



NAC Executive Insights

Owner-Procured Materials

Key Points

Through an owner case study, this insight will share the benefits of owner-procured materials that support front-end planning and procurement to accelerate delivery. Five key points and benefits for owner-procured materials include:

- Bulk material buying results in material cost savings.
- Having materials available minimizes delivery risk and reduces the overall project schedule.
- Having adequate material order and delivery timetables improves material quality.
- Owners need to have a holistic supply chain vision that includes the total capital plan rather than a single project.
- Achieving successful project outcomes.

Introduction

Capital projects for consumer product group (CPG) companies are often driven by accelerated “time-to-market” schedules to achieve new product/package launch targets. Owners may incur severe market opportunity costs for late project completion, and in the case for this owner, delayed project delivery is not acceptable. Therefore, it is critical to accurately predict and achieve these launch targets as business objectives are dependent on these start-up dates. The business partner/client uses the project completion date to coordinate the myriad operational needs that must be in place for project start-up such as employee training, delivery of raw materials to support the new product, delivery of packaging materials, marketing and advertising to launch the new product, and other needs.

This CPG company case study is for a food and beverage manufacturer that often introduced new products or packages to support its growth strategic plan. In analyzing the critical path for project completion, it became apparent that the delivery of stainless steel piping material was a high risk to both cost and schedule for project completion. The initial objective of the owner-procured material program was to accelerate the project schedule to deliver on-time project completion. As the execution of the program developed, two additional benefits became evident: cost savings through bulk procurement of the materials and improved material quality by providing adequate lead-time for fabrication of the materials.

Owner-Procured Material Program Details

A significant component of the capital budget for new product or new packages for this beverage manufacturer is stainless steel material, including stainless steel pipe, valves, and fittings. The demand

for stainless steel materials and a limited number of qualified suppliers often lead to long and variable delivery schedules. The pre-project planning for projects, along with prior project history, was sufficient to identify stainless steel material needs very early. As a result, the owner created the following simple three-step process for early procurement of stainless steel (SS) materials to mitigate the risk of late delivery:

Step 1 – Annual Capital Planning Process

Step 2 – Early Procurement of SS Materials

Step 3 – Storage and Distribution of SS materials

Step 1 – Annual Capital Planning Process

The owner is the best member of the supply chain to effectively identify opportunities for bulk material procurement. This effort was included in the annual capital planning process, which is aligned with the overall corporate strategic planning process. The capital planning process is illustrated in Figure 1.

Capital Planning Process

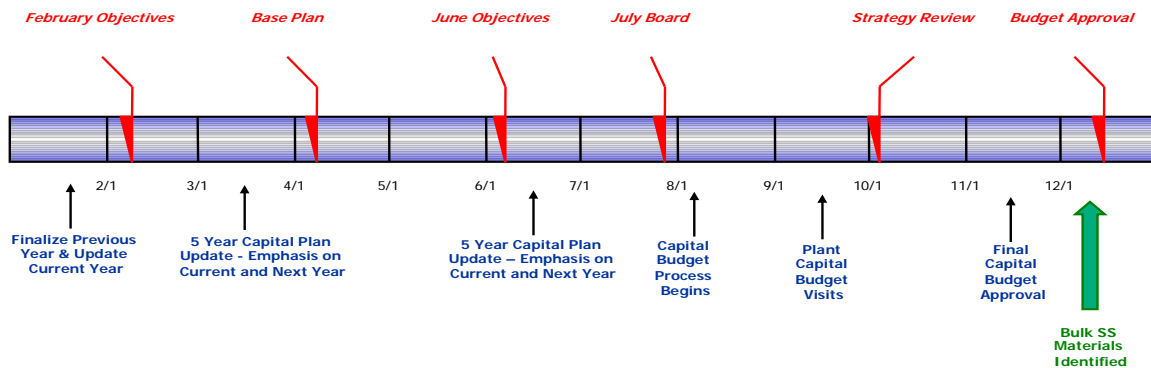


Figure 1

An additional step was inserted after the approval of the capital budget to identify and estimate the aggregate quantity of stainless steel pipe and fittings needed for all projects included in the capital plan. The engineering organization was able to present a business case justifying the Owner-Procured Stainless Steel Material Program, which showed that the significant capital investment in the program was more than offset by savings from bulk procurement and reduction in inflation of SS materials. The end result was approval for a holding project for “construction materials.”

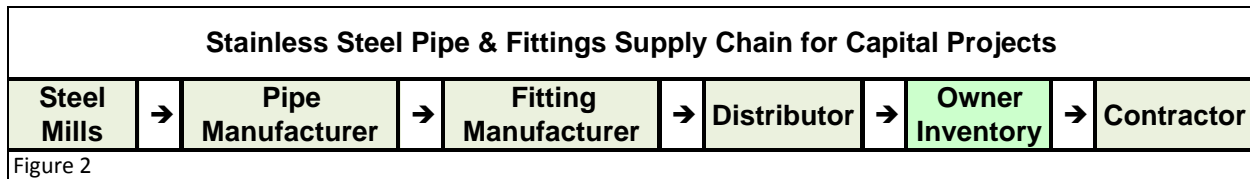
As the program matured, a side benefit became evident: the program was able to track and capture more information on the usage and delivery of the major SS material components, pipe, fittings, and

flanges that resulted in improvement to the overall program.

Step 2 – Early Procurement of SS Materials

The success of the program was based on preferred supply chain partners working together for an optimum solution. Once the program was in place, individual capital projects could be planned, scheduled, and completed in a shorter and more predictable/reliable timeframe. Individual expansion projects improved through use of this bulk purchase approach.

The planning for this bulk procurement program examined six levels of the supply chain illustrated in Figure 2.



Owner bulk procurement created savings opportunities at several levels of the supply chain, all resulting in additional savings to the owner, including:

- Savings at both pipe and fitting manufacturer levels for bulk quantity orders and improved scheduling of their own production.
 - Shorter fabrication durations
 - Greater manufacturing efficiencies
- Savings at the steel mill level allowed both pipe and fitting manufacturers to buy in larger quantities from the steel mills, thus reducing their own raw material costs.
- Savings at the distributor level with consolidation into a single distribution point reduced redundant inventories and costs at multiple distribution points.
- Savings at the contractor level by removing SS material pricing and delivery risk from their pricing model.
- Reduction of time for the bid and award process in procuring SS materials on a project-by-project basis.

Step 3 – Storage and Distribution of SS Materials

The owner selected a supply chain partner as the single distributor for the program to optimize inventory management, control, and material handling. The inventory of SS pipe and fittings was owned by the owner and jointly managed by the owner's engineering procurement group and distributor.

- The inventory of completed SS pipe and fittings was inventoried at the single distributor's warehouse, which in essence was the buffer inventory to mitigate the long-lead delivery of SS materials.
- This consolidation of inventory at a single location actually reduced the inventory at other levels/members of the supply chain.
- The owner and distributor created a strong supply chain relationship, resulting in

continuous improvement in quality and delivery as the program matured.

Future Owner-Procured Material Opportunities

The success of this SS construction materials program may lead to opportunities in other areas. Figure 3 below shows a four-box delivery risk and capital spend model and suggests that materials with high spend or long-lead deliveries may be candidates for the owner-procured material program. These are shown as strategic or critical in the figure.

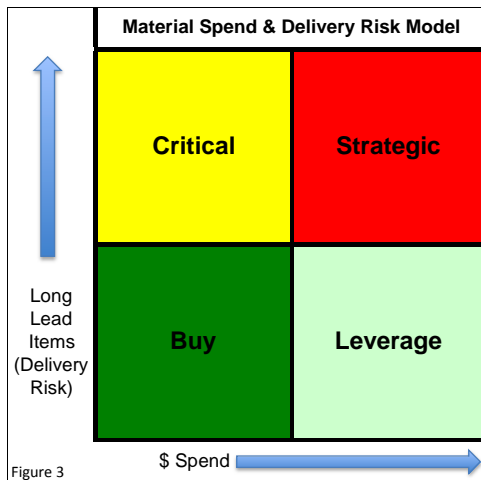


Figure 3

Reference

Improving Capital Projects Supply Chain Performance, Research Report 172-11, Construction Industry Institute, May 2003.

About the Author

Jerry Eyink has been an NAC member since 2011. He spent his working career with Anheuser-Busch Inc., retiring as the Group Director-Project Management and Planning for the Engineering Group. He received his engineering degree from Purdue University and his MBA from Saint Louis University.