

## Will Turbine OEM Certified ISPs be The Future of O&M?

by Philip Totaro, CEO of Totaro & Associates [www.totaro-associates.com](http://www.totaro-associates.com)

The current shift of wind turbine OEMs into providing more services has been the result of a need to replenish the revenue drop-off from recent lagging turbine sales, as well as a desire to regulate the services being performed on their turbine fleets.

As companies look for ways to monetize services, we see a technological push into areas such as SCADA and/or Condition Monitoring data analysis for damage accumulation, prediction of remaining useful life, predictive maintenance scheduling, spare parts scheduling, and energy output optimization taking component life consumption into consideration.

The proprietary intellectual property rights (IPR) which OEMs and other key service providers in the industry secure on these technologies serve a purpose of enjoining others from duplicating that technology. Infringement of those rights could be met with legal consequences and monetary awards.

Even though IPR are largely thought of as a legal tool as described above, the commercial implications of IPR infringement can be far more costly. While litigation has been used as a tool for achieving commercial goals in the past, such as preventing competitors from gaining market share, the unfortunate net result of past IPR litigation for turbine purchasers has been a constricted supply chain with higher prices and a reduced selection of 'bankable' turbines.

### Costs Related to Recent GE vs MHI IPR Litigation

Litigation Expenditure	~\$8 – 9M
Legal Damage Award	~\$170M
MHI License / Other Fees to Wilkins	~2.5M
Estimated MHI Commercial Loss	~\$2B
Cost of Freedom to Operate	\$50 – 100k

Table 1 – Example of Commercial Implications of IPR

Nowadays we see a shift away from this model of IPR litigation to one in which IPR are manifesting themselves in contractual obligations of turbine supply agreements (TSA) and OEM provided long-term service agreements (LTSA). As a result, there are several considerations for turbine purchasers and independent service providers (ISPs) to consider when engaging in fleet O&M or spares scheduling.

The TSA executed between the OEM and turbine purchaser provides the purchaser with usage rights to that OEM's technology and IPR. During the warranty period, this 'use license' and other contractual clauses preclude the turbine purchaser from activities such as reverse engineering and/or making spare parts (or having them made through sub-contract) based on OEM designs, unless the OEM is unable to supply or they give explicit permission to sub-component suppliers to provide spares direct to customers.

However, the 'use license' for the IPR of the OEM survives the warranty period and the OEMs still retain some control over services and spares due to the patent protection they may hold on key components. This could mean that replacement of key components by the fleet management team of the turbine owners or their sub-contracted ISPs could violate these patents and contractual obligations.

Additionally, we see OEMs gaining negotiating leverage during TSA discussions and now with LTSAs due to the number of patents and the scope of technology claimed in them. Some OEMs who believe they 'own' key technologies, such as those on services and spares described above are unwilling to provide licenses to key competitors or turbine purchasers unless turbines and services are supplied by that OEM.

While OEM provided services may present a good option for some wind farm owners / operators, they can often be significantly more expensive than having their own fleet management team perform service or third party ISPs competitively bid for service contracts. OEM provided service agreements which are negotiated based on the strength of their IPR precludes competitive bidding, just as threats to turbine OEM market share resulted in reduced competition.

There is a corollary to this from the automotive sector. Car makers have used IPR to enjoin independent repair service providers from working on the car maker's vehicles. The car makers have developed unique design features on spare parts which force repair mechanics to obtain expensive, specialized tools and training to perform work on the vehicles.

They are also using copyrights on the readouts of the Onboard Diagnostics system (OBD II) to ensure repair mechanics. The result is more consumers are cajoled into using more expensive dealer-based repair services, because independent providers are fearful of legal ramifications to subverting the IPR of the car makers.

*Automakers have used copyright to lock up diagnostic codes and information concerning onboard computers. The end result is that car owners are often forced to go to dealers (who are expensive) over independent car repair shops.*

*Independent repair shops who circumvent the digital locks on car computers may be found to be violating the [Digital Millennium Copyright Act] DMCA's anti-circumvention clause. As we've noted, this seems like a clear abuse of the DMCA, as it was clearly not designed for such a purpose.*

*Attempts to fix this with "right to repair" legislation have mostly gone nowhere (automakers are powerful lobbyists, and the entertainment industry also doesn't want anything that weakens the anti-circumvention clause).*

*by Mike Masnick, Mon, Feb 11th 2013 at [TechDirt](#)*

...

*Some vehicles have been designed so that even simple things like replacing a headlight lamp require special (read proprietary) tools that only dealerships have.*

*by RyanNerd, Feb 12th, 2013, comment to article above.*

Similarly, a wind farm owner / operator has an obligation to ensure any technology they use or any services they employ does not violate IPR of others. Typically, this is dealt with in the TSA or LTSA by having the turbine vendor or an ISP provide indemnity from patent infringement liability.

But what most owners / operators do not realize is that turbine OEMs are unwilling to provide full indemnity to turbine purchasers in an effort to shift the risk associated with patent litigation away from themselves. They seek and obtain full indemnity from sub-component suppliers, but do not offer it themselves. This discrepancy opens owners / operators to legal and commercial risk in the event one of their key suppliers of turbines or services is sued for IPR infringement.

Additionally, sometimes the wind farm owner / operator mandates that certain technical capabilities are incorporated into the wind farm without realizing that those capabilities may be proprietary technology of another OEM or service provider. Technologies such as remote monitoring and inspection fall into this category, with key patents already held.

OEMs are of course reticent to engage in IPR litigation against turbine purchasers because they would damage their commercial sales opportunities if they did. So the litigation we have seen in the past has been one turbine vendor against another. We suspect that while turbine OEMs could target ISPs with threats of IP litigation, the likelihood of that is low, even in the current market climate where the threat of IP litigation looms.



*Figure 1 - Market Conditions Increasing IPR Risks for Turbine Purchasers and ISPs*

Litigation is often used as a measure of last resort, when commercial means to ensure revenue streams are exhausted. In the scenarios highlighted above, technology and IPR licensing may not be possible, since OEMs want to use those proprietary rights on key technologies to enjoin competitors from turbine sales or ISPs from service contracts. Unfortunately, when this happens, the costs rise for wind farm owners.

Nevertheless, these challenges can be dealt with and it is possible to navigate around IPR. Presently, wind farm owners / operators, OEMs and even ISPs share in the responsibility to ensure proprietary technologies are not utilized without adequate license rights. The cost of proactive investigation on IPR may seem prohibitive, but it pales in comparison to the avoidable commercial losses and public relations headaches which would otherwise ensue.

As services continue to represent a larger financial impact for OEMs, we expect tactics utilized in other industries, like certification of ISPs, to become standard practice so IPR owners can monetize those rights.