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U.S.-China Economic Security and Review Commission

China's Intellectual Property Rights and Indigenous Innovation Policy

May 4, 2011

Co-Chairs D'Amato and Shea, Members of the Commission, thank you for inviting me to appear today on behalf of the twelve and a half million working men and women of the AFL-CIO to talk about China's indigenous innovation policies.

I want to start by commending the Commission for taking up today's timely subject. Much is at stake in improving our economic relationship with China, particularly with respect to technology and innovation.

It is true that the Chinese government's indigenous innovation policies present a threat to the United States. But it is also true that indigenous innovation must be seen in the broader context of overall Chinese government policies, which have created significant competitive disadvantages for American workers and producers.

The U.S. trade relationship with China remains enormously imbalanced and problematic. The Chinese government has violated its international obligations with respect to workers' rights, human rights, currency manipulation, export subsidies, and intellectual property rights. Last year's implementation of indigenous innovation policies simply extended and deepened this pattern of violations.

Each of these trade violations contribute to the erosion of America's industrial base. Our technical and innovative capacities – today and in the future -- are essential to our economic and national security. Dr. Joel Yudken prepared a report in 2010 for the AFL-CIO Industrial Union Council, entitled *Manufacturing Insecurity: America's Manufacturing Crisis and the Erosion of the U.S. Defense Industrial Base.* This report has been submitted in support of this testimony, and it documents these concerns in detail

My testimony today makes three essential points:

- Indigenous innovation is a serious problem, but it does not exist in isolation. It is part of a much broader strategic pattern of behavior by the Chinese government in violation of U.S. and international trade law.

- The actions by the Chinese government have led to the erosion of the U.S. industrial base, and this poses a direct threat to the nation's economic and national security.

- The U.S. government needs to take action on trade law violations and at the same time establish appropriate domestic policies, priorities and strategies to restore America's industrial leadership.

China’s Export Platforms Target Technology and U.S. Industrial Sectors

The Chinese government has charted out an economic growth strategy that relies heavily on export-led growth, primarily to the U.S. market. The elements of the strategy include maintaining an undervalued currency through massive intervention in the foreign exchange market; an industrial policy of targeting favored sectors and technologies through below-market-rate loans and subsidies; and protection of domestic markets through overt and covert trade barriers, such as indigenous innovation. This is well-documented in this commission’s annual reports, as well as elsewhere.

The Chinese government has broad industrial and technology strategies aimed at building up its capacity in cutting-edge technology areas across the manufacturing sector. Many of the Chinese government policies include strong incentives designed to attract foreign investment in R&D and production in advanced technology areas, which encourages transfers of U.S. technology and production capacity offshore, including some of the design for civilian technologies with defense applications.[i] For example, years ago the Chinese government made development of the semiconductor sector a national priority, and has fostered its development with government support for research and development, preferential tax treatment, and the use of the technology standard-setting process to favor its domestic firms.[ii] They have taken the same approach to the clean energy sector

The application of an indigenous innovation procurement policy, with a specific goal of reducing the degree of dependence on technology from other countries from 50 percent to 30 percent or less by 2020, took it a step further. The timing coincided with massive public investments at the height of the economic crisis. Their action made transparent what other government practices on technology transfer had been doing by other means. The result is apparent to some formerly reticent businesses that “have publicly declared that they gradually are being squeezed out of the Chinese market by government policies that first demand technology transfer in exchange for market access and then favor domestic companies.”[iii]

China is no longer just playing catch-up with the United States and the other developed nations regarding basic manufacturing production and technologies. This commission warned in its 2005 report to Congress that China is developing and producing technology that “is increasing in sophistication at an unexpectedly fast pace. China has been able to leap frog in its technology development using technology and know-how obtained from foreign enterprises in ways other developing nations have not been able to replicate.”[iv] That 2005 admonition has become a 2011 reality.

Since it has become central to the global supply for technology goods of increasing sophistication, China has gained increased leverage in global systems of production.[v] The AFL-CIO shares your

concern that this central role raises "the prospect of future U.S. dependency on China for certain items critical to the U.S. defense industry as well as vital to continued economic leadership."[vi] The spiraling U.S. trade deficit with China paints a troubling picture of debt and loss of technical and productive capacity.

Trading Away Jobs and Innovation

Our trade deficit, especially with China, is symptomatic of the challenges we face in maintaining our industrial base. Although the overall trade deficit is down by a quarter from the record levels of 2008, the 2010 U.S. goods trade deficit with China broke all previous records. Through the decade our goods trade deficit with China soared, tripling since WTO accession -- from $84 billion in 2001 to a record $273 billion in 2010. China's share of the U.S. trade deficit in manufactured goods rose steadily -- from 28.5 percent in 2002 to 75.2 percent in 2009. In 2010, we ran a trade deficit with China in advanced technology products of $94 billion, while with the rest of the world, we ran an ATP surplus of $10 billion. The enormous and growing U.S. trade imbalance with China in ATP should be a clear warning signal that our overall trade relationship is severely imbalanced in ways that are detrimental to our economic potential and future.

U.S. foreign direct investment (FDI) in China has jumped, especially in manufacturing. FDI in China is all about new production and job creation, unlike in the United States where new FDI tends to signal a change of ownership, not new production. The Economic Policy Institute has estimated that the growth in the U.S. trade deficit with China between 2001-2008 displaced about 2.4 million American jobs.

Perhaps even more disturbing than the aggregate growth in the U.S. trade imbalance with China is the composition of our imports and exports. Our top fifteen exports to China (by 4-digit HTS code) include five categories of waste products (ferrous scrap, paper scrap, copper scrap, aluminum scrap, and offal); two categories of raw materials (soy and polymers), and at least three categories of parts. In contrast, all of China's top fifteen exports to the United States are manufactured products or parts.

This is clearly not the trade profile that the U.S. government predicted as the likely outcome of China's WTO accession. But it is the result of concerted strategic interventions, starting with currency intervention, by the Chinese government over many years – and inaction by our own. With an explicit export strategy targeting key industries, sectors, and technologies, China has captured a growing share of U.S. and world markets. It has used a wide array of unfair trade practices, including currency manipulation, export subsidies, widespread suppression of worker rights and wages, and tariff and non-tariff barriers to exports, to support this strategy.

The financial crisis has proved to be another opportunity for the Chinese government. By controlling access to its market in crucial sectors with indigenous innovation, the Chinese government buys time to build dominant industries and technology powerhouses that will have a clear competitive advantage over their lagging counterparts in other countries. This is already underway in the clean energy sector, where these export policies work in concert to ensure market

control. The 301 clean energy trade case filed by the United Steelworkers union and the currency legislation passed by the House last fall are aimed at stemming these practices.

China's Green Technology Practices Violate WTO Rules

The Chinese government employs a number of policies to stimulate and protect its domestic producers of green technology, ranging from wind and solar energy products to advanced batteries and energy-efficient vehicles. These policies have permitted China to become a dominant supplier of a number of green technologies, draining manufacturing and R&D investment from the U.S. to China, costing American workers the high-skilled green jobs of the future, and increasing the U.S. trade deficit.

A number of these practices are direct violations of the obligations China undertook when it joined the World Trade Organization (WTO). Other policies are subject to challenge at the WTO if they cause serious prejudice to U.S. industries and workers.

The United Steelworkers union – which represents workers in a number of the sectors being harmed by the Chinese government's policies – filed a petition under Section 301 of U.S. trade law to give the Administration the ammunition it needs to bring a successful WTO case against these unfair trade practices. The petition covers five areas.

1) Restrictions on Access to Critical Materials. Dozens of vital green technologies – solar panels, wind turbines, advanced batteries, energy efficient lighting, and more – depend on critical raw materials derived from rare earth elements and other minerals. China produces more than 90 percent of the world's supply of these minerals, and it uses a variety of means to restrict exports of these minerals to users in the U.S. and other countries. These restrictions raise prices for manufacturers outside of China, lower prices for those within the country, and create a powerful incentive to shift production to China in order to secure necessary supplies. These export restrictions are a clear violation of China's WTO commitments.

2) Performance Requirements for Investors. When China joined the WTO, it committed not to require that foreign companies use domestic suppliers or transfer technology as a condition of investment approvals. China's laws state that transfer of advanced technology should be included in foreign joint venture agreements, and gives the government the right to approve or reject such agreements. In practice, it appears that foreign investors face hurdles setting up wholly-owned ventures in China. Once they partner with a state-owned joint venture partner or a state financier, their investment contracts invariably contain technology transfer requirements. For example, in 2009, Evergreen Solar had difficulty raising funds to open a plant in China, and so it entered into a joint venture agreement (backed by provincial authorities) that required Evergreen to license solar wafer technology to the new venture. As a result, Evergreen is now shifting panel production from its Massachusetts facility to China.

3) Discrimination Against Foreign Firms and Goods – Indigenous Innovation The Chinese government bids out the construction of wind farms and solar power plants to competing firms, and grants the winners concessions and the right to guaranteed power purchases by government-

owned utilities. In the wind sector, no foreign firms have ever won a major wind farm concession, despite highly competitive offers. In addition, the Chinese government prohibits foreign firms from getting international emissions credits for such projects (which are often key to their financial viability), unless the foreign company allows a Chinese partner to own a majority of the venture. In the solar sector, those foreign firms that have been granted the right to build solar power plants have been subject to conditions that they produce the needed solar panels domestically and license valuable technology. This discrimination violates China's WTO obligations, including specific commitments made in its protocol of accession.

4) Prohibited Subsidies for Advanced Technologies. WTO rules prohibit China from granting subsidies that are contingent on export performance or on the use of domestic over imported goods. The petition points to subsidies for wind turbine manufacturing and the development of other advanced green technology products that violate these rules. In addition, the petition demonstrates that China's export credits and export credit insurance programs for green technology are prohibited export subsidies. China's exporters benefit from concessional loans and guarantees that dwarf those provided by other countries – in fact, in 2008 China's Export-Import Bank granted more loans than the export credit agencies of all G7 countries combined. Because the Chinese government refuses to play by the rules that prevent other countries from engaging in a race to the bottom in the export credit arena, it can freely undercut and outbid U.S. exporters of green technology products around the world.

5) Trade-Distorting Domestic Subsidies. The Chinese government offers a broad range of subsidies to producers of green technologies, including in the solar, wind, biomass, geothermal, hydropower, nuclear, advanced battery, alternative vehicle, and energy-efficient consumer products sectors. China's subsidies in these areas are so enormous that they are distorting trade and harming producers in other countries. In its economic stimulus package, for example, the Chinese government gave more than $216 billion to subsidize green technologies – more than twice as much as the U.S. spent in the sector and nearly half of the total "green" stimulus spent worldwide. These massive government subsidies are helping Chinese producers ramp up production, seize market share, drive down prices, and put global competitors out of business. WTO rules give the U.S. the right to challenge such subsidies to mitigate the severe competitive harm they are causing.

The Green Technology 301 trade case shows how a combination of policies are being used by the Chinese government to propel its nation to the forefront of the global green economy, while U.S. firms and workers still struggle to develop a robust green technology supply chain here at home. These policies have helped China acquire foreign investment, technology, and expertise, while restricting foreign access to its raw materials and its market. Nor do these exist in isolation. The export platform strategy relies upon foundational subsidies, including the prolonged undervaluation of the renminbi that has distorted trade, investment flows, and currency markets across the globe.

Undervalued Currency Subsidizes Exports and Investment

Through systematic and one-sided intervention in currency markets, the Chinese government has kept the renminbi approximately 40 percent undervalued with respect to the U.S. dollar for many years in support of its export strategy. The undervalued Chinese currency serves the government's strategy of building powerful export markets rather than boosting its own domestic consumer market. Undervaluation takes market share and jobs from the United States by penalizing our exports. It subsidizes imports into this country while encouraging outward investments into the Chinese economy.

This is not free trade, nor is it the way the major economies of the world have agreed to behave. And the Chinese government's actions influence the monetary policies of other countries compounding our trade problems. The U.S. Treasury bi-annual currency reports acknowledge the fact that other nations mirror the Chinese government's behavior.

While addressing the Chinese government's currency manipulation is one of the highest priorities for workers and employers in the manufacturing sector, it is time to recognize the broader impact of China's practices. Lost manufacturing jobs lead to lost tax revenue and higher budget deficits that limit our ability to invest in our future. This puts substantial pressure on federal, state and local budgets, resulting in layoffs of teachers, police and other emergency responders. And it has undermined our future by undercutting the array of career choices and educational opportunities, especially in science, engineering and the technical occupations needed for a vibrant innovative manufacturing economy.

Taking action to end currency manipulation will generate jobs and investment in the U.S. economy. Nobel laureate Paul Krugman estimates an end to the manipulation would produce a net export gain to the United States, Europe and Japan amounting to about 1.5 percent of GDP, increasing growth in the U.S. economy by about $220 billion. The Peterson Institute and the Economic Policy Institute agree that a 25 percent to 40 percent revaluation in the renminbi would reduce the U.S. trade deficit between $100 billion and $150 billion per year, adding between 750,000 and 1 million jobs to American payrolls.

It is time for Congress and the Administration to act decisively to end currency manipulation and other illegal trade practices.

Taking Action: A Strategy for the Future

The juxtaposition of the world's two largest manufacturing economies could not be clearer. Our manufacturing economy has been in a decade long crisis, with the loss of more than 5.5 million jobs and the closure of more than 50,000 manufacturing facilities, a stunning loss of technical and industrial capacity. At the same time, China's manufacturing economy, fueled by massively subsidized domestic production and exports and policies discriminating against imports and foreign companies, experienced explosive growth.

While the economic crisis that began in 2007 has done massive damage to our country, the truth is that many of our economic problems have long-term roots in a generation of mistaken economic strategies. The Chinese government has a manufacturing strategy, and we do not. This is our problem, as well as that of the Chinese government. When the Chinese government engages in illegal actions in support of its manufacturing strategy and vision, we have done too little to challenge those actions. The Chinese government's indigenous innovation policy is a real concern, but it does not exist in a vacuum.

The AFL-CIO calls on our government to aggressively address the Chinese government's trade violations, as well as to establish our own strategic priorities and policies. We believe a healthy and robust manufacturing sector is central to a sustained economic recovery and to our national security.

In addition to the trade reform elements outlined above, the following elements are essential to a comprehensive program to restore domestic manufacturing:

- **A re-commitment to investment in infrastructure:** America's infrastructure needs—energy, roads, transit, bridges, rail, water, etc.—are huge. We have a $2.2 trillion infrastructure deficit, according to the American Society of Civil Engineers. Not only will spending here employ people right away, it will lay the foundation for economic growth in the future. And there is no conflict between more spending now and efforts to address fiscal imbalances down the road. Indeed, an improved America is the legacy we should leave to our children and grandchildren.

- **Tax policy:** Eliminate tax incentives and loopholes that encourage financial speculation rather than investment, outsourcing and off shoring production, and enact tax incentives for companies that produce domestically.

- **Energy:** Enact measures to encourage the deployment of renewable energy, advanced automotive technology and other clean energy technologies. This can be accomplished by expanding funding for 48(c), industrial efficiency projects, other policies to encourage development of renewable sources of electricity and by providing higher loan authority and additional funding for section 136, the Advanced Technology Vehicles Manufacturing Incentive Program. These efforts must be coupled with expanded utilization of domestic supply chains. We cannot simply trade dependence on foreign oil for a dependence on foreign sources of clean energy production equipment. Clean and green jobs must become a reality: America must not cede leadership of this industry to other nations. We must invest in these 21st century infrastructure technologies on a similar scale to our investment in replacing the failing infrastructure of the last century.

- **Innovation:** The United States continues to be the world's engine of innovation, but that lead is declining. More and more U.S. companies are moving their research and development laboratories overseas—especially to China. There is a direct correlation between R&D and production and we must protect our nation's innovative leadership. Doing so requires that we maintain strong intellectual property protections to ensure

that companies have the incentive to make investments in plant and equipment here at home. We must also increase efforts to fight the intellectual property right violations of competitors that seek to profit from the creativity of our people. Increased support for research and development in the United States, coupled with support for testing and deployment of those new technologies in our factories, will ensure that our manufacturing capabilities expand. More than 3/5ths percent of all U.S. patents are generated by our manufacturing sector and we must recognize that innovation and manufacturing capacity go hand in hand.

- **Workforce development policies:** America continues to have the best and most innovative workers To stay ahead of the competition, however, we must constantly upgrade our skills and training Revitalizing our manufacturing sector requires that we make investments in our people to ensure they are equipped to meet the needs of industry We cannot afford to have a skills deficit, which would only fuel a trade deficit Now is the time to renew and expand investments in our people Congress must increase access to training funds for people who are out of work as well as those seeking to enhance their skills Ultimately, a high-skills workforce must be one whose rights on the job and ability to speak up are protected and thus made real through strong labor laws and strong unions.

Economic security and national security are inextricably intertwined, and a strong manufacturing base is key to both. This Congress and the Administration have the opportunity to take steps to restore our nation's manufacturing capabilities.

The AFL-CIO, like the rest of the global labor movement, would like to see China become more prosperous, stable, and fair – but that can't happen if it continues on its current path of repression, dictatorship, and unfair trade practices. We need our own government to get its priorities straight with respect to China and our own economy, and we look forward to working with this Congress and the Administration to develop and implement appropriate policies.

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[i] USCC (2005), op.cit., p.97.
[ii] USCC (2005), op.cit., p.32.
[iii] USCC (2010), p.20
[iv] USCC (2005), op.cit., p.86.
[v] USCC (2005), ibid.
[vi] USCC (2005), ibid., p.85, 88.