

# PUBLIC SUBMISSION

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**Docket:** PTO-C-2020-0055

Request for Comments on Discretion to Institute Trials Before the Patent Trial and Appeal Board

**Comment On:** PTO-C-2020-0055-0001

Discretion to Institute Trials Before the Patent Trial and Appeal Board

**Document:** PTO-C-2020-0055-0013

Comment from Tom Pierson.

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## Submitter Information

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## General Comment

I, Tom L. Pierson, am the inventor of US patents 6318065, 6470686, 6769258, RE44079 and RE44815. These patents motivated me to invest and start my company and create over 300 good paying manufacturing jobs in Houston Texas as well as bring an innovative solution that enabled gas turbines to economically generate up to 30 percent more power during peak hot weather demand periods. Without these patents and the protections it afforded, we would not have been able to attract enough investment capital to create this market.

In late 2016, we received the final response from the Patent Trial and Appeal Board (PTAB) that essentially invalidated all of our claims on the RE44815 patent. This particular patent was a continuation of the 3 previous patents & 1 reissue patent mentioned above which all dealt with Turbine Inlet Chilling (TIC). Some of the key claims, in particular those dealing with series chiller based claims, we believed were the strongest claims in our entire patent which had already been reviewed by not just a single patent examiner, but by at least 4 different examiners. In addition, the '815 patent had an extremely thorough listing of prior art spanning a page and a half with 85 references. Somehow the IPR panel was able to arrive at a conclusion that my invention was obvious when none of the prior examiners did so, nor was there any evidence whatsoever that any of this was obvious. I had been working in this niche field since the early 1980s and did the worlds first Turbine Inlet Chilling project in 1987 and yet it took me

another 12 years before I was able to perfect what I believed to be the ideal way of doing Turbine Inlet Chilling so it clearly was not “obvious” to me although most would consider me the foremost expert on this TIC market niche. In fact the record shows that the TIC industry was going in a completely different direction. For example, The Turbine Inlet Cooling Association (TICA) database shows that of all the utility TIC projects which involved Thermal Storage done prior to the 1999 patent date, all 9 projects used ice as a storage medium and did not use chilled water or a chiller at all, much less series chillers. After 1999 and the publication of my patent, every TIC/TES project switched from the use of ice to chilled water as the means of energy storage and the use of chillers instead of ammonia ice harvestors. The infringing competitor had been doing TIC by using ammonia direct to the coils for many years and switched to the patented method a few years after the invention.

As a direct result of the invalidation of our TIC patents, my former company (TAS Energy) which I founded in 1999 gave up on doing all of the TIC marketing efforts they had done for many years with the various US Utilities and Public Utility Commissions and as a result, there have been zero Turbine Inlet Chilling projects done in the US since that date. This has resulted in a loss of business to our company as well as even our infringing competitor as there is now no incentive to put forth the effort and cost to build this market when there is no way to protect that investment. As a result, I left TAS early this year and today do only real estate investing where I have a much stronger belief that my property rights will be better protected there than they were when I was an inventor. I hope future inventors don't suffer the same fate that I did and am hopeful the PTAB will correct the abuses rampant in the current IPR process.

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## **Attachments**

Letter to USPTO Commissioner on IPR Oct 5 2016

Letter to Congresswoman Sheila Jackson Lee RE IPR Process Oct 2016

Letter to Senator Thom Tillis RE IPR Process Sept 2019



Oct 5, 2016

USPTO Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
Attn: Commissioner Drew Hirshfeld

RE: Inter Partes Review (IPR) Process

Honorable Commissioner Hirshfeld,

The purpose of this letter is to provide feedback from a small business perspective related to the IPR process. My hope is that this feedback brings awareness and corrective actions to the IPR process to avoid the unintended consequences of deterring future innovation, business investment and U.S. based manufacturing job creation. I would be happy to discuss my feedback with you or members of your staff.

### **Background**

I am the inventor of US patents 6318065, 6470686, 6769258, RE44079 and RE44815. These patents motivated me to invest and start my company and create over 300 good paying manufacturing jobs in Houston Texas as well as bring an innovative solution that enabled gas turbines to economically generate up to 30 percent more power during peak hot weather demand periods. Without these patents and the protections it afforded, we would not have been able to attract enough investment capital to create this market. Additionally, other companies would most likely have taken my innovations and moved the manufacturing of these systems to Mexico, thus losing U.S manufacturing jobs

### **Recent PTAB Experience**

We recently received the final response from the Patent Trial and Appeal Board (PTAB) that essentially invalidated all of our claims on the RE44815 patent. This particular patent was a continuation of the 3 previous patents & 1 reissue patent mentioned above which all dealt with Turbine Inlet Chilling (TIC). Some of the key claims, in particular those dealing with series chiller based claims, we believed were the strongest claims in our entire patent which had already been reviewed by not just a single patent examiner, but by at least 4 different examiners. In addition, the '815 patent had an extremely thorough listing of prior art spanning a page and a half with 85 references. Somehow the IPR panel was able to arrive at a conclusion that my invention was obvious when none of the prior examiners did so, nor was there any evidence whatsoever that any of this was obvious. In fact the record shows that the TIC industry was going in a completely different direction

for years until my first patent issued which caused the entire TIC industry to shift toward my method<sup>1</sup>.

### **Patent and PTAB Objectives**

Retired Chief Federal Circuit Judge Randal Rader dubbed the PTAB a “death squad” for patents in an Oct 2013 speech. After having the unfortunate experience of having gone through this process, I wholeheartedly agree with his assessment. It is my understanding that this IPR process was put in place by Congress in the America Invents Act (AIA) in Sept 2011 as a means to curb the frivolous lawsuits that were being instigated by patent trolls. It was also intended that the IPR process would help to reduce patent litigation costs. Unfortunately, it looks like these good intentions are being obfuscated by this PTAB process which has the effective result of making all patents much less valuable, increasing the risk of litigation, and making litigation even more expensive than it was before. Especially in the case of small businesses that invest capital to pursue U.S. patents with the objective of creating good paying U.S. manufacturing jobs, the risk and expense of the PTAB process is clearly a deterrent to those positive objectives. The worse part of all, at least from an inventor’s point of view, is it undermines the credibility and value of the entire patent process. I certainly have no desire to pursue any more patents in the future nor would I recommend that other inventors do so either. Instead they are far better off to maintain trade secrets as confidentially as they can rather than rely on the value of patent protection. The current system now skews the justice system much further toward infringers rights at the expense of original inventors and it especially benefits larger companies over smaller less capitalized companies. More than anything this IPR process really benefits the legal profession most of all.

### **Small Business Impact**

My company, TAS Energy, has spent in excess of \$1.5 million in legal fees just on this IPR process alone (does not count any of the costs incurred to actually get any of the patents or any other litigation expense). This is money that cannot be used to hire employees, grow a business or create new technology. Even after spending this much money, there is no way to know beforehand as to whether a patent will be worth anything at the end of this IPR process or whether even defending a patent is a good use of valuable funds. While we at TAS and our attorneys completely disagree with the conclusions that the IPR panel arrived at during their ‘815 decision and we were quite surprised by the decision and lack of legal grounds or logical arguments given, we don’t believe there is any

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<sup>1</sup> The Turbine Inlet Cooling Association (TICA) database shows that of all the utility TIC projects which involved Thermal Storage done prior to the 1999 patent date, all 9 projects used ice as a storage medium and did not use chilled water or a chiller at all, much less series chillers. After 1999, every TIC/ TES project switched from the use of ice to chilled water as the means of energy storage and the use of chillers instead of ammonia ice harvestors. The infringing competitor had been doing TIC by using ammonia direct to the coils for years and switched to the patented method a few years after the invention.

value in filing an appeal and continuing to waste precious capital on such an unproductive and unpredictable process.

Without the benefit of any type of property rights, we are unwilling to invest in promoting the TIC market as we have in the past. This will have the unfortunate result that there will be less projects done overall in the future as the project development function is critical to getting new technologies into the market. Even worse, I am advised by our legal team that we could become the target of a countersuit by our infringing competitor for a Walker Process Antitrust Claim and we run the risk of actually having to pay the legal costs of our competitor as well as our own (which we estimate may be in the \$3-5 mill range, not including our own legal costs). This is unbelievable to me. With this type of risk exposure, why would anyone want to pursue a patent, especially when the likelihood of it holding up in a future IPR review is skewed so strongly against the patent holder? The PTAB's own statistics clearly show how much the IPR process favors the alleged infringers at this point since they win the majority of the cases brought before the PTAB<sup>2</sup>. Something is clearly wrong with the patent process when getting a patent may now be considered a liability, rather than an asset, with no sure way to know in advance which of these cases is true (certainly common sense, logic and fairness are not good guides for making these determinations).

### Summary

In summary, I had always assumed the patent process was relatively fair and protected inventor's rights to foster innovation in our society. The USPTO website states that it *"fulfills the mandate of Article I, Section 8, Clause 8, of the Constitution that the legislative branch "promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."* It goes on to state *"New products have been invented, new uses for old ones discovered, and employment opportunities created for millions of Americans. The strength and vitality of the U.S. economy depends directly on effective mechanisms that protect new ideas and investments in innovation and creativity. The continued demand for patents and trademarks underscores the ingenuity of American inventors and entrepreneurs."* Having now gone through the entire IPR process, I can assure you that from an inventor's point of view this IPR process is absolutely contrary to the mandate described above. However it is difficult for people who haven't been exposed to this process to realize just how bad it really is. The allowance of hindsight bias combined with the power of internet keyword searches makes virtually everything obvious when infringers are allowed to reverse engineer a patent claim and then find any combination of prior art which might be construed to be a possible combination and then claim such possibility is now "obvious". I now consider ALL of our 11 patents to be practically worthless as well as most all of the other patents I have read in the past by other inventors. It doesn't seem right that the USPTO can collect fees when issuing patents and then collect even more fees when it determines that it made a mistake in issuing a patent in the first place. A

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<sup>2</sup> As of 7/31/2016 of the 51% of IPR trials that were instituted, 62.5% of those went to trial and of those the PTAB invalidated ALL of the claims in 70.3% of the cases and they invalidated some of the claims in 14.5% of the cases with only 15 % of the patents emerging from the IPR trial fully intact.

former top USPTO official recently characterized the current system this way “*We have an enterprise, the USPTO, that has 8,000 employees creating a product (ie patents) and has 300 employees destroying the same product in contested proceedings*”. Meanwhile companies that have been relying on their IP rights and the integrity of the patent process to justify their investment in developing new technologies and building market acceptance around their technology only to find out years later (assuming their technology becomes successful in the market) that competitors can get a free ride simply by infringing at will then filing an IPR to nullify the patent. Conversely the patent owners get the burden of spending millions of additional dollars defending those patents only to find out very late in the process that in fact the patent office has changed its mind and now decided after the fact that those patents should never have been issued. This destroys confidence in the entire patent process. It is unlikely this is what Congress intended with the America Invents Act but unfortunately that seems to be what has happened.

Regards,



Tom L. Pierson  
Founder & Chief Technology Officer  
TAS Energy

cc: Congressman Pete Olson  
cc: Congresswoman Sheila Jackson Lee  
cc: Ken Parker, HaynesBoone  
cc: Jonathan Pierce, Porter Hedges



Turbine Inlet Chilling/Generation Storage  
Turbine Inlet Chilling  
Modular Utility Systems  
Waste Heat/Geothermal

Oct 6, 2016

Congresswoman Sheila Jackson Lee  
2252 Rayburn HOB  
Washington, DC 20515

RE: US Patent Office IPR Process  
TAS Energy Patents

Dear Congresswoman Lee,

I have attached a copy of a letter that I sent to the US Patent Commissioner explaining the challenges that are posed to small businesses such as TAS Energy by the US Patent and Trademark Office (USPTO) interpretation of the America Invents Act (AIA). My letter goes into detail about these challenges but essentially the USPTO has created this Inter Partes Review (IPR) process which is conducted by a panel from the Patent Trial & Appeal Board (PTAB) at the USPTO. This IPR process is in response to AIA which now makes it very easy for patents to be invalidated by infringers thus making the entire purpose of the patent process of questionable value to inventors or to investors who might back these ventures.

As you know, TAS Energy is a company that I founded in Houston, TX whose primary purpose was to create a business around Turbine Inlet Chilling (TIC). Since our founding in 1999 we have created over 300 direct jobs here at 6110 Cullen in Houston and multiple times more jobs through the large amount of outside purchases we make in the creation of our products which are sold worldwide. We appreciate your support in the past when you joined me at the White House on Nov 5, 2009 where US Secretary of Commerce, Gary Locke presented TAS with the President's E Award for Export Excellence (which we won again for a second time in 2012).



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We also greatly enjoyed your visit at TAS along with Nancy Sutley, Chairwoman of the White House Council on Environmental Quality<sup>1</sup> June 28, 2011 (1).

I am the founder of TAS and the original inventor of our patented TIC process and have 5 patents to protect some of our key IP in the power generation market. Having this patent protection allowed TAS to attract investment capital to create these new products and to develop the TIC market and bring manufacturing jobs to the inner city of Houston. All of this is now in jeopardy with this unexpected PTAB decision which essentially invalidates all our key TIC patents. This IPR process is relatively new since it was created about a year after the AIA passed Congress in Sept 2011. I was not even aware of it until one of our competitors started using it against us to nullify our patents. While the original intention of Congress was to reduce the amount of frivolous litigation lawsuits filed by patent trolls (ie Non-Practicing Entities), it is unfortunately being used to invalidate the majority of patents including those of inventors who created the inventions and whose companies are actively building products based on these patents<sup>2</sup>. This will put a severe damper on the value of patents and on an inventor's ability to get financing to enable them to create businesses based on their patented concepts.

I respectfully request that your office followup with USPTO Commissioner Drew Hirshfeld to insure that he has received my letter and read it. It would be very helpful if you were able to convey to Commissioner Hirshfeld that it was not Congress' intent to have an IPR process that was actively hostile to otherwise valid patents and to the inventors of those patents. I have absolutely no interest in pursuing any more patents in the future or to spend any more money protecting the patents we already have as I now view this as a very wasteful use of valuable capital with no way to recoup that investment. I would very much like to discuss this in more detail with your office or with the USPTO so that you can fully appreciate how this IPR process impacts US small business and job creation in a very negative way.

Sincerely,



Tom L. Pierson  
Founder & Chief Technology Officer  
TAS Energy

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<sup>1</sup> <https://www.whitehouse.gov/blog/2011/07/26/voice-innovator-were-hiring>

<sup>2</sup> The PTAB invalidated all claims of a patent in 71.8% of the trials against operating companies. That percentage escalates only slightly to 74.7% of the trials against patent trolls in which are all the claims invalidated. In other words there is only a 3% difference in patents that are totally invalidated by patent trolls vs actual practicing companies with the PTAB ruling against patent owners the vast majority of the time in either case.





Turbine Inlet Chilling/Generation Storage  
Turbine Inlet Chilling  
Modular Utility Systems  
Waste Heat/Geothermal

Sept 9, 2019

The Honorable Thom Tillis, Chairman  
Subcommittee on Intellectual Property  
Committee on the Judiciary  
U.S. Senate  
224 Dirksen Senate Office Building  
Washington, D.C. 20515

RE: PTAB IPR Process is Killing Small Business IP Rights

Dear Senator Tillis,

I have attached a copy of a letter that I sent to the US Patent Commissioner explaining the challenges that are posed to small businesses such as TAS Energy by the US Patent and Trademark Office (USPTO) interpretation of the America Invents Act (AIA). My letter goes into detail about these challenges but essentially the USPTO has created this Inter Partes Review (IPR) process which is conducted by a panel from the Patent Trial & Appeal Board (PTAB) at the USPTO. This IPR process is in response to AIA which now makes it very easy for patents to be invalidated by infringers thus making the entire purpose of the patent process of questionable value to inventors or to investors who might back these ventures.

TAS Energy is a company that I founded in Houston, TX whose primary purpose was to create a business around Turbine Inlet Chilling (TIC) for the large scale power generation business. Since our founding in 1999 we have created over 500 direct jobs here in Houston and multiple times more jobs through the large amount of outside purchases we make in the creation of our products which are sold worldwide and as a result TAS was the recipient of multiple E Awards from the US Dept of Commerce for its export achievements. I am the original inventor of our patented TIC process and have 5 patents to protect some of our key IP in that power market. Having this patent protection allowed TAS to attract investment capital to create these new products and to develop the TIC market. All of this was put at risk with an unexpected PTAB decision which essentially invalidated all our key TIC patents. This IPR process is relatively new since it was created about a year after the AIA passed Congress in Sept 2011. I was not even aware of it until one of our competitors started using it against us to nullify our patents. While the original intention of Congress was to reduce the amount of frivolous litigation lawsuits filed by patent trolls (ie Non-Practicing Entities), it is unfortunately being used to invalidate the majority of patents including those of inventors who created the inventions and whose companies are actively building products based on

these patents<sup>1</sup>. This will put a severe damper on the value of patents and on an inventor's ability to get financing to enable them to create businesses based on their patented concepts.

Our company spent well over \$2 mill on our PTAB patent defense and we estimate our competitor spent about 2 to 3 times that amount. In addition to the extremely high cost for defending these patents, the uncertainty that it introduces and the distraction that these IPRs require of inventors and business owners makes the future value of ALL patents of questionable and possibly even negative value. The fact that nobody could predict with any accuracy whatsoever how the PTAB would rule in our case (even after 2 years and several million \$ had been spent researching this issue) is proof positive that there is no way a patent owner can feel confident their patent would hold up in an IPR proceeding. The mathematical odds are certainly slanted against inventors almost 3 to 1. Incidentally, it is interesting to note that since the PTAB ruled negatively against our TIC patents back in 2016 there have been no new TIC projects go forward in the USA since that time. Now that we no longer have any IP protection, our company has elected not to spend the money necessary to go out and create this market...without the market development efforts which are needed to create these TIC market opportunities there is no project for anyone to bid on. So in our case, everyone was a loser with the exception of the patent litigation attorneys...the losers included the public (rate payers), the competitive utilities, and the TIC industry which includes our competitor who also has not won a single US TIC project since that time as without TAS doing the project development work there was nothing for them to bid. TAS has survived only by moving into entirely different businesses which did not require the need for patents or IP protection (instead we now rely primarily on trade secrets, confidentiality and partnerships).

As a Houston inventor I am encouraged to hear that Congress is addressing the abuses which have been rampant since the introduction of the PTAB process. I was recently on a panel of inventors and IP Judges and was surprised to learn that many new US startups are actually going to China to have their inventions patented rather than the US as they felt they had more protections there than here. I would very much like to discuss this in more detail with your office or with the USPTO so that you can fully appreciate how this IPR process impacts US small business and job creation in a very negative way.

Sincerely,



Tom L. Pierson

Founder & Chief Technology Officer  
TAS Energy

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<sup>1</sup> The PTAB invalidated all claims of a patent in 71.8% of the trials against operating companies. That percentage escalates only slightly to 74.7% of the trials against patent trolls in which are all the claims invalidated. In other words there is only a 3% difference in patents that are totally invalidated by patent trolls vs actual practicing companies with the PTAB ruling against patent owners the vast majority of the time in either case.