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By

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Honorable Chairman Carper, Ranking Member Vitter and members of the Subcommittee:

I am Kris Singh, President and CEO of Holtec International, an energy technology company that I founded in 1986. Holtec International has major operation centers in Jupiter (Florida); Marlton (NJ); Pittsburgh (Pennsylvania); Orrville (Ohio); Lakeland (Florida); San Diego (California); and Kiev (Ukraine). Of these locations, the Lakeland (Florida); Orrville (Ohio); and Pittsburgh (Pennsylvania) sites host our manufacturing facilities where components and materials for the nuclear power industry are manufactured. Our manufacturing plant in Pittsburgh is one of the largest in the U.S. with all nuclear Code stamps and certifications for manufacturing nuclear power plant components.

It is my pleasure and my privilege to offer my perspectives to the subcommittee on the Nuclear Regulatory Commission with which we have extensive interactions in all aspects of our work. Our company maintains several active dockets with the NRC with a perpetual stream of ongoing licensing requests to certify our equipment designs which we then manufacture and sell to customers around the world. In particular, our company is a major supplier of capital goods and services for storing spent nuclear fuel to nuclear power plants in the U.S. and abroad. Much of what we do in the nuclear industry is subject to NRC's review and oversight. Our interface with the NRC is especially broad because our company not only designs but also manufactures its engineered equipment. We even manufacture certain specialty materials based on our patents in our own factories that are necessary for reactivity control in nuclear power plants and which require NRC's certification. A business unit in our company also performs site construction services at nuclear power plants under the regulatory gaze of the NRC. We are America's largest exporter of capital equipment to store and transport used nuclear fuel. In most cases the importing country, such as China, demands that custom-engineered equipment for their specific needs be licensed by the exporter's regulator, even if the equipment will not likely be used at a plant in the exporter's home country. For us, that means obtaining approval from the NRC for virtually all of our overseas-bound equipment. In fact, the foreign countries prize the stamp of approval by the NRC over any other national regulator. Those countries with significantly large economies and well developed domestic regulatory infrastructures view NRC's approval as the definitive endorsement of a product for their own use, which is an implicit recognition of the high caliber of regulatory work carried out by the NRC.

I note with some satisfaction that NRC's staff and management have visited our factories in Pittsburgh, Pennsylvania, and Lakeland, Florida on several occasions to obtain first-hand

knowledge of our manufacturing techniques and also to make their triennial *inspections* to evaluate the status of our regulatory compliance. I believe a tour of our factories by members of the NRC's organization invariably helps in connecting the effect of their regulatory policies and actions with the real hardware and the employment situation in the local communities where the factories are located. As I explain later, there is a strong nexus between NRC's policies with respect to their review priorities and the health of the nuclear equipment manufacturing segment of our economy. Explaining this nexus and recommending the measures that can be undertaken to improve the parlous state of the U.S. manufacturing base is a central element of my testimony to the subcommittee.

Plainly stated, those of us who export to foreign markets are severely handicapped by a lack of NRC policy giving priority to reviewing applications for export of capital equipment. Under their current process, the NRC gives the lowest priority in its review queue (work backlog) to licensing applications that are for export of equipment to foreign countries. This is precisely the opposite situation to our foreign rivals, who get the appropriate priority from their respective domestic regulators. Because most projects are time sensitive, our overseas customers are often reluctant to place orders with us knowing that our U.S. regulator will not prioritize our license application. If NRC gave appropriate priority to our applications for export equipment, we would benefit in the competitive bids because of NRC's platinum reputation for rigor and objectivity. Instead, our bidding effort is undermined in the eyes of the overseas customer. This situation is adverse to our national interest because we lose the bids that directly cost engineering and manufacturing jobs in America.

Anyone who visits the towns and communities where factories that once built equipment for America's and much of the world's nuclear plants knows the shriveling of our national manufacturing base that has been occurring. The decline was slow and decorous in the 90s, now it is steep and devastating, both in terms of our manufacturing base and manufacturing know-how. I agree with President Sarkozy of France, who said not too long ago, (I quote) "when manufacturing goes, everything goes". Well in America, manufacturing is going; it is going down fast and it is going down with a whimper. I would be remiss if I did not bring the irony of this sad debacle of custom manufacturing in our country to your attention, explained the underlying cause, and suggested measures that this subcommittee may take to help arrest the free fall.

Let us take a look at our government's admirable decision to provide loan guarantees for construction of new nuclear plants. The guarantee will undoubtedly spur construction of new nuclear plants. Unfortunately, however, the initial evidence suggests that the nuclear renaissance is likely to largely bypass the U.S. manufacturers of equipment. As matters stand today, most of the equipment for the new plants will be procured from overseas suppliers. Stated bluntly, American money will provide stimulus to overseas economies while American manufacturing withers. The giant multinationals that control large swaths of the U.S. nuclear industry, however, face no disincentive in carting off the manufacturing work to the foreign shores. The welders, fitters, and machinists numbering in tens of thousands – heirs to the men and women who built the ships, submarines, and planes during the second World War to protect our freedom – are deprived of the opportunity to practice their craft while the prime contractors hired to build our new nuclear plants scour overseas lands for the sweetest business deals. While the American

factories teeter on the brink of bankruptcy and dissolution for lack of work, the work goes to the home countries of the multinationals or to the countries that offer most sweeteners to the buyer. This situation exists in other areas of our economy as well which are outside of the scope of this subcommittee (such as solar energy), so I will not dwell on them here. However, I find the ongoing exclusion of the American manufacturers from the opportunities arising from the nuclear renaissance to be particularly galling. Who would have thought that President Eisenhower's Atom for Peace program that seeded nuclear know-how in Europe and made possible the rise of large nuclear companies in Europe and now in Asia, would, in a perverse irony, be the destroyer of American jobs for building America's own nuclear plants? The reason behind the ongoing export of American manufacturing jobs is twofold: First, the prime contractors for the new nuclear reactors, for the most part, are themselves foreign owned and controlled, and second, there is no regulatory disincentive to procure critical equipment from distant lands far away from the NRC's inspectorates.

The nuclear multinationals have benefited hugely from the technical know-how generated at our national laboratories and other research institutions, much of it funded by the NRC. Hundreds of codes, standards, and guidelines developed in the U.S. have made safe nuclear energy possible in all corners of the world. I hasten to add that a free and unfettered marketplace wherein every company competes on an equal footing is a fundamental strength of our economy. I don't advocate giving sheltered markets to our domestic companies such as our own but sadly, some of our putative international allies do. I am a firm believer in free and fair competition. But I also consider it patently fair that the companies that ship American jobs in the nuclear sector abroad should be sent to the back of the NRC's review queue when they file for license approvals from the NRC. At the present time, the situation is just the opposite: if a company goes to the NRC for licensing a component for export, its application goes to the back of the line. If a company – domestic or foreign owned – files a license application for use in the U.S., it goes to the front of the line even if the applicant intends to farm out all of the manufacturing work overseas. I humbly submit that a policy that does not take account of the livelihood of the American worker in an industry whose very existence owes to the generosity of the American taxpayer is a flawed policy. I believe setting NRC's application review policy to accord with our domestic employment objectives will give a business reason to those in the nuclear industry who view the continuing hemorrhaging of American manufacturing jobs nonchalantly, to begin thinking seriously about getting their nuclear plant hardware made in America.

The first of the five Principles of Good Regulation that guides the NRC is Independence. In my view, the NRC should be given very high marks for Independence. The guiding principles, however, also state that (I quote) "…independence does not imply isolation. All available facts must be sought from licensees and other interested members of the public…". In the spirit of this guidance and the second principle - Openness - I propose that the subcommittee establish a *Stakeholders Advisory Committee* that provides regular inputs to the NRC to enable the Commission to maintain the highest levels of adherence to its guiding principles and responsiveness to our strategic national objectives. A formal process may be created that enables a periodic feedback from the stakeholders to the Clean Air and Nuclear Safety Subcommittee on the recommendations of the Stakeholders Advisory Committee to the NRC.

Had such a stakeholder's committee existed today, I believe, it would have counseled the NRC on the need to be vigilant in upholding its standards on Reliability (the fifth principle) in the wake of the massive ongoing retirement of seasoned staff and recruitment of new replacement staff. There is widespread concern in the industry that the NRC's technical positions on some critical areas are drifting into a state of confusion. Such developments are inconsistent with the notion of Reliability, which (I quote) holds that "Once established, regulation should be perceived to be reliable and not unjustifiably in a state of transition." According to my colleagues in the industry ,the Stakeholders Advisory Committee would serve to interact with the Commission in other topical areas of industry interest such as timeliness of licensing, alleviating regulatory burden on construction activities, standardization of manufacturing requirements and the escalating cost of NRC review fees.

The above said, I also believe that, based on my decades of experience with regulators in different countries, the NRC is by far the best nuclear regulator in the world. We have been suitably impressed with the assiduous review of our application to store canisterized used fuel in underground silos which the NRC approved last year and which is a transformative technology for achieving the ultimate safety in on-site or away-from-reactor storage of spent fuel. Recently, the NRC also approved our patented nanotechnology-based neutron absorber that will make it possible for nuclear plants to transfer fuel from their pools to dry storage on a much faster schedule than is presently possible. Our new material is now ready to be used to speed up the defueling of pools, which has been identified by the NRC as a worthy safety initiative. Such groundbreaking licensing approvals are the unmistakable hallmark of a capable and effective regulator. My proposals in this testimony are accordingly intended to help the NRC become even better at realizing its mission and serving the public good. Continuous improvement in any organization is the only antidote to apathy and decline, and this dictum applies to the NRC as well.

In summary, I request the Subcommittee to consider the following:

1. Instruct the NRC to prioritize review of licensing applications based on the extent of manufacturing that will occur in the United States.
2. Establish a Stakeholders Advisory Committee to help provide input to the NRC leadership to help maintain a heightened adherence to the five Principles of Good Regulation, namely, Independence, Openness, Efficiency, Clarity, and Reliability. Alternatively, the NRC could seek stakeholder feedback in an ad hoc manner (without a formal advisory committee) on an annual basis and report to the Subcommittee.

Thank you for your valuable time and your audience.