, and other independent estimates. We recognize, however, that some plant retirements, such as Hatfields Ferry, are due to other factors.

Key concerns about EPA's proposal

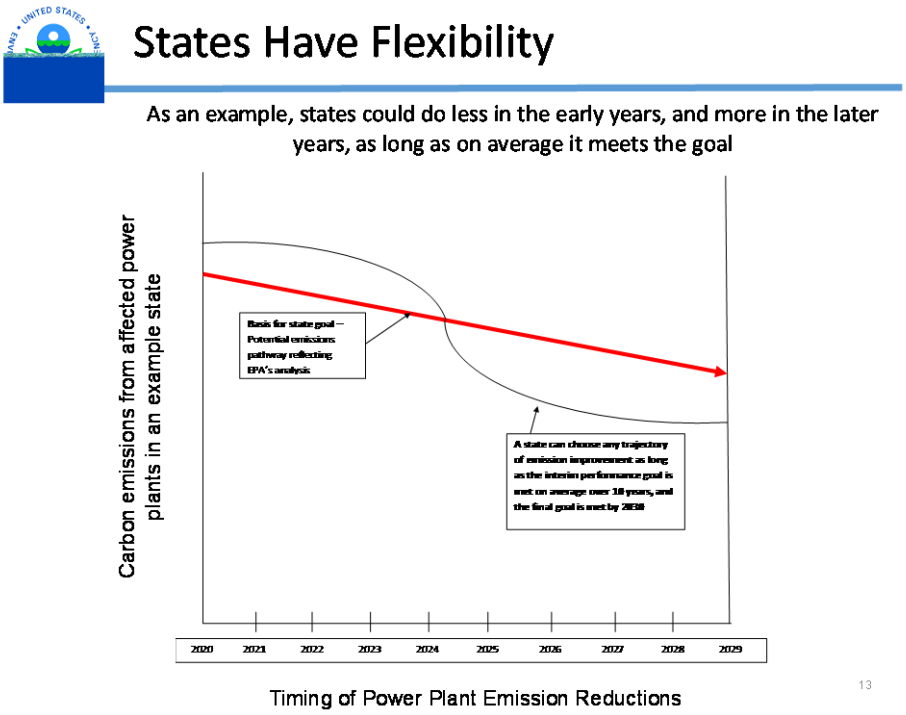
UMWA does not oppose EPA's efforts to reduce carbon emissions under the Clean Air Act. Our concerns are about the design of this proposed rule. Our view is that the United States and all major carbon-emitting economies must forge an equitable plan for the long-term reduction of greenhouse gas emissions. We cannot "go it alone" and expect that our actions will have any meaningful climate impact in a world economy that is using more coal and other fossil fuels every day. Developing nations already emit more CO2 than advanced industrial nations, and the International Energy Agency projects that their share of global emissions will grow steadily.

The EPA plan should provide incentives for the development and deployment of carbon capture and storage technologies. We know that CCS technologies will be essential for achieving any meaningful future reduction of global CO2 emissions in both industrial and rapidly developing nations like China and India.

EPA's plan should provide states with credit for prior CO2 reductions, as an option toward meeting targets consistent with a 30% national reduction from 2005 emissions. The vast majority of states are disadvantaged by EPA's proposed reduction targets compared to an approach in which each state achieves CO2 reductions equivalent to a 30% reduction from 2005 emissions. Under such an approach, Pennsylvania's reduction from its 2013 CO2 emissions from fossil-fueled electric generators would be 23 percent, rather than the 31 percent called for by EPA's "building block" approach.

[2] Statement of Vincent Brisini, Deputy Secretary, PA DEP, Energy Effects of EPA's Proposed Clean Power Plan , Pennsylvania Senate Environmental Resources and Energy Committee, Harrisburg, PA, June 27, 2014

EPA's compliance timetable is unrealistic and unachievable, even with multi-year compliance averaging toward the interim and final targets. The "glide path" that EPA envisions for state compliance is more like a roller coaster: states emitting above their interim targets in the initial years of the program must reduce well below their target in later years. An EPA chart depicting this path illustrates the infeasibility of achieving extreme reductions in the later years of the program:



Source: U.S. EPA

The initial reduction program should be delayed by several years to allow states and affected sources adequate time to prepare and submit state plans, and to structure and implement their compliance strategies, including permitting and construction of transmission line upgrades and pipeline infrastructure.

We also believe that the interim target should be modified in the final rule to a "reasonable progress" or similar aspirational requirement. The interim target is the principal reason that the adverse impacts of the rule are front-loaded to 2020.

Increasing the dispatch of natural gas combined cycle units, on top of the 40 GW of new NGCC capacity that EPA projects to come on-line from 2020 to 2030, would lead to significant increases in natural gas prices well above EPA's projections – this price increase will be further stimulated by LNG exports. Analysis at UBS project that utility gas demand may rise three-fold

above EPA's forecast.[3] Consumers and energy-intensive industries would bear the brunt of these gas price increases.

Reliance on increased natural gas use as a major component of an emission reduction strategy will not meaningfully reduce overall greenhouse gas concentrations due to methane leakage from gas production and transportation. Coal and natural gas generation emit equivalent amounts of GHGs with just a 2% methane leakage rate.[4] Research by Harvard and others suggests that EPA underestimates the amount of methane leakage from gas production and transmission.[5]

EPA projects that the Clean Power Rule will cause the loss of 41 to 49 Gigawatts of coal generating capacity by 2020. This would occur just after the expected loss of more than 50 GW of coal capacity by 2017 due to compliance with the 2012 Mercury and Air Toxics Rule and other factors. We believe that this level of baseload capacity loss raises serious issues about job and community displacement in dozens of states, and the future adequacy and reliability of our electric power supplies.

EPA May Have Overstepped Its Clean Air Act Authority

We are also concerned that EPA's proposals for new state energy efficiency and renewable energy programs effectively usurp energy policy decisions traditionally reserved to the states, and are well beyond the agency's authority under the Clean Air Act. The Supreme Court's June 23rd decision in *UARG v. EPA* may support substantial revision of the Clean Power rule, limiting EPA's authority under section 111(d) of the Clean Air Act to emission reduction measures that may be achievable "within the fence" of affected facilities.

The majority opinion in the *UARG* decision contains strong cautionary language applicable to EPA's proposed rules for regulating greenhouse gases from existing facilities. The Court notes that an EPA interpretation of its authority under the Act would be unreasonable if:

> *"…it would bring about an enormous and transformative expansion in EPA's regulatory authority without clear congressional authorization. When an agency claims to discover in a long-extant statute an unheralded power to regulate 'a significant portion of the American economy,' Brown & Williamson, 529 U. S., at 159, we typically greet its announcement with a measure of skepticism. We expect Congress to speak clearly if it wishes to assign to an agency decisions of vast 'economic and political significance.'* Id., at 160; See Also *MCI Telecommunications Corp. v. American Telephone & Telegraph Co.*, 512 U.S.

[3] SNL Daily Coal Report, June 18, 2014, at 8.

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

[5] See, e.g., Scot M. Miller, *et al.*, (2013) Anthropogenic emissions of methane in the United States, available at http://www.pnas.org/content/110/50/20018.abstract?sid=3eb74244-dbed-4577-8b0d-04307adaa423.

218, 231 (1994); *Industrial Union Dept., AFL-CIO v. American Petroleum Institute*, 448 U.S. 607, 645-646 (1980) (plurality opinion). Slip Op. at 19 (emphasis added.)

In the case of the Clean Power Plan, EPA seeks to do just what the Court rejects: to vastly expand its regulatory authority without Congressional approval, by discovering in *"a long-extant statute an unheralded"* power in Section 111(d) of the Act. EPA has relied on Section 111(d) on five previous occasions, mainly for the control of emissions from waste incinerators.

The Clean Power Plan's natural gas redispatch, energy efficiency, and renewable energy "building blocks" are clear instances of over-reaching into areas traditionally reserved to the sovereign authority of the states. Congress itself has been unwilling to develop national renewable energy standards, recognizing the wide diversity of state laws in existence, and the disparate capabilities to deploy renewable resources among states.

Conclusion

EPA's Clean Power rule is currently subject to a 120-day comment period. All interested parties should engage the agency in efforts to moderate the rule, limiting its scope to greenhouse gas emission reductions that can feasibly be achieved at individual sources. PA DEP's proposal for revising the NSR applicability test to encourage investments in power plant efficiency improvements is a good example of a constructive approach to greenhouse gas management at existing sources.

Pennsylvania has been a leader in renewable energy development, and the legislature has carefully crafted standards that are suited to the Commonwealth's specific renewable energy potential. While Pennsylvania is rich in natural gas reserves, mandates to re-dispatch natural gas units at the expense of coal generation could lead to even further retirements of coal capacity, with massive loss of wages and jobs in coal-dependent communities.

The UMWA thanks the Committee for the opportunity to testify today on this issue of critical importance to Pennsylvania's coal miners and the communities they help to support. UMWA's health and pension funds are critically dependent upon maintaining our active workforce. We cannot afford this EPA rule.

COMPARISON OF EPA COAL GENERATION AND CAPACITY PROJECTIONS UNDER THE PROPOSED CLEAN POWER PLAN (CPP)

COAL GENERATION CAPACITY IN GW							
	2010	CPP PROPOSAL 2020		CPP PROPOSAL 2025		CPP PROPOSAL 2030	
	ACTUAL	BASE	CPP OPT 1	BASE	CPP OPT 1	BASE	CPP OPT 1
COAL CAPACITY (GW)	317	244	195	243	193	240	191
CHG FROM 2010		73	122	74	124	77	126
CHG FROM CPP BASE CASE			49		50		49

SOURCES: EPA REGULATORY IMPACT ANALYSES FOR MATS (2010 ACTUAL) AND PROPOSED CLEAN POWER PLAN (JUNE 2014), GHG OPTION 1 STATE COMPLIANCE.

ASSSESSMENT OF COAL, UTILITY AND RAIL GROSS DIRECT AND INDIRECT JOBS AT RISK DUE TO EPA CLEAN POWER PLAN, 2015-2035

COAL GENERATION CPP BASE VS OPT. 1 (GWH)			
YEAR	CPP BASE GEN.*	CPP OPT 1 GEN.*	CPP GEN. DIFF. VS BASE
2015	1,957	1,957	0
2016	1,899	1,826	-73
2017	1,840	1,695	-145
2018	1,782	1,564	-218
2019	1,723	1,433	-290
2020	1,665	1,302	-363
2021	1,672	1,292	-381
2022	1,680	1,281	-399
2023	1,687	1,271	-416
2024	1,695	1,260	-434
2025	1,702	1,250	-452
2026	1,695	1,243	-452
2027	1,688	1,236	-452
2028	1,682	1,230	-452
2029	1,675	1,223	-452
2030	1,668	1,216	-452
2031	1,668	1,216	-452
2032	1,668	1,216	-452
2033	1,668	1,216	-452
2034	1,668	1,216	-452
2035	1,668	1,216	-452

*BASE CASE AND CPP OPTION 1 (STATE) GENERATION FROM CPP RIA, JUNE 2014. INTERMEDIATE YEARS INTERPOLASTED. 2030-2035 ARE ASSUMED AT 2030 LEVELS. GHG REDUCTIONS ARE ASSUMED TO BEGIN IN 2016.

ESTIMATED DIRECT (COAL, UTILITY, RAIL) AND INDIRECT GROSS JOBS AT RISK DUE TO CLEAN POWER PLAN BASED ON RIMS II TYPE II ELECTRIC UTILITY MULTIPLIERS (GENERATION WEIGHTED BY STATE)

YEAR	JOB S AT RISK	
	DIRECT	DIRECT + INDIRECT
2015	0	0
2016	-10,491	-33,444
2017	-20,981	-66,889
2018	-31,472	-100,333
2019	-41,963	-133,777
2020	-52,454	-167,222
2021	-55,026	-175,422
2022	-57,598	-183,621
2023	-60,170	-191,821
2024	-62,742	-200,021
2025	-65,314	-208,221
2026	-65,314	-208,221
2027	-65,314	-208,221
2028	-65,314	-208,221
2029	-65,314	-208,221
2030	-65,314	-208,221
2031	-65,314	-208,221
2032	-65,314	-208,221
2033	-65,314	-208,221
2034	-65,314	-208,221
2035	-65,314	-208,221

*DIRECT JOB LOSSES ESTIMATED AT 0.17 COAL/RAIL/UTILITY JOBS PER GWh (ENERGY VENTURES ANALYSIS, 2007).
DIRECT EFFECT RIMS II TYPE II JOBS-TO-JOBS MULTIPLIERS FOR STATE-SPECIFIC ELECTRIC POWER GENERATION
FROM U.S. DEPT OF COMMERCE, BUREAU OF ECONOMIIC ANALYSIS, BASED ON 2002 BENCHMARK
INPUT-OUTPUT TABLES FOR THE NATION AND 2010 REGIONAL DATA (2013). WEIGHTED AVERAGE IS 3.188
TOTAL DIRECT AND INDIRECT JOBS PER ONE DIRECT JOB BASED ON AVERAGE 2012-2013 COAL GENERATION
BY STATE. DIRECT AND INDIRECT JOBS REDUCED BY -15% TO REFLECT MIX OF FULL-TIME AND PART-TIME EMPLOYMENT.

ESTIMATED CUMULATIVE GROSS DIRECT AND INDIRECT JOB-YEARS AT RISK DUE TO CLEAN POWER PLAN
BASED ON RIMS II TYPE II ELECTRIC UTILITY MULTIPLIERS (GENERATION WEIGHTED BY STATE)

YEAR	JOB-YEARS AT RISK	
	DIRECT	DIRECT + INDIRECT
2015	0	0
2016	-10,491	-33,444
2017	-31,472	-100,333
2018	-62,944	-200,666
2019	-104,907	-334,444
2020	-157,361	-501,665
2021	-212,386	-677,087
2022	-269,984	-860,708
2023	-330,154	-1,052,530
2024	-392,896	-1,252,551
2025	-458,210	-1,460,772
2026	-523,524	-1,668,993
2027	-588,838	-1,877,214
2028	-654,152	-2,085,435
2029	-719,466	-2,293,656
2030	-784,780	-2,501,877
2031	-850,094	-2,710,098
2032	-915,408	-2,918,319
2033	-980,722	-3,126,540
2034	-1,046,036	-3,334,761
2035	-1,111,350	-3,542,982

SEE NOTES ABOVE.

ESTIMATED POTENTIAL ANNUAL GROSS WAGES AND BENEFITS AT RISK DUE TO CLEAN POWER PLAN
AT ASSUMED $65K AVG DIRECT JOB-YEAR AND $50K AVG DIRECT AND INDIRECT JOB-YEAR
(IN BILLION 2014 $)

YEAR	WAGES & BENEFITS AT RISK	
	DIRECT	DIRECT + INDIRECT
2015	$0	$0
2016	-$1	-$2
2017	-$1	-$3
2018	-$2	-$5
2019	-$3	-$7
2020	-$3	-$8
2021	-$4	-$9
2022	-$4	-$9
2023	-$4	-$10
2024	-$4	-$10
2025	-$4	-$10
2026	-$4	-$10
2027	-$4	-$10
2028	-$4	-$10
2029	-$4	-$10
2030	-$4	-$10
2031	-$4	-$10
2032	-$4	-$10
2033	-$4	-$10
2034	-$4	-$10
2035	-$4	-$10
TOTALS	($72)	($177)
NPV@3% DISC	($52)	($126)

NOTE: ASSUMES AVERAGE DIRECT JOB WAGES AND BENEFITS OF $65K/YR AND AVERAGE DIRECT
AND INDIRECT WAGES AND BENEFITS OF $50K/YR. JOB-YEARS REDUCED BY 15% TO REFLECT A
MIX OF FULL-TIME AND PART-TIME EMPLOYMENT.