

To: Department of Energy Office of Energy Efficiency & Renewable Energy
From: Richard Shanahan, Manager of Government & External Relations, Hitachi, Ltd.
Date: October 9, 2019
RE: Ex Parte Communication on Docket Number: USTR-2019-0015

On October 4, 2019, the Department of Energy's (DOE) Office of Energy Efficiency & Renewable Energy (EERE) held an ex parte meeting with Hitachi, Ltd. ("Hitachi") and Metglas, Inc. ("Metglas"), a subsidiary of Hitachi Metals America, Ltd. regarding Docket No. EERE-2019-BTSTD-0018 on energy efficiency standards for distribution transformers.

Participants

EERE

Dan Simmons, Assistant Secretary
Dan Cohen, Office of the General Counsel
Catherine Brady, EERE

Hitachi, Ltd.

Richard Shanahan, Manager of Government and External Relations

Metglas, Inc.

Dodd Smith, Consultant
Mahesh Sampat, Consultant

Summary of Issues Discussed

Mr. Smith provided EERE with an overview of Metglas's operations and market issues including: the process used to cast amorphous metals; the liquid-filled distribution transformer market in India, China, Mexico, Canada, and the U.S.; an instance of intellectual property theft in 2010 and the corresponding USITC case; and the company's economic outlook.

Mr. Sampat addressed a handful of industry concerns raised in response to EERE's Request For Information (RFI). While many comment letters noted that there have not been significant changes in the distribution transformers market since the 2013 rulemaking, Mr. Sampat corrected that false narrative by arguing that this period was marked by three notable changes: an increase in global availability of silicon and amorphous steel; an increase in the quality of worldwide steel; and new advances in amorphous steel, pioneered by Metglas.

The discussion then turned to efficiency standards. Metglas and Hitachi observed that EERE's previous rulemaking made clear that TSL-4 is the optimal level for consumers and utilities alike (i.e. it fosters competition between traditional silicon steel and amorphous steel producers, while delivering energy savings over a transformer's lifetime that utilities can pass on to consumers in savings). Members of the DOE Efficiency and Renewables Advisory Committee (ERAC) subcommittee, however, failed to reach a unanimous agreement for any level and DOE decided to set the level at TSL-1, even after concluding that TSL-2 withstood questions of capacity and quality.

Numerous questions were raised throughout the meeting including: state and utility interest in the increased use of amorphous steel distribution transformers; amorphous capacity in 2013 compared to 2019; concerns about rewinding older transformers; and the drawbacks/benefits of the previous rulemaking process.

Concerning capacity, Mr. Smith sought to dispel the notion that there was insufficient capacity in 2013, demonstrating that Metglas's capacity was more than sufficient then—as it is today. At present, Metglas alone could produce enough amorphous steel ribbon for 50% of U.S. liquid-immersed distribution transformers to be manufactured using the material. Including Hitachi Metals factories in Japan, Metglas and Hitachi group companies could produce enough amorphous steel ribbon to supply 100% of the U.S. market (currently amorphous steel transformers make up 2-4% of distribution transformers in the U.S.). More recent advances in Chinese amorphous steel ribbon, now similar in quality to Metglas's 1st generation ribbon, have further expanded capacity. (Note: Metglas recently unveiled 2nd generation amorphous steel technology which allows transformers to be reduced in size without compromising efficiency).

Regarding the issue of rewinding, Mr. Sampat noted that while a higher efficiency standard could result in utilities rewinding older transformers, these transformers would still have a low efficiency rate due to reuse of the 30-year old steel core.

Metglas also voiced concern about the rulemaking process's 100% consensus requirement, a well-intentioned but misguided condition that fostered fruitless deliberation instead of consensus.

To conclude the meeting, Metglas and Hitachi encouraged EERE to determine the correct TSL level by conducting a thorough review of the current market, researching average annual transformer loading, and gathering relevant information from utilities. Current field data indicates that the average annual load is well below the current 50% level, and an EERE-led analysis would be critical to determining the most advantageous TSL level.