

Subcommittee on Energy and Power
House Energy and Commerce Committee
February 8, 2012

Darren MacDonald - Summary of Testimony

- The steel sector is concerned about increased electricity costs and reliability issues that may result from this regulation. This is for the simple fact that all of the compliance costs and reliability risks will ultimately be passed on to us, the consumers. Our concern is that a confluence of new EPA regulations on the utility sector over the next 5 years – capped by the Utility MACT Rule – will have a substantial impact on our direct cost of doing business. We believe that it is in the best interest of the manufacturing sector for EPA to phase-in the Utility MACT Rule over a longer period of time to alleviate the combined impact the regulations will have on electricity costs and reliability.
- If the Utility MACT Rule goes into effect as currently finalized, billions of dollars of investment will be required in upgrades to existing electricity production facilities, new generation facilities and transmission upgrades. In 2015 alone, EPA estimates that the rule will cost consumers \$9.6 billion annually (in 2007 dollars). Others in the electric power industry have estimated that that costs will be much higher. While we don't know for certain who is right regarding the different cost estimates, we do know that additional costs for electricity will directly impact our bottom line, reducing competitiveness and potentially putting jobs in jeopardy.
- I am also concerned that the short timeframe for compliance in combination with planned retirements, conversions to natural gas, and outages required to install control technologies will create significant reliability issues. The pace of change required by the Utility MACT Rule and other EPA utility regulations will put a significant demand on the suppliers and installers of pollution control equipment and could further drive up costs.
- If electricity prices do not remain affordable and if electric supply is not reliable, the economic recovery can be put at risk along with its manufacturing jobs. We have heard from various stakeholders that the utilities prime concern is the aggressive pace of required compliance, and its impact on cost and reliability.
- Gerdau strongly recommends that the Committee seriously consider legislative alternatives so that compliance with utility sector rules and other rules affecting the manufacturing sector can be phased in over a longer period of time. We share the environmental goals involved in many of the regulatory efforts, but if the regulation is implemented in a thoughtful, systematic way, compliance and environmental gains will impose less concentrated economic impacts. Policymakers must understand that not all of our international competition are exposed to these costs. Any product that is displaced in the U.S. will be made in a country with less air regulations.

Testimony of Darren MacDonald
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I would like to thank the Chairman of the Subcommittee, Mr. Whitfield, for the opportunity to testify regarding the Environmental Protection Agency (“EPA’s”) Mercury and Air Toxics Standards Rule (known as the “MATS” or “Utility MACT” Rule). This Subcommittee and the full Energy and Commerce Committee have a long history of conducting in-depth hearings into major Clean Air Act (“CAA”) rulemakings, in particular, regulations that have large economic consequences.

By way of introduction, I am the Director of Energy for Gerdau’s steel making facilities in the U.S. It is my responsibility to secure a cost effective and reliable supply of electricity, natural gas, oxygen, and industrial gases that are necessary to meet the needs of our steel-making operations. I am also responsible for the company’s Energy Efficiency Strategy. I appreciate the opportunity to share information on the impact of this regulation on our company, the steel industry and the manufacturing sector in general as we attempt to recover from the “great” recession.

In particular, the steel sector is concerned about increased electricity costs and reliability issues that may result from this regulation. This is for the simple fact that all of the compliance costs and reliability risks will ultimately be passed on to us, the consumers. Our concern is that a confluence of new EPA regulations on the utility sector over the next 5 years – capped by the

Utility MACT Rule – will have a substantial impact on our direct cost of doing business. We believe that it is in the best interest of the manufacturing sector for EPA to phase-in the Utility MACT Rule over a longer period of time to alleviate the combined impact the regulations will have on electricity costs and reliability. To give you some sense of the impact on the manufacturing sector, a 1 cent/kWh increase in the cost of electricity imposes additional costs of approximately \$9 billion per year on factories and manufacturing plants. This will inevitably affect investment decisions and the levels of employment that are sustainable in the U.S. Don't forget that it is the electricity customers – and energy-intensive and internationally trade exposed manufacturers – who will be writing the checks while competing with companies who are located in countries with less air regulations.

Gerdau Operations in the United States

Gerdau is the second largest steel mini-mill producer and steel recycler in North America. We have an annual manufacturing capacity of over 10 million tons of finished steel product and we employ approximately 10,000 people in the U.S. Steel mini-mills produce steel products from melting and refining recycled scrap metal. We offer a diverse product mix of merchant steel, special bar quality, rebar, flat rolled steel, and wire rod.

With 20 facilities in the U.S., Gerdau's business operations occur in many different regulated and deregulated energy markets. Wherever we are located, however, my job is to take advantage of every opportunity to minimize the cost of energy. This is essential in order for us to remain competitive in the international marketplace for steel. Therefore, we seek wherever possible to be a highly "demand responsive" load; we frequently participate in programs aimed

at reducing system peaks. We also do what we can to work with our electricity suppliers to obtain reliable energy at the lowest possible cost. This is a core part of our business planning and our profit or loss.

It should be understood that we are not simply passive consumers of energy that depend on electricity producers to hold costs down. We also intensively review our own operations to save energy. In this regard, Gerdau is the second largest recycler of steel in North America (in an industry which uses the most recycled material on the planet). Recycling steel makes business and energy sense for us; indeed our industry is built around it.

Gerdau has taken every opportunity to improve energy and environmental performance through “bench marking” and sharing best practices throughout its operations. But we are not alone. The steel industry in North America has effectively set the bar for energy efficiency internationally. A recent Department of Energy (“DOE”) study concluded the U.S. steel industry was the most energy efficient in the world and only a new breakthrough technology could make any significant improvement in energy intensity. And, as DOE noted in the same report, “Since 1990, the U.S. steel industry reduced its carbon emissions by 35%, achieving one of the lowest carbon dioxide emission intensities among steel-producing countries worldwide

Economic Impact of the Utility MACT Rule on the Manufacturing Sector

Gerdau is extremely concerned about the impact the Utility MACT Rule will have on electricity prices. If this regulation goes into effect as currently finalized, billions of dollars of investment will be required in upgrades to existing electricity production facilities, new generation facilities and transmission upgrades. In 2015 alone, EPA estimates that the rule will

cost consumers \$9.6 billion annually (in 2007 dollars). Others in the electric power industry have estimated that the costs will be much higher. While we don't know for certain who is right regarding the different cost estimates, we do know that additional costs for electricity will directly impact our bottom line, reducing competitiveness and potentially putting jobs in jeopardy.

There is always a certain amount of finger-pointing with regard to the costs estimated for environmental compliance. EPA, I am sure, defends its cost analysis as based on its best estimate of the amount of new scrubbers, fabric filters, and dry sorbent injection ("DSI") that will be required to control mercury emissions and other hazardous air pollutants. Industry and private forecasters take issue with the assumptions, asserting, for example, that EPA's assumptions concerning the efficacy of DSI are too optimistic. We certainly look at both sides. But regardless of which projections ultimately prove to be most accurate, in the interim large electricity consumers will experience fundamental uncertainty and dramatic increase in future electric costs.

The Energy Information Administration ("EIA") has recently estimated that coal's share of electric generation will drop considerably over the next 25 years. EIA's Annual Energy Outlook 2012 Early Release estimates that by 2035, coal will represent about 39% of electric generation in the U.S., down from approximately 50% in recent years. Natural gas and electric generation using renewable sources of energy are projected to increase to a total of 43% of the U.S. electric generation in the same period. Gerdau has conducted an internal analysis on our fleet of mills, and our exposure to coal generation ranges from 8 percent to 80 percent with an average of 49 percent. This regional disparity will cause cost impacts in some states to be more

significant than others, impacting state economics. A slower transition would allow time for adjustment

Although EIA's analysis includes consideration of EPA's Cross-State Air Pollution Rule ("CSAPR"), it does not yet include the Utility MACT Rule, and it is likely that another rule, related to cooling water which imposes additional costs on coal-fired electricity will result in further pressures on this sector. Although we do not know the full extent of all the costs involved, they will likely be very significant and inevitably passed on to consumers. As a result, the manufacturing sector will experience greater challenges in maintaining our business in the U.S. and sustaining related employment.

EPA has projected that the Utility MACT Rule will not affect reliability and have only a modest impact on the price of electricity. EPA's Regulatory Impact Analysis estimates that average U.S. retail rates will increase 3.1% by 2015 and between 1% and 6%, depending on the region. But such estimates are based on assumptions concerning the types of controls that will meet the new standards and how quickly sources can receive necessary permits and install controls. As a large electric energy consumer we ask a fundamental question: what if these government projections are wrong or even partially wrong?

EPA economic projections on the Utility MACT Rule are also constrained by the practice of just focusing on the effects of the rule that is being finalized. The business world, however, cannot afford to look at different rulemakings in isolation. The manufacturing sector must look at the full impact of EPA regulations on the utility sector and the resulting increase to our electricity costs.

Some analyses have attempted to do this. The National Economic Research Associates ("NERA") reviewed the combined energy and economic impact of four EPA rules: (1) the final

CSAPR and the proposed rules for (2) Utility MACT, (3) coal combustion residuals, and (4) Clean Water Act section 316(b) cooling water intake structures. NERA used three models to conduct its analysis and relied on cost and other data from EPA and EIA for most of the modeling assumptions. The results of the analysis show substantial economic impacts. Costs for the electric sector to comply with the four rules are projected to be \$21 billion per year, which includes \$104 billion (present value) in capital spending. Combined, the rules that EPA has finalized and will finalize shortly constitute the most expensive suite of rules that EPA has ever promulgated for coal-fueled power plants. Retail electricity prices in regions of the U.S. covering all or portions of 30 states plus the District of Columbia are projected to increase by double digits in the peak years, with some regions experiencing increases as high as 19 percent with an average exceeding 10 percent. The manufacturing sector is in recovery mode and if NERA's analysis is accurate, recovery and growth will certainly be at risk.

Again, we are aware of certain criticisms and limitations in such studies. It was not possible, for example, for NERA to know precisely what would be included within the final Utility MACT Rule which wasn't released to the public until December 21st. Rules regarding coal combustion residuals and cooling water intake are also not final. But put yourself in my position. I must operate in the current business and regulatory environment and look at the available data and analysis. And I can tell you that we are already seeing the effect of the regulations faced by utilities. For example, PJM Interconnection, which coordinates buying, selling and delivery of wholesale electricity throughout its energy market, has been able to discern that the addition of pollution control retrofit costs contributed approximately \$60-\$80/MW-day to the price increase in their capacity market auction. This means that a customer

with a 100 MW peak load would see an increase in capacity costs of between \$2.2 and 2.9 million dollars per year in increased costs directly related to compliance with EPA regulations.

Capacity prices are not the only cost impact in PJM, long term energy prices are also impacted. The Regulatory Impact Analysis which accompanied the Utility MACT Rule projects that about 4% of pulverized coal units will be retired. Many of these units naturally are older and smaller units. But as these lower cost units are retired early, prices will almost inevitably rise despite EPA's projections concerning excess capacity.

In addition, the new capacity which is installed may not afford the same long-term cost-profile as the capacity which was retired. EPA has predicted that "most new capacity is projected as a mix of wind and natural gas." Although the price of gas is historically low right now, in the past gas has been a volatile commodity. EPA and states are also considering additional regulations regarding hydraulic fracturing, the technology which is behind the recent surge in natural gas production. Increased use of natural gas as base load for transportation, and other uses, could have a significant impact on available supply. To the less than casual observer, it appears that we are over relying on natural gas for both our electricity production and environmental compliance needs.

Private industry must look to not only government estimates but other forecasts of the future energy mix. In 2010, for example, Credit Suisse predicted that 50 gigawatts of coal plant closures could be "realistic" within the next few years. More recently, Credit Suisse indicated that "we forecast new generation construction to meet some lost capacity needs, although replacements will likely be well below retirements as 20%+ reserve margins are inevitably tightened." These reports stress that we cannot look at the Utility MACT Rule in isolation, but

need to consider other EPA rules regarding pollution transport and new national ambient air quality standards.

This brings me to the next significant and largely misunderstood cost impact.

Manufacturers are very concerned about how these combined costs resulting from a wave of environmental regulation are allocated to customers. This is particularly true in my industry since steel makers are generally one of the largest and most interruptible customers.

Traditionally, large interruptible loads would pay for capital additions in the utility sector through a capacity charge in base rates, but recent utility practice in many regions has been to spread the cost through a volumetric charge to all ratepayers, shifting the lion share of the cost burden onto users with high load factors such as large energy intensive manufacturers. I can tell you from personal experience that this may lead to plant closures. In the state of New Jersey, Gerdau was forced to close a steel mill in part due to mounting kWh base charges.

Reliability Impact of the Utility MACT Rule on the Manufacturing Sector

I am also concerned that the short timeframe for compliance in combination with planned retirements, conversions to natural gas, and outages required to install control technologies will create significant reliability issues. The pace of change required by the Utility MACT Rule and other EPA utility regulations will put a significant demand on the suppliers and installers of pollution control equipment and could further drive up costs. In this situation, utilities may have no choice but to pay heightened “market rates” for intensified construction projects. These “extraordinary” costs will simply be passed through to ratepayers.

Gerdau strongly recommends that the Committee seriously consider legislative alternatives so that compliance with utility sector rules and other rules affecting the manufacturing sector can be phased in over a longer period of time. We share the environmental goals involved in many of the regulatory efforts, but if the regulation is implemented in a thoughtful, systematic way, compliance and environmental gains will impose less concentrated economic impacts. Policymakers must understand that not all of our international competition are exposed to these costs. Any product that is displaced in the U.S. will be made in a country with less air regulations.

Comprehensive assessments, like the November 2011 North American Electric Reliability Corporation (“NERC”) report, have cautioned that the Utility MACT Rule could cause “significant generator retirements.” NERC believes that “the future state of reliability is still undetermined” and that the greatest risks to reliability lie with the potential impact of environmental regulations.

Even without the Utility MACT Rule we are already seeing substantial cost and reliability impacts, and we believe that this rule will exacerbate the problem. For example, energy prices in the State of Texas were low throughout the recent recession and little new generation was built. Last summer, however, prices in the on-peak period for the entire month of August averaged 26 cents/kWh, more than 5 times above 2010 annual rates, because the supply/demand balance was very tight. According to assessments by the state and its regulatory bodies, the 2011 CSAPR will result in further tightening of the available electric supply in Texas. And no new generation has been announced which, in any event, would require considerable time to obtain permits and begin operation. This is just an example of an area

where the Utility MACT Rule will have a significant impact despite the overall average numbers in the country looking acceptable.

Implementation of the Utility MACT Rule

In general, there has been much debate on the concerns over electric price and reliability, and EPA has disputed contrary analysis, and pointed to “flexibility” contained in the final Utility MACT Rule. EPA indicates in the final rule that utilities can seek another year for compliance from state permitting agencies in addition to the three years allowed by the CAA. In addition, EPA has indicated that they might be willing to grant “enforcement discretion” thereafter to address issues related to reliability. Neither one of these options provide the manufacturing sector with the certainty we need to make business decisions to maximize our growth potential.

Another issue that has not been discussed extensively is that utilities will have to rely on their state regulators to get approval to make the investments in new control technology and reflect those costs in the rates. To ensure the cost allocation issue is addressed appropriately manufacturers will need to be involved in multiple regulatory proceedings in every state in which they operate. This is a time consuming process and the current timeline does not take this into account.

We look at the short window provided by EPA for comments on the Utility MACT Rule and cannot help but wonder if additional consultation time would have helped to clarify the impacts of the rule and allow for better planning so that these issues could be addressed upfront.

Conclusion

Let me be clear that I am not here today to say that EPA should “do nothing” with respect to improving environmental regulations or implementing new controls on electric powerplants. Although substantial progress has been made under the CAA, we understand there is more to be done and economic progress and environmental progress can indeed coincide. But many utilities have stated that in the past, success was achieved in reducing criteria pollutants like NO_x and SO₂ by executing a very well thought out plan that provided ample time for a planned response to compliance, balancing the availability of pollution control equipment and labor, and using flexible implementation to decrease costs. This system of regulation allowed the most favorable investments to be made while achieving the desired environmental results. Thus, to the extent that additional time and flexibility can be implemented under existing law, or perhaps through additional legislative authority, I believe this could be greatly beneficial.

Altogether, I am not expert on all EPA rules or all the public and private projections regarding EPA regulations – but I do understand business and from a manufacturing sector perspective, additional costs will have significant impacts on investments and jobs. Simply not knowing who is right about the price of electricity over the next five to ten years – EPA or other forecasters – creates too much uncertainty with respect to large capital investments. We must be able to operate a profitable business while we transition to a cleaner generation fleet.

The economic recovery is fragile and the year over year step changes in electricity prices that have been forecasted are not tolerable against the backdrop of global competition. If electricity prices do not remain affordable and if electric supply is not reliable, the economic recovery can be put at risk along with its manufacturing jobs. We have heard from various

stakeholders that the utilities prime concern is the aggressive pace of required compliance, and its impact on cost and reliability. This, in my opinion, is what needs to change.

Thank you for providing me the opportunity to testify. I look forward to answering any questions that you may have.