

Patent Hearing Raises Stakes for Clean Energy Competitiveness

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The U.S. International Trade Commission is about to do something it hasn't done in a long time as it weighs a policy that could shape the future of the United States' clean energy industry.

The ITC has called two hearings set for Nov. 17 to weigh a possible import ban on a material used to develop more efficient lithium-ion batteries, the kind used in electric vehicles or large-scale energy storage. During the first hearing, attorneys for two European materials companies will hash out the finer points of contributory patent infringement and whether laches is a defense in a Section 337 action.

Section 337 of the Tariff Act prohibits unfair competition involving imports, including goods that are found to infringe valid patents, trademarks or copy rights.

It's the second hearing that's unusual. The ITC is opening the floor to business executives, academics, clean energy advocates and the U.S. Department of Energy to address how enforcing two patents — and thereby excluding the largest producer of a form of nickel-cobalt-manganese powder from the U.S. market — would affect the public interest.

Daniel Pearson, a senior fellow at the Cato Institute, said the last time he recalls the ITC convening a separate hearing on the public interest was when Broadcom Corp. was trying to exclude Qualcomm Technologies Inc.'s computer chips from the U.S. in 2007. Pearson was chairman of the commission at the time.

The ITC is required by statute to consider public health and welfare before imposing an exclusion order, he noted, but most IP disputes don't present anything so weighty as the competitiveness of U.S. clean energy. Thursday's hearing indicates the ITC is aware of the potential public impact "and is saying, 'OK, we'd better build a full record.'"

DOE frames it as protecting American jobs and preserving a decade of U.S. investment in clean energy. The department paid for half of a \$50 million plant in Ohio that manufactures the material under a license from the DOE's Argonne National Laboratory. If others are allowed to import a competing, infringing material, then the "DOE's ability to partner with universities and private industry to commercialize DOE-funded technologies and earn a return on investment for taxpayers" will be compromised, DOE general counsel Steven Croley said in a summary of testimony he plans to deliver next Thursday.

Umicore, the Brussels-based company that's accused of infringing Argonne's patents, claims its formulation of the powder is superior to the type being produced under Argonne's licensees, and that Umicore can supply more of it. At a minimum, other U.S. research institutions will be forced to restart years-long experiments on improving battery life if forced to change suppliers, Umicore contends.

Professors from Duke University and Georgetown University, plus Umicore's business partner 3M Co., are backing up that argument. "This disruption could set back innovation efforts and place the U.S. at a significant disadvantage," said Kip Frey, director of Duke University's Law and Entrepreneurship program, in his summary. Argonne should be seeking a royalty in federal court instead of gunning for an outright ban of the material, Frey says.

Feeding A Growing Industry

Argonne is a nonprofit research laboratory operated by the University of Chicago for the DOE. It obtained the two patents at issue in 2004. They disclose a complex structure for lithium metal oxide positive electrodes, also called cathodes, for use in lithium-ion batteries. Argonne's cathodes are more stable and provide longer battery life than the prior art, according to the patents.

Lithium-ion batteries have grown increasingly popular in everything from smartphones and laptops to power tools and electric vehicles, and the market has plenty of room to grow. "As electric vehicles and energy storage solutions become increasingly important to our lives, the demand for lithium ion batteries will only increase with time," is how Umicore's attorneys at Fish & Richardson put it in an ITC filing.

Foreseeing that opportunity, Germany's BASF Corp. bought a license to the Argonne patents in 2009. With the help of \$24 million in American Recovery and Reinvestment Act stimulus funds, BASF built a \$50 million plant in Elyria, Ohio, to manufacture the nickel-cobalt-manganese powder — known variously as NCM or NMC — that is a key component of the Argonne cathodes.

Umicore, meanwhile, is the global leader in NCM production, with about a 25 percent market share. Most of it is shipped to battery manufacturers in Asia, outside the reach of Argonne's patents. But the company also supplies more than 20 universities and private companies in the United States. The "primary purpose" of the U.S. shipments is further research into battery improvement, Umicore says, though BASF and Argonne challenge that claim.

Backed by Kirkland & Ellis, BASF and Argonne sued for patent infringement in both Delaware federal court and the ITC in February 2015. The Delaware proceedings have been stayed pending the ITC action. Umicore has tried to invalidate the patents at the U.S. Patent and Trademark Office, but the PTO ruled that they passed muster.

At the ITC, Administrative Law Judge Thomas Pender has called *In re the matter of certain lithium metal oxide cathode materials* "the most interesting case I've ever seen." He too ruled in favor of BASF and Argonne.

Pender found that Umicore commits contributory patent infringement when American customers use its material because there is no substantial use for it other than as part of the battery cathodes. Although Argonne allegedly knew about the infringement for many years before suing, the defense of laches is not available at the ITC, Pender ruled.

As for the public interest, Pender concluded that Umicore's material isn't used for genuine research so much as for testing commercial battery products. In any event, researchers can rely on six other suppliers properly licensed by Argonne, or they can use different electrode materials, as Tesla does, Pender ruled on March 3. "There is no evidence that Umicore's accused materials are indispensable to basic scientific research or that they are superior to alternative cathode materials," he concluded.

The Stakes For Clean Energy

Umicore's U.S. business partners and a handful of research scientists, business executives and technology consultants want to restart that debate before the six-member ITC next week.

3M and Greatbatch Inc., a manufacturer of medical device implants, say an exclusion order would set back the battery research they've been doing with Umicore materials. "An exclusion order will prompt research entities to consider withdrawing their research and development efforts related to NMC materials from the U.S.," 3M product development manager Kevin Eberman said in his written testimony.

"Domestic manufacturing of lithium-ion batteries requires consistent, regular access to state-of-the-art cathode materials," wrote Robert Hormats, a former under secretary for economic, energy and agricultural affairs who is now with consulting firm Kissinger Associates. "As is clear from recent issues with Samsung smartphones, ensuring that lithium-ion batteries operate properly and safely is of utmost concern."

Ruth Cox, an executive with clean energy developer Centauri Energy and formerly the senior sustainability officer for the U.S. General Services Administration, emphasizes that battery storage will be a critical component of clean power projects. An exclusion order would reduce "the technological and commercial options available in the U.S. for this key clean energy technology."

Not all of the testimony appears to be impartial. Umicore's expert witness, Christophe Pillot, is one of the 12 people scheduled to speak on behalf of Umicore. Another is a member of the same consulting firm.

BASF and Argonne will argue that BASF can produce enough NCM to meet all U.S. needs. Even if it can't, Argonne's other licensees, such as Nichia Corp. and Tanaka Chemical Corp. of Japan, can fill any gaps.

And the Department of Energy isn't about to let Umicore and its business partners "import, use and deploy DOE funded, patent-protected technologies without permission," Croley writes. Doing so "could have a chilling effect on DOE's technology transfer mission" and "its national laboratories' ability to support the U.S. innovation economy."

Morrison & Foerster partner Mark Whitaker, who appears regularly before the ITC but is not involved in this case, said he thinks Argonne's arguments may resonate. "Section 337 is a protectionist statute," he said. "It is there to protect U.S. market share. So the commissioners generally speaking will be guided by that principle."

If the commission does side with Argonne and BASF, Whitaker expects Umicore and its supporters to deluge the United States Trade Representative with similar requests to block any exclusion order.

Former ITC Commissioner Pearson said that whatever the commission decides, a case this controversial will likely be appealed to the U.S. Court of Appeals for the Federal Circuit. "And then," he said, "we'll go through it all again."