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The Chairman's Corner

Rep. Scott E. Hutchinson, Chairman

The Joint Legislative Air and Water Pollution Control and Conservation Committee's (Committee) Legislative Forestry Task Force met on October 13, 2011 to discuss an issue of immediate and serious concern to Pennsylvania's forestry industry.

The problem, as identified by the task force, is road postings and road bonding, particularly in the Marcellus shale play. After an extensive discussion of the issue at the meeting, there was a strong consensus that quick action was needed to provide relief to the industry, or its very future would be in jeopardy.

By way of background, the Legislative Forestry Task Force is composed of three legislative members and a 14-member advisory committee and seeks to further sustainable forestry in Pennsylvania, and study issues concerning the renewal and management of the commonwealth's forests. The advisory committee is composed of leaders of the forest products industry, educators, government agencies and other stakeholders.

What industry members and the task force have found, is that due to Marcellus shale activity, road postings for weight limits and the bonding necessary to comply with those postings has increased dramatically. As a result, the liability faced by the forest products industry – particularly in the increasing number of cases where there is co-bonding with the gas industry - has increased dramatically as well, as has the cost of obtaining bonds.

At the same time, the ease of obtaining bonding and the time it takes to get a bond has worsened and lengthened respectively.

The forest products industry is a major employer in Pennsylvania. However, testimony presented to the task force from two members of the industry, as well as information from the Pennsylvania Forest Products Association (PFPA) has clearly demonstrated that the industry is struggling; hardwood production is down, and an already slim profit margin is further threatened by proliferating road postings.

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In This Issue...

Joint Legislative Air and Water Pollution Control and Conservation Committee

Notes from the Director

CRAIG D. BROOKS, EXECUTIVE DIRECTOR

Coal ash is a topic of discussion again. (See Notes From the Director in the October 2011 edition of the *Environmental Synopsis*.)

As noted last month, the Environmental Protection Agency (EPA) is considering two options for regulating coal ash under the Resource Conservation and Recovery Act (RCRA). Under one option, coal ash would be designated as a special waste, subject to hazardous waste rules under Subtitle C of RCRA. Under the other proposal, coal ash would fall under Subtitle D of the act, which leaves regulation to the states.

EPA estimates the average annual regulatory costs to be $1.4 million a year under Subtitle C and $587 million a year under subtitle D, including overall industry compliance and state and federal government enforcement. However, the cost could be more, depending on which option is chosen.

According to a recent study by the American Road and Transportation Builders Association's Transportation Development Foundation, the cost of building roads, runways and bridges would increase by an estimated $104.6 billion over the next 20 years if coal ash was not available as a building material. Eliminating coal ash as a material for road and bridge construction would bump up construction and repair costs by $5.2 billion annually, according to the study.

The estimate reflects a $2.5 billion increase per year to pay for building materials that do not contain coal ash, and a $2.7 billion increase in repair costs. Cement blends that use coal ash tend to last longer and are less expensive than cement blends that do not use coal ash.

The study, *"The Economic Impacts of Prohibiting Coal Fly Ash Use in Transportation Infrastructure Construction"*, was conducted to show the potential costs to the transportation construction industry and the impact of the pending EPA decision that could limit or eliminate the availability of the material. More than 75 percent of the concrete used to build and maintain U.S. transportation infrastructure uses coal ash as a component in its cement blend, according to the study.

For more on the regulation and use of coal ash, see Notes From the Director in the October 2011 edition of the *Environmental Synopsis*

EPA has delayed publishing the final rule due to more than 450,000 comments received during the public comment period, which closed November 2010.

Prohibiting the use of coal ash in transportation construction would also threaten potential savings from new, high-performance concrete pavements that use coal ash, according to the study. Traditional concrete roads have an average lifespan of 20 to 25 years, while new road design using coal ash is estimated to have a 30 to 60 year lifespan. Using coal ash concrete materials would save between $25 billion and more than $65 billion in road construction and repair over the next 20 years, the study said.

The study used transportation construction market data from the U.S. Census Bureau and other government agencies, as well as survey responses from state transportation department officials and coal ash supply companies.

The study is available at http://www.artba.org/mediafiles/study2011flyash.pdf.

RESEARCH BRIEFS

Each month, the committee's staff researches and prepares a number of "briefs" on several topics relevant to the Joint Conservation Committee's mission. Very often, these briefs include references to reports and further research on the topics so that readers may pursue issues on their own.

Please Note: The information and opinions expressed in the Research Brief articles do not necessarily represent the opinions or positions of the Joint Legislative Air and Water Pollution Control and Conservation Committee, nor those of the Pennsylvania General Assembly.

Tall Smokestacks and Pollution Dispersal

-- Tony M. Guerrieri, Research Analyst

Coal-burning power plants around the country use tall smokestacks to release air pollutants like sulfur dioxide, nitrogen oxides and other pollutants high into the atmosphere, in an effort to disperse pollution and limit air quality impacts in local communities. But such stacks, often rising 500 feet or higher, also increase the distance pollutants travel and can harm the environment far downwind.

While the U.S. Environmental Protection Agency (EPA) has been attempting to decrease interstate air pollution, there has been an increase in smokestacks taller than 500 feet in the last four years, according to a report by the U.S. Government Accountability Office (GAO).

The GAO report, *"Air Quality: Information on Tall Smokestacks and Their Contribution to Interstate Transport of Air Pollution"*, focused on issues concerning the use by utilities of taller smokestacks at coal-fired power plants. It examines the number and location of tall stacks 500 feet or higher, the contribution of those plants to regional pollution problems, and the number of stacks built above the good engineering practice (GEP) height.

Using U.S. Department of Energy data, GAO investigators found 284 "tall smokestacks" operating at 172 coal-fired power plants in 34 states as of December 31, 2010. Of those stacks, 207 are 500 to 699 feet tall, 63 are 700 to 999 feet tall, and the remaining 14 are 1,000 feet or taller, with the tallest at 1,038 feet at the Rockport Power Plant in Indiana.

About 35 percent of these stacks are concentrated in five states along the Ohio River Valley: Ohio, Kentucky, Indiana, Illinois and Pennsylvania. The 17 "tall smokestacks" at Pennsylvania power plants have a generating capacity totaling nearly 16,000 megawatts. The report did not list the individual plants.

"Stack height is one of several factors that contribute to the interstate transport of air pollution. While the use of pollution controls has increased in recent years at coal power plants, several boilers connected to tall stacks remain uncontrolled for certain pollutants."

--U. S. Government Accountability Office

About half of the nation's tall stacks are over 30 years old. But 51 of the 284 were built since 2000, with the vast majority going into service in the last four years, which air and utility officials attributed to the need for new stacks when plants installed pollution control equipment, the GAO report said.

"Stack height is one of several factors that contribute to the interstate transport of air pollution. While the use of pollution controls has increased in recent years at coal power plants, several boilers connected to tall stacks remain uncontrolled for certain pollutants," the GAO said.

In the early 1970s, power plants installed tall stacks to disperse pollutants and meet the EPA's air quality standards. While a tall stack may reduce pollution concentrations locally, it does not actually reduce total emissions, which travel downwind and can hurt air quality elsewhere.

At the same time, stacks must be built high enough to prevent "downwash," which occurs when large buildings alter wind patterns and cause emissions to reach ground-level more quickly.

The 1977 amendments to the federal Clean Air Act sought to encourage the use of pollution control equipment, like scrubbers and other control measures, instead of tall-stack dispersion techniques, to meet national air quality standards. The law does not limit stack height, but prohibits sources of emissions from using stacks taller than those considered GEPs to meet emissions limits. The GEP is defined as the necessary height to prevent excessive downwash. If a stack's GEP height is 600 feet, and the stack is 800 feet, the power plant cannot count the dispersion effects resulting from the excess 200 feet toward its emissions limit.

GAO investigators found that the use of pollution controls, installed in boilers or in the ductwork that connects a boiler to a stack, has increased in recent years at coal-fired power plants.

However, GAO found that many boilers remain uncontrolled for certain pollutants, including several connected to tall stacks, the report said. For example, GAO found that 56 percent of boilers attached to tall stacks lacked scrubbers to control sulfur dioxide emissions and 63 percent lacked post-combustion controls to capture nitrogen oxide emissions.

The GAO found that boilers without pollution controls tended to be older, with in-service dates prior to 1980. The GAO identified 17 tall stacks built since 1988, when stack-height regulations were affirmed in the courts, that exceeded their allowed height limits under GEPs.

The GAO report is available at: http://www.gao.gov/new.items/d11473.pdf.

U. S. Unlikely to Reach Cellulosic Fuel Goal for 2022, National Research Council Says

-- Craig D. Brooks, Executive Director

The U. S. is unlikely to meet its goal of producing 16 billion gallons of cellulosic ethanol in 2022, according to a National Research Council report released October 4, 2011 that questions the environmental and economic benefits of the renewable fuel requirements.

According to the report, *"Renewable Fuel Standard: Potential Economic and Environmental Effects of U.S. Biofuels Policy"*, the U. S. lacks the refining capacity necessary to meet the cellulosic biofuel production goals, and the alternative fuel requires subsidies or a clear price on carbon emissions to compete with petroleum. Additionally, how feed crops are produced to meet the cellulosic biofuel requirement could offset any projected reductions in greenhouse gas emissions, the report said.

The report notes a significant price gap between what farmers need to recoup their costs and how much refiners can afford to pay

The U. S. is already approaching its production goals for 2022 for both corn-derived ethanol and biodiesel, but there are no commercially viable biorefineries in operation producing cellulosic biofuel. According to the report, cellulosic biofuels are not economically viable because of the gap between the price of feedstock farmers need to recoup their costs and how much refiners can afford to pay. For example, farmers would need to receive $92 dollars per dry ton for corn stalks, leaves and cobs, but refiners could only afford to pay $25 per dry ton. The gap is even greater for other feedstocks, particularly switchgrass and the perennial grass miscanthus.

According to the report, this leaves a price gap of between 93 cents and $1.51 per gallon of ethanol produced. The U. S. has a subsidy of $1.01 per gallon of cellulosic biofuel now, but that is not enough to make the renewable fuel competitive even with petroleum prices at $111 per barrel. Oil prices would need to approach $191 per barrel in order to close the gap and make cellulosic fuels more competitive. Alternately, a carbon price of between $118 per metric ton and $138 per metric ton would make cellulosic fuels more competitive.

Land use patterns for the feedstock necessary to meet the various renewable fuel requirements will determine the carbon dioxide emissions associated with biofuels, according to the report. NRC estimates 30 million to 60 million acres of cropland will be needed to produce enough biomass to meet the renewable fuels requirements for 2011.

Replacing annual crops with perennial biofuel could emit enough carbon dioxide from the soil and plants to offset any greenhouse gas emissions reductions from replacing petroleum products with biofuels.

The carbon footprint of the fuels can also vary depending on the type of feedstock grown, management practices used for the farmland, and how the land was used previously.

Because of this, the U.S. Environmental Protection Agency has proposed requiring 3.45 million to 12.9 million gallons for 2012 as part of the renewable fuels mix. That is well below the 500 million-gallon requirement for 2012 in the Energy Independence and Security Act of 2007.

The NRC report is available at http://www.nap.edu?catalog.php?record_id=13105.

Forest Service Report Promotes Wood as Green Building Material

-- Tony M. Guerrieri, Research Analyst

Today, green building is red hot as more and more builders are constructing certified green homes, implementing some aspects of green building in their designs or offering green option packages to homebuyers.

A U. S. Forest Service (USFS) report, *"Science Supporting the Economic and Environmental Benefits of Using Wood and Wood Products in Green Building Construction"*, suggests that the American building industry has overlooked wood as a green building material.

The USFS report analyzed dozens of peer-reviewed scientific studies and found that using wood in building products yields fewer greenhouse gases than using other common building materials, such as concrete and steel.

It concludes that the use of wood provides substantial environmental benefits, provides incentives for private landowners to maintain forest land, and supports hundreds of thousands of jobs in rural America.

As for carbon, the report cited a study in the journal *Environmental Science and Technology* that found each ton of carbon in lumber used in place of non-wood products reduced greenhouse gas emissions, by 2.1 tons of carbon. The report analyzed homes in the Minneapolis and Atlanta areas and found that wood products had lower environmental emissions over the life of the building materials compared to steel framing or concrete. It also found that houses built of wood required 15 percent less energy to manufacture than similar houses with steel or concrete structures.

The report confirms wood is the greenest of green building materials, particularly wood that is certified as sustainable by credible forest certification systems. Among credible forest certification systems it lists the American Tree Farm System, the Sustainable Forestry Initiative, and the Forest Stewardship Council.

The production of solid wood products supported 350,000 direct U.S. jobs and $12 billion in payroll in 2009. These statistics were down significantly from 460,000 jobs and $15.6 billion in 2008. The report said that existing use of forest products supports more than one million jobs and contributes more than $100 billion to the national gross domestic product.

"Many of these jobs and payroll are especially important in the economic development of rural forested areas," the report states.

The report also says that selling small diameter tress or those that have been killed by bugs and disease can help support conservation and ecological restoration programs. It says wood could be used in a wide variety of applications outside of residential homes.

The report confirms wood to be the greenest of green building materials, particularly wood certified as sustainable – which is commonly found in Pennsylvania

But the report also notes that despite the advantages of wood, "most building professionals and the public in general do not recognize the sustainability of wood and the role efficient wood utilization plays in mitigating climate change and contributing to maintaining the health and vitality of our forests."

The report identifies several areas where peer-reviewed science can contribute to sustainable green building design and decisions. The report also makes several recommendations for action to further capitalize on the use of wood as a green building material.

They are:

- Perfecting a "life cycle assessment" standard that would show how much energy went into a piece of lumber and how much emissions were released in

its manufacture, allowing comparisons to measurements for steel or concrete;

● A WoodWorks campaign funded by private companies, the USFS and other groups, aimed at getting architects and engineers to use more wood. The report estimated that a five-year national effort could increase wood use volume by 5.5 billion board feet and save 30 million metric tons of carbon dioxide; and

● More research in developing better wood construction materials or techniques such as cross-laminated timber.

The USFS report is available at: http://www.fs.fed.us/news/2011/releases/09/green-building-report.pdf.

Bill Would Link Ethanol to Corn Supply

-- Craig D. Brooks, Executive Director

The amount of ethanol required under the renewable fuels standard (RFS) set in the Energy Independence and Security Act of 2007 would be linked to the country's corn supply, under House legislation introduced October 5, 2011.

The Renewable Fuel Standard Flexibility Act of 2011 would set the amount of ethanol required on corn supply estimates published by the Agriculture Department. Under the 2007 RFS, the nation's annual motor fuel supply is required to include 36 billion gallons of ethanol or other renewable fuel by 2022.

However, the majority of that mandate is being met with grain ethanol made from corn, resulting in diminished supplies that are driving up the cost of feed for livestock, costs for food producers and higher prices for consumers. Specifically, the legislation would tie the amount of ethanol required under the RFS to the Agriculture Department's U.S. Corn Stocks-to-Use Ration, a measurement that compares grain reserves to consumption.

The legislation, which has 22 cosponsors, is supported by the National Cattlemen's Beef Association, the National Chicken Council, the National Pork Producers Council, and the Grocery Manufacturers Association.

There is a marked difference of opinion about the legislation from a number of support and opposition groups

Supporters of the legislation suggest that it's past time to have a serious conversation about the federal government's role in supporting ethanol, and that this is a common-sense solution to make sure that there is enough corn supply to meet all of the demand. According to the supporters, livestock, food producers and the consumer are the losers in the debate over ethanol supplies and demand. This legislation would at least level the playing field, they say.

A coalition of groups that includes the Renewable Fuels Association, the National Corn Growers Association, the American Coalition for Ethanol and the National Farmers Union are opposing the legislation.

Opponents of the bill suggest that American farmers have met, and can and will continue to meet the domestic and international commitments for food and feed while still making a significant and growing contribution to lessening the nation's dependence on imported oil with home-grown American-made renewable fuels.

However, supporters disagree and separate legislation, the Renewable Fuels Elimination Act, which would eliminate the RFS completely, has also been introduced.

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Readers are also reminded that the *Synopsis* is available on the committee website each month after the *Synopsis'* printing. The website address is http://jcc.legis.state.pa.us.

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On the Horizon . . .

A LOOK AT UPCOMING EVENTS

✓ Monday, December 12, 2011, 12 noon, Room G-50, K. Leroy Irvis Building, Capitol complex, Harrisburg, PA – Environmental Issues Forum.

The December forum will feature a presentation on Pennsylvania's Sustainable Forestry Initiative (SFI) by PA SFI Program Manager Nate Fice. Fice will also provide some information on the national SFI program.

Please e-mail Geoff MacLaughlin in the committee office at gmaclaughlin@jcc.legis.state.pa.us or call Geoff at 717-787-7570 if you plan to attend the Environmental Issues Forum.

And, check the committee website at http://jcc.legis.state.pa.us for events that may be added to the schedule.

A REVIEW OF SOME MEMORABLE COMMITTEE EVENTS

Committee Chronicles . . .

The Joint Legislative Air and Water Pollution, Control and Conservation Committee's October 2011 Environmental Issues Forum featured a presentation on electronic recycling and data security by Joseph Harford (pictured at right), the vice-president and co-founder of Reclamere of Tyrone, PA.

Established in 2001, Reclamere is a leader in data security and IT asset management, specializing in, among other things, compliant recycling of IT equipment, computer forensics, on and off-site data destruction and redeployment of older and/or obsolete IT equipment.

A sizable audience (photo at left) heard a timely and interesting presentation on how "e-recycling" fits into data security concerns.

Readers can learn more about Reclamere by visiting the company website at www.reclamere.com.

The road posting/co-bonding problem has caused a decline in timber production, a loss of sales, backing away from tracts that would otherwise be harvested, declining to bid on otherwise attractive jobs, and the need to lay off employees and reduce payroll. This is not only detrimental to that individual business, but to its sub-contractors, to independent foresters around the state and to the commonwealth when it offers tracts to be bid for logging.

Often overlooked are the facts that the forest products industry has always been a good steward of Pennsylvania roads, has learned how to manage roads and minimize damage, has ceased work on roads when weather conditions would inevitably cause damage to roadways, and has not previously had roadway damage issues with the state or local municipalities. According to PFPA, a logger's or mill's share of repairs on a single road – nearly always a road being used by gas operators – can now exceed what that company has typically paid in total annual road damages pre-Marcellus shale.

The formula used to apportion damage to bonded roadways fails to take into account the different business model and type of less-damaging vehicles used by forest product companies as compared to gas companies. Similarly, the formula does not take into account the forest products industry's smart, historic, experience-tested non-use of roadways when conditions do not warrant use, and its enviable safety record.

Problems caused by the road posting/co-bonding issue include: a decline in timber production; a loss of sales; lack of harvesting on tracts that would otherwise be harvested; lack of bidding on otherwise attractive jobs; and the need to lay off employees and reduce payroll.

There is no doubt the increased posting and bonding of roads is directly in response to the Marcellus activity, with an increase estimated at 66 percent by one forest product company's testimony in an area where gas activity is heaviest. Testimony further indicated that in such regions, there are an estimated 900 logging, sawmill and other forest product establishments doing business – albeit an increasingly risky business.

One operator candidly told the task force that he "…can't survive in this atmosphere."

As chairman of the Committee and the task force, I have contacted Governor Tom Corbett on behalf of the task force, requesting the opportunity to personally discuss the perilous state of Pennsylvania's forest products industry and to discuss possible options to alleviate the unbearable costs and liability this indigenous industry is facing.

With winter coming and gas operations ever-increasing, time is of the essence for the forest products industry. Quick action is needed to save this time-honored, sustainable Pennsylvania industry.

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