

**Testimony of Fred T. Harnack
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**“Endorsement to Eliminate Greenhouse Gas Regulation under the
Clean Air Act”**

**Before the Subcommittee on Energy and Power
House Energy and Commerce Committee
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A. Introduction

Mr. Chairman and members of the Committee, thank you for the opportunity to appear before you today. My name is Fred Harnack and I am General Manager of Environmental Affairs for United States Steel Corporation, (U. S. Steel). My background in the company is mainly in the operations field, but in my current position I am responsible for ensuring global compliance with all environmental requirements at the local, state, and federal level in the United States as well as the respective laws governing our foreign operations. I am proud to represent our corporation and the over 21,000 domestic and 42,000 total employees. I assure you every one of us wants to work, live, and raise our families in a clean environment. We are committed to making steel with that in mind, but believe the time has come to reassess the complex framework of rules and regulations that hamstring responsible manufacturers and inhibit economic growth and job creation in our country.

B. Company and Process Overview

Within the global steel market, U. S. Steel is one of the world's largest producers and our product offering includes flat rolled steel, tin, and seamless and welded pipe. We have sophisticated research and technology resources dedicated to pushing the boundaries of product and process capabilities. Everyday, we compete in a fiercely competitive global market. The American steel market is the most open steel market in the world and constant competitive pressures from imports mean we must be among the highest performing and most efficient global producers.

U. S. Steel is a fully integrated steel manufacturer which means we begin our process by mining virgin iron ore and converting the ore into "new steel" in combination with recycled scrap. Unlike the Electric Furnace method, we utilize our Blast Furnace iron making process to reduce the ore with coke in order to produce molten iron which is then added to recycle steel scrap required for our steelmaking process. This is a very carbon intensive process; however it remains the most efficient technology for producing the metal required for steel manufacturing by the integrated process.

At U. S. Steel, our strategic focus is concise and straightforward: Making Steel, World Competitive, and Building Value for our stakeholders. Our Core Values include Safety, Environmental Stewardship, Diversity and Inclusion, Focus on Cost, Quality, and Customer Service and we are all accountable for our results. This is the framework within which our business strategy is developed and executed. We are a forward looking

and responsible organization that takes its responsibility seriously to generate a competitive return on capital, and meet our financial and stakeholder obligations.

As an industry leader, we commit significant capital expenditures and operating expense to maintain and improve our infrastructure and environmental performance. Our 2009 capital expenditures of \$472 million consisted largely of non-discretionary environmental and infrastructure projects. Environmental compliance expense in 2009 totaled \$431 million globally. While environmental stewardship is a core value, it is obviously not without substantial cost. Our capacity to invest in new plant and equipment – a precondition for job creation in the sector – is constrained by our ability to generate a fair return on the capital we invest. When the lion’s share of our capital budget must be dedicated to maintaining infrastructure and satisfying compliance requirements, it is no wonder that job creation and global competitiveness are handicapped. Our industry is not unique in this regard, as this is a fact of life for many in the manufacturing sector.

As Congress looks for ways to reduce unemployment and attempt to recover the more than 8 million American manufacturing jobs lost since 2000, it must evaluate whether our current framework and system of environmental regulation is really serving the nation’s best interests. Recent and ongoing promulgation of new rules to regulate greenhouse gas emissions under the Clean Air Act is an appropriate starting point for such a review, because it is already clear that the environmental outcomes of such an

approach will be counterproductive and not worth the associated costs that would be imposed on American workers.

C. Implementation of Clean Air Act Requirements

Since implementation of the Clean Air Act and its subsequent amendments, significant improvements have been and continue to be achieved to improve ambient air quality as well as reduce source specific air pollution in the United States. U. S. Steel is proud to have been a leader among the many responsible corporations that worked with then-Chairman John Dingell and other members of this committee to craft the Clean Air Act amendments of 1990. We continue to be an industry leader in complying with standards set by the Clean Air Act. As USEPA develops more stringent standards pursuant to the Act, U. S. Steel has worked closely with USEPA, state and local environmental agencies to implement emission reduction projects to achieve the standard within the time frame set. The cost of compliance with the Clean Air Act is large. However, great success has been achieved in reducing avoidable air pollution.

In my career, spanning over thirty years in the steel industry, I have witnessed environmental management practices evolve in tandem with implementation of the Clean Air Act. Leading companies no longer just tolerate, balance, and translate a handful of environmental practices; instead they take a comprehensive and global approach to environmental management. Our company, for example, is committed to environmental stewardship at all levels and that includes performance assessment, target setting,

engagement with stakeholders, and best practices implementation. Through this comprehensive corporate environmental management process, U. S. Steel has made significant investment in technologies and controls to operate state of the art iron and steel manufacturing facilities.

D. Regulating GHGs under the Clean Air Act

Greenhouse gas emissions are not like the pollutants targeted under the Clean Air Act. Most greenhouse gases such as water vapor and CO₂ are naturally occurring. Also, man-made greenhouse gas emissions do not accumulate or impact the environment the same as traditional air pollutants. Accordingly, regulating greenhouse gas emissions from stationary sources under any of the existing Titles in the Clean Air Act will not yield the success that the Clean Air Act has achieved for traditional air pollutants.

Greenhouse gases do not lend themselves to the same regulatory approach as stationary source pollutants, such as particulate matter and sulfur dioxide. The complicated National Ambient Air Quality Standards (NAAQS) process was not intended, nor is it able, to regulate the complex group of greenhouse gas emissions on a global scale. The Clean Air Act makes no provision to address the anti-competitive regulatory costs imposed on domestic manufacturers of globally traded goods. A misapplication of the Clean Air Act will significantly impact the efficiency and effectiveness of regulating greenhouse gases by taking away resources that could otherwise be used to develop a more sound and appropriate approach. It is also

significant to note that the amount of reduction possible at the domestic level from stationary sources is a small fraction of the global amount of greenhouse gas emissions.

Since greenhouse gas emissions are a complex global issue, a simplistic regulatory approach may reduce greenhouse gas emissions locally (in United States) while increasing emissions outside the United States by encouraging companies to move or expand operations to another country. As demonstrated by the United Kingdom's example, energy-intensive manufacturing activity will decline, but consumer demand for energy-intensive goods will still grow. The net environmental effect of such is actually worse for the environment as goods are sourced from less efficient producers and additional long-distance transportation is required.

From our perspective, regulating greenhouse gases under Titles I and V of the Clean Air Act is like trying to put a square peg into a round hole. We believe the record and construction of the Clean Air Act clearly indicates that the Act was never intended to regulate greenhouse gases under Titles I and V. When reading the Clean Air Act as a whole, with particular attention to Title I, we believe that it was Congress' intent to address only local and regional air pollution issues in Title I. Addressing a global issue, such as climate change, through Title I of the Clean Air Act has no direct affect on local or regional air pollution; and worse yet, it could actually lead to increased emissions of greenhouse gases globally by way of encouraging industry to move to countries that do not regulate greenhouse gases.

During consideration of climate change legislation by this Committee in the 111th Congress, there were many hearings on the so-called carbon and job leakage issues. We sincerely appreciated the serious attention members of the Committee devoted to understanding and attempting to address these concerns. Congressman Doyle and Chairman Markey personally spent a great deal of time and effort crafting transition provisions in an attempt to buffer energy intensive manufacturers from the projected impacts of the bill. Nonetheless, the House legislation was never even considered by the Ways and Means Committee and provisions that might have addressed trade-related aspects of the bill (such as imposing comparable environmental costs on energy-intensive imported goods) were never incorporated.

Industry and Congress both learned a great deal during the development of that legislation. The experience forged our belief that meaningful action to reduce global greenhouse emissions must begin with international support and coordinated commitments that treat industries on even terms. We could never support an approach that knowingly puts American jobs and industry at severe economic disadvantage relative to our competitors in unregulated countries like China, India, Russia or Brazil.

Since greenhouse gas accumulation in the atmosphere is a global issue, it must be addressed in a substantially different manner than USEPA is currently pursuing. In fact, Congress has previously recognized the inappropriateness of regulating a global environmental issue through Titles I and V of the Clean Air Act. For example, Congress understood that stratospheric ozone protection was not a local or regional issue and

therefore specifically legislated that it should be regulated differently, thus creating Title VI of the Clean Air Act which required USEPA to address stratospheric ozone protection in a different manner than USEPA addresses pollution that has local and regional impacts. Simply put, it is not feasible nor is it appropriate to address global air issues under Titles I and V of the Clean Air Act.

U. S. Steel fully supports removing greenhouse gas regulations for stationary sources from under Titles I and V of the Clean Air Act. The Discussion Draft released by this Committee on February 2, 2011, would accomplish this objective. We believe simply delaying implementation of greenhouse gas regulations does not provide any real benefit to our company or the steel industry – and delaying implementation for one or two years simply leads to more uncertainty for the private sector. If greenhouse gases are to be regulated, Congress should develop an appropriate statute that balances real environmental improvement with international competitiveness concerns at a cost Americans are willing and able to pay.

On a related matter, we note that the Discussion Draft would not prohibit implementation of the rule concerning Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards. That is a rule of great interest to the steel industry because of its long-term, direct influence on material selection for light-duty vehicles. For many years, our industry has been a strategic partner with the automotive industry in developing Light Weight Advanced Strength steels and pioneering new vehicle designs to help lightweight vehicles and improve fuel

economy and safety performance of the vehicles we drive today. We are however, very concerned by the accelerated pace by which USEPA intends to develop the next phase of regulations this year to affect vehicles through model year 2025. In particular, we have encouraged USEPA to incorporate total environmental life-cycle considerations into the next rulemaking and not just focus on the driving phase vehicle performance. This focus on reducing only the driving phase greenhouse gas emissions will result in increasing the overall carbon footprint of the vehicle if OEMs employ carbon-intensive lightweighting materials to meet the driving phase regulations. We look forward to working with the Committee and the Agency to develop appropriate tools for such an approach because it offers the best environmental solution with the least unintended consequence.

E. Cumulative Impact of Clean Air Act Regulations

Inefficient or inappropriate local regulation of greenhouse gas emissions under the Clean Air Act is not the only problem we experience under the current framework of U.S. environmental regulation. As a result of periodic reviews, ever-tightening standards and requirements, and court-ordered actions, the regulatory burden on manufacturers has grown exponentially since 1990. The regulation of greenhouse gas emissions imposes a substantial new burden on industries already over-burdened by air pollution regulations. Many domestic manufacturers have been unable to keep pace and have simply closed factories or moved to other jurisdictions. We do not believe this trend is in the national interest and urge you to find a better way.

1. New Air Regulations Impacting U. S. Steel

In order to help you better understand the magnitude of our existing regulatory burden, the following is a list of new and emerging air regulations that are currently impacting U. S. Steel:

New National Ambient Air Quality Standards (NAAQS)

- New 1 hour SO₂ standard (promulgated in 2010)
- New 1 hour NO₂ standard (promulgated in 2010)
- Lead standard (EPA has revised the level of the primary (health-based) standard from 1.5 micrograms per cubic meter (µg/m³), to 0.15 µg/m³. States are working on State Implementation Plans (SIPs) to address the NAAQS for Lead that was promulgated in late 2008. In addition, EPA is also revising the lead monitoring requirements.)
- Annual PM_{2.5} standard (court remand – EPA expected to promulgate in 2011.)
- Daily PM_{2.5} standard (States currently preparing SIPs)
- Ozone standard (USEPA indicated that it will issue a revised NAAQS in July 2011)
- Carbon monoxide standard. (under a judicial court order, USEPA must complete its review of the Carbon Monoxide NAAQS by August 12, 2011. (Note: USEPA is currently

proposing to keep the existing NAAQS for CO. (The existing primary standards are 9 parts per million (ppm) measured over 8 hours, and 35 ppm measured over one hour. While USEPA is currently proposing to keep the existing NAAQS for CO it is proposing additional CO monitoring. In any case, the proposal is subject to change based upon public comment so it would be premature at this time to assume that the standard will not change. USS is following this closely.)

Maximum Achievable Control Technology (MACT) and New and Emerging Federal Air Regulations

- Greenhouse Gas Mandatory Reporting Rule (and related Confidential Business Information concerns)
- Greenhouse Gas Tailoring Rule
- Boiler MACT (final rule to be promulgated by February 21, 2011)
- Pickling MACT (final rule to be promulgated in 2011)
- Chromium Electroplating MACT (final rule to be promulgated in 2011)
- Iron and Steel MACT remand
- Iron and Steel NSPS revision
- Coke MACTs Residual Risk Evaluation

- Marine Vessel Loading (Coke By-Products) (final rule to be promulgated in 2011)

This list includes only the “federal air regulations” that we must monitor. In addition, there is an equally long list of other regulatory developments covering other media including water, solid waste, and hazardous materials. Attached at the end of this statement is helpful chart outlining USEPA’s current rulemaking timeline. Finally, U. S. Steel and the regulated community must also keep abreast of all state and local emerging regulations.

A considerable amount of agency and company time and resources must be spent addressing development of emerging federal regulations and implementing the promulgated federal rules listed above.

Immediately upon promulgation of a new NAAQS, new standards must be considered for any permit for a new source or for a major modification to an existing source (Prevention of Significant Deterioration (PSD) permit). PSD permits require extensive modeling and the identification and installation of Best Available Control Technology (BACT). In addition, each area must evaluate ambient monitoring data to determine appropriate designation as attainment or non-attainment. As part of the NAAQS process, states and local jurisdictions must continuously update their State Implementation Plans (SIP) to address how non-attainment areas will achieve attainment and how the

respective state plans to maintain attainment once it is achieved. In addition, if the area in which a source is located is classified as nonattainment for certain pollutants, the source will be required to achieve the Lowest Achievable Emission Rate (LAER) for that pollutant and obtain offsets, or reductions, in the same or greater amounts than what would be emitted from the new source of modification (i.e., the project must result in a no net increase or a reduction in the nonattainment pollutant). It is important to note that USEPA is currently planning imposition of greenhouse gas BACT standards on a sector-by-sector (and process-by-process) basis which would create an entirely new host of practical environmental and business risks.

To develop a Maximum Achievable Control Technology (MACT) standard, information requests are completed and compiled, standards are set and regulations developed and promulgated. Affected facilities then need to implement the new requirements including but not limited to the installation of new control equipment, monitoring, testing and recordkeeping and reporting.

The number and rate of new federal regulations in recent times has been overwhelming. Significant time and resources have been committed to implementing these regulations. We have included the EPA Rulemaking Timeline at the end of this submittal for your information. Some of the practical issues that have arisen during implementation are discussed below.

2. Technology

As new environmental regulations are developed, there is a considerable amount of debate about the role and application of technology to control various pollutants. While most agree that there is a need to develop new technologies, there appears to be little consensus about how to accomplish this goal in the most efficient manner.

First, we need to be clear that there are two categories of technology that need to be developed.

1. Technology that reduces generation. Most will agree that the best way to reduce emissions of the various pollutants is not to generate them in the first place.
2. Technology that controls/reduces emissions. This type of equipment is traditionally referred to as “end of pipe control”.

(An example to demonstrate importance distinction – Low NO_x burners to reduce generation of NO_x is preferred over Selective Catalytic Reduction which uses urea to reduce NO_x emissions.)

Second, we need to be clear about what is considered to be innovative control technology and what is considered to be available control technology.

Innovative control technology is defined as technology that has not been adequately demonstrated in practice but would have a substantial likelihood of achieving significant reductions.

Best Available Control Technology or BACT is defined as the maximum degree of reduction in the discharge of air pollutants (emissions) achievable through the currently available methods, systems, and techniques while taking economic, energy, environmental and other costs into consideration.

Maximum Achievable Control Technology or MACT is the emission standard for sources of air pollution requiring the maximum reduction of hazardous emissions, taking cost and feasibility into account. Under the Clean Air Act Amendments of 1990, the MACT must not be less than the average emission level achieved by controls on the best performing 12 percent of existing sources, by category of industrial and utility sources

While it is important to pursue innovative control technology to determine if it is technically feasible, permits and standards should be set based on technology which clearly meets the definition of BACT and MACT.

Third, technological effectiveness should be proven for the specific application before any standard is set. An approach that has worked for U. S. Steel is to identify potentially feasible technologies, conduct pilot tests to verify technical feasibility and then pursue full scale installation.

Today, with significant information available, many steps intended to prove that technology actually works as advertised are being skipped. For example, my Department has periodically been asked by our executive management about installing technologies they have seen on the internet which promise very significant pollution or energy reductions. We have contacted the advertising vendors to investigate only to learn that many of them will not contractually guarantee the promises made on their websites. If this type of due diligence approach is not taken, a tremendous amount of resources could be spent on technology that simply does not work as designed. Unfortunately, many in the public and those serving in the regulatory agencies are too quick to believe the claims of overly optimistic and ambitious technology entrepreneurs.

If new regulations are to rely on the development of new technologies, the regulations must contain a mechanism for the methodical approach discussed above to assure that the equipment installed meets the requirements of the regulation.

3. Guidance and Test Methods

When new regulations are promulgated, they are most often followed by guidance and new test methods. The guidance documents are designed to provide practical information on how the regulations are to be implemented. While generally helpful, guidance often leads to significant issues with implementation because the current regulatory structure does not provide adequate time. New test methods are also being developed to better measure pollutants of concern.

The situation with PM_{2.5} is a good example. The first approach to quantifying PM_{2.5} was to assume PM₁₀ equals PM_{2.5} using existing PM₁₀ modeling guidance and test methods. Recently, this was refined with new PM_{2.5}-specific guidance and test methods. While the new methods are definitely more accurate for PM_{2.5}, the practical result has been a state of confusion and delays in permits already in progress. To comply with the new guidance, extensive testing using the new test methods needs to be conducted, emission inventory revised, and modeling updated with the new data.

If new regulations are going to be immediately followed by detailed guidance and new test methods, the new regulations must provide a better mechanism for testing under the new methods and allow sufficient time to

revise facility environmental modeling. Permits already in progress should not be subjected to new delays.

4. Multi Media and Multi Pollutant Impacts

There was a time in the early years of the environmental movement, when air, water and waste issues were dealt with independent of each other. During that same time, public policy strategies to reduce particulate matter were separated from those aimed at reducing NO_x and SO₂. However, those days are now behind us and multiple media pollutant impacts must be considered simultaneously.

Today control strategies must be developed that address all media and all regulated pollutants. As an example of a multi-media evaluation, reducing mercury from a stack to avoid air and water impacts results in a waste which needs to be disposed. The strategy developed and implemented must minimize the impact on all three media.

In the steel industry, when we are evaluating our options to reduce PM_{2.5}, consideration must also be given to SO₂ and NO_x, as they lead to formation of secondary PM_{2.5}. Another example would be that a fuel strategy in an area of the country impaired for visibility cannot rely solely upon natural gas, since NO_x is the pollutant of concern often affecting visibility. Taking into account

fuel availability, strategies must consider the air pollution effects of combusting natural gas, coal, and/or biomass. (There is not a one-size fits all approach, as site specific factors often determine what is the best or most appropriate approach.)

Control strategies need to be developed and implemented from a perspective of what is best to minimize the overall impact of the project. Strategies must evaluate multi-media and multi-pollutant impacts. Regulations must also have a mechanism that provides for such an evaluation and allows companies the ability to install the best project from an overall perspective.

5. Agency Staffing

Every new regulation promulgated puts an additional burden on federal, state and local agencies. Regulatory agency staffs must gain an understanding of the regulation and corresponding implementation guidance and then develop and implement a plan to integrate the new requirements into their permitting and enforcement programs. Too often, they must also acquire more detailed operational and technical knowledge of the industries they are charged with regulating.

The Federal Government is currently struggling to reduce an ever increasing deficit. The majority of the states and localities in which U. S. Steel operates are also facing significant fiscal deficits. In order to reduce these deficits, agency staffs have been furloughed and/or permanently reduced. Additional reductions are likely.

In addition, USEPA has difficulty itself in completing its existing nondiscretionary duties under the Clean Air Act. Special interest groups regularly sue USEPA for its alleged failure to complete nondiscretionary duties. USEPA continues to fall behind its obligations that Congress specifically and discretely intended under the Clean Air Act.

A company has a choice when determining whether to pursue a new project and the required permitting. The increased time and cost to obtain required permits and to install required control equipment has become a critical part of the decision process. If the time and cost becomes too high, the company can decide not to pursue the project. Permits must move at the speed of commerce to remain competitive.

In contrast, the agencies do not have a choice. When permit applications are received, they need to prepare permits. In many jurisdictions, they are required by law to have the permits issued within a specified time. With

reduced staffs and the significant number of existing and new regulations, permits are simply not getting issued in a timely manner resulting in delays in construction.

F. Conclusion

It is inconceivable to us that steel companies in the United States are to be further disadvantaged by substantial new costs and regulations not borne by steel producers in China, India or Russia. China alone accounts for almost half the world's steel production and accounts for more than half of global emissions from the steel sector, yet it bears only a small fraction of our regulatory responsibility. Clearly, from the perspective of an American steel producer, regulating greenhouse gas emissions as USEPA is attempting to do is not an acceptable solution to a global environmental issue. Greenhouse gas regulations imposed under the existing Clean Act place an unnecessary, if not insurmountable burden on the U. S. manufacturing industry.

We believe, as President Obama recently stated in his State of the Union address, "We have to make America the best place on Earth to do business." Continuing down USEPA's path of regulating greenhouse gas emissions under the existing Titles of the Clean Air Act, in the manner in which it is pursuing, is contrary to this worthy and rewarding goal. Accordingly, we urge Congress to continue to respect the environmental achievements brought about by the Clean Air Act, but begin

immediately to address the nation's competitive economic slide by reigning-in overreaching, poorly conceived, and counterproductive regulations.