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Working with a Fabricator

Suggestions for the exceptional project outcomes
when buying chemical process equipment

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Working with a Fabricator

It can be a daunting task when a chemical company has the need for fabricators to provide a quote for a piece of process equipment. And it can equally be challenging for the fabricator to determine exactly what the customer is asking for. Ultimately, the goal of the fabricator is to sell the equipment, keep the customer satisfied and make a profit, while the goal of the customer is to obtain the lowest cost equipment that will meet the specifications and have a long service life. The challenge is marrying these two together and making sure that what is fabricated is what the customer thinks they purchased – and what they actually need. Nothing like fabricating and then delivering a piece of equipment and finding out that it doesn't fit or the customer says it's not what they thought they ordered.



The key is that the chemical company and the fabricator need to work WITH each other not AGAINST each other -- as a TEAM to get the job completed. COMMUNICATION is essential.

The first step in the procurement process is when the chemical company determines that a piece of equipment is required. Is this piece of equipment a replacement, is it a "upgrade" in material or design, is it a repair of damaged areas or is it a totally new piece of equipment for a new process? How familiar is management and purchasing with these perceived needs and how detailed are the engineering requirements?



Chemical Company engineers are involved in the design of the equipment and the development of specifications that ensure that the equipment works in the specific application. Purchasing Managers get involved to interact with the fabricator to finalize the cost for the equipment and the terms of sale. These interactions may be quick, or may require multiple iterations of back and forth Q&A between the fabricator

and the chemical company – all to ensure that the equipment is designed and fabricated as specified.

During this stage, the chemical company engineers may also need to interact with a fabricator's engineering, metallurgist and/or corrosion expert, to ensure that the Material of Construction (MOC) will meet the process requirements and that the design can be cost-effectively fabricated, while meeting all National and local codes of construction. Often overlooked at this stage is the need to understand all of the chemical components that are in the process stream, as some trace or tramp chemicals may dramatically influence the corrosion resistance of the MOC chosen for the equipment. Some fabricators may have this capability while there are many who do not. This is a key point in determining which

fabricator to work with on the total project – a fabricator who can provide engineering support from the start of the project to the completed fabrication.



On materials of construction, even in today's global economy, the country of origin for the material may be highly important. While an approved vendor list (AVL) for materials may be included with all inquiry packages, this should not be too restrictive and should allow the fabricator to work with his own material vendors, as long as the fabricator has vetted them in detail. Too many restrictions on material sources can result in higher costs and much longer lead times.

A chemical company doesn't want to waste their time requesting a quote from just any fabricator. Their purchasing and engineering staff should ask themselves these questions to determine which fabricators to ask for a quotation: Have we worked with this fabricator before? Does this fabricator have the capability to handle this fabrication – due to size, weight or material of construction? Is the fabricator easy to work with on possible modifications? Does the fabricator have world-wide sourcing for materials to afford the best possible pricing for the project? Does the fabricator have a single point of contact for a project – to allow for timely and accurate communications on the status of the project? What is the fabricator's track record in on-time delivery and quality of the fabrication?

All applicable specifications need to be included in the Quote package. If a specification is not applicable (like a pipe spec in a vessel inquiry), then don't send it with the Request for Quotation. Every specification sent in the Quote package needs to be applicable to the particular fabrication to be purchased.

The chemical company needs to allow the fabricator enough time to develop an accurate, best price quotation, since some engineering must be done as well as development of cost of materials and labor. Once the quotation is received, chemical company engineers and purchasing must: (1) conduct a proper evaluation of all the quotes, ensuring that each fabricator actually quoted to the specification and (2) check to see if the fabricator offered options which might be less expensive or better overall design. This will ensure that the decision on which fabricator to use is in the chemical company's best interest. Ultimately, remember that the lowest price is not always the lowest cost.

Now that the fabricator has been chosen, what next? The dust settles and the drawing cycle is completed, with signoff by the chemical company's engineer and the equipment is released for fabrication. Now the challenge falls on the fabricators shop management and personnel to again review all documents and prepare a plan for fabrication.





However, prior to the start of any fabrication, a “pre-fab” meeting (in-person or virtual) should be set up between the chemical company’s qualified personnel and the fabricator’s engineering and project management. During this meeting, all documentation should be reviewed, and information on material availability and delivery schedule, the fabrication schedule, and the inspection and test plan (witness and hold points) need to be clarified. Welder qualifications and weld procedures (PQRs and WPSs) should also be reviewed and the fabricator should be allowed to work with any approved welding procedures. Any changes to the fabricator’s weld procedures here will result in increased costs and possible delays in the project. Additional delivery requirements should also be addressed and finalized at this time.

If there are changes needed to the equipment during fabrication, such as movement of nozzles, a formal, written change order must be communicated to the fabricator in a timely manner. This may involve some discussion between the engineers of each company and all decisions should be noted

and signed off by both the fabricator and the chemical company. The chemical company Purchasing should also be notified as these changes will most probably result in changes in the cost of the project.

When the equipment is finally completed and ready for inspection, that inspection should take place at the fabricators shop, prior to shipment, to ensure that the equipment meets all requirements and to eliminate any unnecessary additional costs for on-site modifications or extra freight charges.

In all of this, Communication is the key and a two-way street. Both the chemical company customer and the fabricator need to be open, honest and accurate with written communications on essential items. Verbal communications should only be used for non-essential items – and should be followed with written communications for any items that are critical for the correct fabrication and on-time delivery of the equipment.

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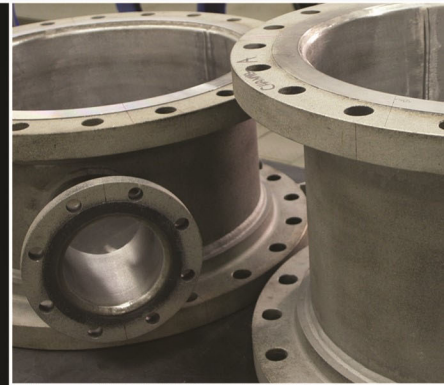
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