OEM vs. Third Party Debate

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Publisher:
Pumps & Systems

Date Published:
May, 2006

In the March issue of *Pumps & Systems*, contributing editor Ross McKay offered his opinion on "The Impeller – Casing Partnership." Bob Bluse, president of Pump Service Consulting, Inc. and George Harris, president of Hydro, Inc., contributed opposing opinions which were published in the May issue of *Pumps & Systems*.

After reading "The Impeller – Casing Partnership" column by Ross Mackay (Let's Get Practical, March 2006), I took away a sense that if you do not buy your pump parts – especially impellers and casings – from the OEM, pump owners are headed for trouble. This opinion / perception would have been universally accepted 20 or more years ago. However, it is far from the reality that exists in the pump parts business today.

Let's consider the more current situation. Ross mentions that "the success of this practice will depend to a great extend on the expertise and capability of the supplier in question." This is a true statement, but it should also apply to OEMs and not just third-party parts suppliers (replicators). Current trends in the OEM business model indicate they no longer make their own parts: they just provide the administrative processing dynamics of supplying parts. They have sold or shutdown their foundries, manufacture offshore, source to the lowest price provider, and sparingly participate in the QA/QC component of manufactured parts.

Some third-party parts suppliers (replicators) have improved their capability by investing in current technology such as CMM, CFD, Faro-Arms, materials analyzers, rapid prototyping, test capability, etc. They have added resources (engineers, technicians, craftspeople) to their organizations to use this technology and increase their capabilities in hydraulic design, metallurgy, and quality, while still providing a competitive price and delivery. This resource has come from the OEMs due to the large scale consolidations in the pump industry and closure of foundries in North America, bringing with them years of experience and knowledge.

Some third-party parts suppliers have their own foundry and pattern shop onsite, enabling more consistent process execution (quality/deliver) through the entire process of manufacturing cast pump parts. Isn't it ironic that a few of the major pump OEMs have purchased third-party parts suppliers (replicators) in the past years? That's something to think about!

Ross also mentions that "when they (impellers/casings) need to be replaced, make sure you get full value from the original hydraulic design – that is only available from the pump OEM." How likely is that, by the time you have to replace the impeller or casing, the original hydraulic design is consistent with current system performance and requirements?

Cast components are usually the last parts of a pump to wear out, taking years of operation for them to warrant replacement. During this time, the system degrades, process conditions change, and changing demands in process system performance require consideration of doing something different, rather than going back to the original hydraulic design.

Additionally, repairs, upgrades, and retrofits made to the pump by owners and pump service companies result in changes which seldom find their way back to the OEM original pump Bill of Material, resulting in a record that is not accurate and likely not to provide the best hydraulic solution. The result of this collective activity makes a "moving target" of the value of the original hydraulic design and who really is the OEM.

Suffice it to say that achieving optimal pump hydraulic performance is more challenging today than in the past. However, the resources to do so are also more plentiful and more available than they have been in the past.

The OEM/third-party parts supplier (replicator) debate will continue, but the changes in the pumps parts business landscape have reduced the capability and performance gap between OEMs and third-party parts suppliers. This competitive environment presents great opportunities for pump owners and users that did not exist previously and offers them a choice in terms of "getting practical" when selecting their pump parts supplier to optimize pump performance.

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Upon review of "The Impeller – Casing Partnership" column by Ross Mackay, we wish to further clarify our position. We cannot agree with his statement that "users need to hesitate to purchase an impeller or pump casing from anyone other than a pump OEM." This statement should be prefaced by the words "in my opinion," because, surely, this is an opinion and not fact.

My company is able to produce the same impeller with the same hydraulic performance range as the OEM impeller. We use coordinate measuring machines that measure an existing impeller's tolerances

to 0.0001-in. This tolerance is much more precise than the tolerance to which the original casting was produced. Therefore, we can precisely duplicate the original design, if this is the customer's requirement. We can also do design and manufacture impellers for improved performance.

That we have grown into the largest independent pump rebuilder is a testament to our engineering and design capability. While we are not a parts supplier per se, we do of course reverse engineer and manufacture parts and impellers as a part of our repair and engineering upgrade process. We have a proven track record of producing impellers that meet or exceed the original design.

As an example, I would like to cite the 11-stage Pacific barrel pump used in charging pump service in nuclear power plants. We reverse-engineered and improved upon the original hydraulic design, while meeting very exacting performance requirements over the full range of the pump curve. We have provided this impeller to a number of plants. All of these pumps were performance tested and certified performance curves produces.

The art and science of producing pumps has existed for a long time. It does not seem helpful to me to suggest that there are some secret formulas for producing pumps that only OEMs possess. While I would certainly agree that not all replicators produce quality parts, I cannot agree with Ross' assertion that pump impellers and casings should only be purchased from the OEM.

We have worked for 36 years to build our reputation on quality. Why suggest that all parts suppliers must operate under a cloud of suspicion, when surely each case must be evaluated on its own merit?

We appreciate being given the opportunity to present another point of view. I am sure many readers have, at times, been disappointed by both OEM and third-party parts suppliers. I believe it is important to treat this subject in an open and unbiased way.

In the case of critical engineered pump parts, perhaps the more helpful conversation would be to focus on criteria for evaluating your third party supplier. Do they have in-house engineering? Do they employ state-of-the-art technology? Do they have in-house hydraulic design experts? Do they have a quality program? If required, can they test the pump and provide certified performance curves? And so on.

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Link:
http://www.hydroinc.com/sites/default/files/P-S-May06.pdf