

SUCCESSFUL NEW EQUIPMENT INSTALLATIONS, LESSONS LEARNED



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ARTICLE TAKEAWAYS:

- Successful Installations require cross functional communication and planning
- Successful new equipment installations and the sustained benefits are driven by people
- New equipment has to generate a competitive advantage

As global demand for non-ferrous metals continues to increase, and aluminum in particular with its positive attributes finds new applications, installing new production capacity in your operation should be one of the great joys of business.

You have a new opportunity. Your marketing and sales teams have earned it, and the PO is now in hand. Your leadership team and financial gurus have penciled out the financial justification, and now it's time to plan for the installation of a new system. This is when the most important work really begins. This is in no way to diminish the accomplishment of having arrived at this point, but certainly, what happens now determines everything for your business looking forward: customer satisfaction (will the product launch be on time with quality product

and a happy customer), financial return (can we start up, hit rate and make money) and employee moral (Did we succeed? Was it a win for the company?).

As MMEI is most familiar with the installation of new circulation and transfer pumps for molten aluminum operations of various types, let's use the installation of a new stationary, reverberatory furnace as a case study to emphasize some of the key elements of a successful new equipment installation, and how to ensure the benefits keep accruing to your business.

IT'S A SYSTEM

When we are fortunate enough to sell a new circulation pump, customers generally want to know right up front the benefits the pump will provide to increase melt rate, increase furnace throughput and lower energy production costs. While we know the benefits of circulation using one of our pumps will be significant, we also know that results depend on the system into which it is being deployed. Simply put, if the system has not been designed properly, it can't provide maximum benefit. In the case of circulation pumps, some critical system design decisions will involve the correct sizing of the pump to fit the furnace, the correct sizing of the pump well to accommodate the pump and it's needed maintenance, the correct sizing and placement of the archways that connect the pump well to the main furnace chamber and a clear understanding of the furnace operation plan to ensure that metal levels never exceed the maximum or minimum for safe, optimal performance of the pump. It's only when all of these elements (and many others) are planned to work together that the outcome is as desired. So, how do we do that?

CROSS FUNCTIONAL COMMUNICATION IS KEY

For a new furnace system to function optimally, it's vital that the planning process include all of the functional areas that will play a role in the design and operation of the furnace. Too often this is not the case resulting in key aspects of the necessary communication never occurring. Pumps provide a good case study to demonstrate the benefit of cross functional communication. Certainly, from an investment standpoint, the pump may be one of the smaller elements of the overall system, and so it can be easy to leave the conversations about how the pump will integrate into the system until later in the process of design. When this occurs, many of the issues identified in the previous paragraph can emerge and be detrimental to the overall performance of the new system. As an example, if the furnace archways are not properly sized and positioned, it can restrict the benefit of the circulation flow provided by the pump resulting in lower melt rates and throughput. This has a large negative financial outcome as performance will suffer, and the cost to correct the problem once the furnace is full and operating is substantial. The prevention of problems like this comes from cross functional communication occurring very early in the system design process. Ask yourself, do I have everyone I need at the table and in the loop? Do I have the direct knowledge sources, or might I be introducing bias by leaving

certain people out or only focusing on the end game result. It's cliché to say the devil is in the details, but nowhere is this truer than in a foundry environment. The number of variables in the equation requires that you have a full design team in place with representation from production, maintenance, quality, sales, finance, purchasing and all the key vendors to ensure that the details emerge early in the process and can be accounted for in the system design.

EVEN A FULLY AUTOMATED SYSTEM IS ALL ABOUT THE PEOPLE

The increasing adoption of SMART technology and other ways to work to reduce process variability are clearly part of a beneficial trend that can bring major advantages to your furnace system. We have a new SMART pump line, and have seen how our customers benefit from this new ability to have the pump react to changing inputs to ensure continued optimal operations. These new innovations will continue, and the industry will be the beneficiary, but at the end of the day, the successful integration of these new technologies will depend on the people who put them to use, and equally importantly, keep them running.

It is hard to overemphasize the importance of training and ensuring that the human capital deployed at all levels of the new system understand not only their roles, but how they relate to those of others and the overall objectives

of what the system can deliver. A great way to ensure this is taking place is to foster upstream and downstream "field trips" so that team members in different functional areas understand what is going on both up and downstream from them in the system and how what others do impacts them and how they in turn impact others. A great benefit of this approach is to hear your team members say, "I had no idea that's what's happens after/before what I do." Blending cross functional communication with some cross training can go a long way.

THE RESULTS ARE ON YOUR INCOME STATEMENT

Someone once told me that you can find competitive advantage on your income statement, and I have come to realize they are absolutely right. The investment in a new furnace system, as we've talked about here, should not only bring the benefit of added capacity, but should bring new improvements that deliver improved financial results.

I hope the ideas and examples we've presented show you how you can implement a planning process for new systems that will allow you to maximize the benefits by taking into account all the system input needs as early in the process as possible. We get great satisfaction from helping to make this process as effective as possible, and from seeing the improved competitive position it brings our customers.



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