

**PUBLIC HEARING for  
U.S. GENERALIZED SYSTEM OF REFERENCES (GSP)  
2011 ANNUAL REVIEW of PRODUCTS and  
COMPETITIVE NEED LIMITATION WAIVERS**

**Held at the U.S. International Trade Commission**

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**Testimony of:**

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Good afternoon, my name is Paul Doppel and I am the director of industry and government relations for the HVAC division of Mitsubishi Electric & Electronics USA. I appreciate the opportunity to appear before the Commission today to discuss the competitive needs limitation waiver that has been requested by Mitsubishi Electric and the Royal Thai Embassy.

I have worked in the HVAC field for 34 years and currently serve as chairman of the Ductless Product Section of the Air Conditioning Heating and Refrigeration Institute and chairman of the Variable Refrigerant Flow Technical Committee of American Society of Heating, Refrigerant and Air Conditioning Engineers (ASHRAE).

Mitsubishi Electric HVAC has been in the U.S. for over 30 years. Our company is located in Suwanee, Georgia and is an importer and distributor of air conditioning units and parts produced in Thailand by Mitsubishi Electric Consumer Products (MCP). We are a leading U.S. supplier of inverter-driven and variable refrigerant flow (VRF) ductless-split air conditioners and heat pumps that are manufactured in Japan and Thailand. We directly employ over 200 individuals and indirectly support an extensive network of distributors, contractors, engineers, and architects across all 50 states.

In January of this year, Mitsubishi Electric announced an expansion of our Gwinnett County HVAC operations that will incorporate laboratory testing facilities and is expected to double our current staffing levels.

It is important to note that the products coming in under this HTS category include parts for heat pumps, parts for automotive air conditioning, and evaporator coils, and others. However, inverter driven ductless systems are the primary focus of my discussion.

According to the Government of Thailand, the Thai HVAC industry consists of over 230 companies. MCP is one of the largest HVAC manufacturers in Thailand employing over 3,000 people directly and thousands more through its network of over 140 Thai suppliers. While MCP is a major producer of air conditioning parts in Thailand, it is not the only such facility. GSP benefits have played a significant role in growing the entire Thai HVAC industry and have helped Thailand compete against competition in China and other countries.

Of significant importance to the Thai economy is that the majority of suppliers to MCP are domestic Thai companies and the majority of the parts are of Thai origin. In addition, the Thai transportation sector is heavily involved in the movement of components from suppliers to MCP. Therefore, the total employer impact of the HVAC industry in Thailand is considerably larger than MCP.

Inverter driven ductless split systems manufactured in Thailand are extremely energy efficient -- approximately 95% of the products exported enable energy efficiency values ranging from 15 to 26 Seasonal Energy Efficiency Ratio (SEER). Currently the minimum standard is 13.<sup>1</sup>

The primary competition, for these systems, is room or window AC units that always operate under full-load conditions – the units are either fully on or fully off. Ductless split systems with inverter driven compressors are inherently more energy efficient than room air conditioners. The intelligence built into these systems, via the inverter technology, allows ductless split HVAC products to

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<sup>1</sup> The SEER is defined as the total cooling output (in British thermal units or Btu) provided by the unit during its normal annual usage period divided by its total energy input (in watt-hours) during the same period. (<http://www.eesi.org/fact-sheet-air-conditioner-efficiency-standards-seer>)

automatically adjust the compressor speed to precisely satisfy the heating or cooling requirements of the room without wasting energy.

The commission has been asked to consider the impact of the GSP waiver on the US industry and on U.S. consumers. The HVAC technologies manufactured in Thailand and imported by Mitsubishi Electric are a niche product in the U.S. representing less than 5% of the overall U.S. HVAC market. Thus, a waiver of the competitive needs limitation will not adversely affect a US industry.

Loss of GSP benefits will, however, adversely affect U.S. consumers. Inverter-driven ductless split HVAC systems represent a considerable investment for U.S. consumers and businesses. Loss of GSP would increase costs to American consumers that are considering purchase of these products and possibly shift purchases to competing producers from China, South Korea, or Mexico.

Inverter-driven ductless split technologies are far more prevalent in other regions of the world where space is often at a premium and the majority of structures are built without ducts. Inverter-driven ductless HVAC products are typically used as a supplemental source of heating or cooling or in rooms where there is no existing ductwork. They are ideal for renovations of older or historic buildings that do not have ductwork.

In the U.S. however, ducted, or central HVAC technologies dominate both the residential and commercial marketplaces. For comparison purposes, in 2010, about 300,000 of these types of systems were installed in the United States versus about 12 to 14 million other HVAC technologies.

Pricing among HVAC systems varies significantly. Central air HVAC systems price depends on the size of the building to be cooled and are the most common HVAC system in a significant majority of homes and buildings. Central system service an *entire structure*. Window or room AC units are generally the lowest cost – in many instances they are purchased for less than \$250. Inverter-driven split-systems, in contrast, are significantly more expensive, and at an entry level are priced at approximately \$2000 for AC only products (not heat pump).

In conclusion, given the importance of the HVAC industry to Thailand, loss of GSP benefits for this product would have an adverse impact on the Thai

economy and provide cost advantages to competing inverter-driven ductless-split manufacturers in other countries.

A loss of GSP benefits for HVAC products built in Thailand would have a direct negative impact on MEUS, and our extensive network of distributors, architects, engineers, and contractors, as well as US consumers and businesses that seek to purchase these highly energy efficient products.

Continuation of GSP benefits for imports under this HTS number from Thailand will not adversely affect a U.S. industry given that these products represent less than 5% market share.

Mitsubishi Electric appreciates your consideration of this request. I am happy to answer your questions.