



NAC Executive Insights

Owner Furnished/Contractor Installed (OFCI)

Key Points

- Owner Furnished/Contractor Installed (OFCI) is defined.
- Potential benefits include significant price advantages, schedule reduction, and reduced contractor markups.
- Changes in owner and contractor risk profiles are outlined, including new risks each will face.
- Typical areas where OFCI have been used are provided.
- A case history from a global scale natural resources project is presented to illustrate how OFCI may be employed.
- A well run OFCI program will provide significant benefits to both the owner and contractor.

Introduction

This Executive Insight looks at the use of owner furnished/contractor installed (OFCI) equipment and materials. This practice is also referred to as owner furnished equipment (OFE); owner furnished equipment and materials; owner supplied equipment; client furnished materials (CFM); and free issue. This Executive Insight will consider:

- Motivations/potential benefits from the use of OFCI
- Risks associated with the use of OFCI
- Typical areas where OFCI may be used
- Case history of significant use of OFCI

What is OFCI?

Owner furnished/contractor installed means all equipment, materials, and services are furnished directly to the contractor by the owner for incorporation into the project or its execution. OFCI may include new or existing equipment or facilities and even foundations. OFCI also may include proprietary or highly specialized equipment as well as fundamental construction materials. Owner furnished services may vary significantly but may include services provided by on-site utilities, scaffolding, and site security and access control.

OFCI creates an added interface. Clear interface specifications are required to differentiate responsibilities and tie outs to complete scopes of work for both the OFCI and contractor.

Motivations/Potential Benefits

The use of OFCI is becoming commonplace on large private projects. Use is also growing on some large public projects. The motivations/benefits the owner perceives include:

- **Potential significant price advantages.** This is especially true if the owner is engaged in the provision of the OFCI equipment to multiple projects on a recurring basis (repeat customer) and has an established supplier relationship with appropriate volume discounts.
- **Schedule/schedule risk reduction** through early procurement of long lead items. Opportunities for schedule compression or earlier facility start-up are frequent owner considerations. In supply chain situations where deliveries are becoming increasingly extended based on either market demands or supply chain disruption, early procurement actions by the owner may be desirable.
- **Limited or no market competition.** A few vendors control supply.
- **Preferred vendor** to support standardization of operating facility equipment and coordination with existing inventories. Owner considerations may include existing labor force training and familiarity with particular equipment types; specialized operating and maintenance warranties or support service levels required; and the desire to carry a component off the balance sheet by procuring a lifecycle service in lieu of the actual component. An example of this latter motivation would be an owner's decision to acquire a vertical transport service (elevators and escalators) where initial equipment and lifecycle maintenance and emergency servicing are compensated on a usage and availability basis without a capital outlay up front.
- **Eliminate need to specify and approve "or equal" products.** Performance specifications provide many project benefits, but in areas where the owner decides to carry significant process performance risks, "or equal" products may not be acceptable.
- **Reduced contractor markups.** This is often a false economy as will be seen in the next section that considers risks associated with OFCI.
- **Sales tax savings (public owners).** These savings accrue when local laws limit sales tax savings on materials and equipment procured for public projects by third parties (contractors).
- **Increased owner control on start-up and testing.**

Risks Associated with the Use of OFCI

OFCI is not a risk-free endeavor. OFCI changes the risk profiles for both the owner and contractor. It also introduces new risks while reducing others.

OFCI is not recommended for the purchase of off-the-shelf items or where the purchasing power of the contractor exceeds that of the owner. The risk areas warranting attention and the changed risk profiles of owner and contractor may be summarized as follows:

- Owner risk profile – risk and exposure to claims increases dramatically. A well-managed, owner-provided material program can minimize these risks.
 - Poor integration of OFCI with construction contract
 - OFCI procurement risks
 - Increased owner coordination and supervision. This includes purchasing, expediting, delivery, and storage until transferred to contractor.
 - Added design and coordination risks and costs.
 - Inadequate coordination with/by contractor on OFCI equipment and materials.
 - Inadequate warranty and/or increased warranty risk.
 - Assumption of certain performance risks by owner.
 - Delay risks associated with delayed provision of OFCI (delay claims; extended overhead; loss of productivity).
 - Differing site conditions created by OFCI other than represented at time of construction contract.
 - Exposure to various impact claims by the contractor.
 - Added areas for disputes and litigation.
 - Increased liability and property insurance risks associated with OFCI storage.
 - Increased construction manager (CM) costs by contractor or third party.
 - Inadequate owner readiness for OFCI role and responsibilities.
 - Inadequate contingency replanning strategies and tools.

- Contractor risk profile
 - Timing and nature of assumption of OFCI equipment responsibility (physical possession):
 - On installation
 - On signing of construction contract with equipment purchase included
 - Start-up and testing risks (no control over vendor).
 - Lack of privity of contract with OFCI vendors (major source of disputes and claims).
 - Delayed start-up by OFCI vendor delays substantial completion; delayed retainage release; potential for triggering liquidated damages (LDs) from overall project delay.

- Insurance for uninsured perils associated with OFCI even if owner has purchased added property and liability insurance.
- Warranty gap such that OFCI warranty expires prior to contractor's overall project warranty.
- Warranty overlaps and responsibilities for any required repairs.
- Lost productivity if OFCI not as planned (technical features; logistics details; schedule).
- Force majeure claims by OFCI may not translate into contractor force majeure claim automatically.
- Shifting of work from factory to field; incomplete/inadequate shop inspection leading to schedule impacting fabrication defects in the field.
- Inadequate or untimely change process; adjustments not equitable.
- Absence of adequate factory representation (provided as part of OFCI) during installation, start-up, and testing.
- Risks created by owner or OFCI vendor-performed work at construction site.
- Financing risks created by inclusion of OFCI in factoring agreements (nonsegregated materials are an example).
- Risks associated with off-loading of OFCI (heavy or fragile) equipment.
- Risks associated with any specialized pre-installation cleaning requirements assumed by the contractor.
- Acceptance of OFCI not meeting quality program requirements.
- Risks associated with separately storing, protecting, and maintaining in good order and condition and keeping comprehensive and accurate records.
- Theft or damage to OFCI under contractor's control and custody.
- Responsibilities for disposal of surplus OFCI materials, packaging, and ancillary items including any hazardous materials.
- Impacts on financial reporting (if contractor is deemed to have taken control of OFCI) (contract price; revenue recognition) and calculation of earned value and any linkage to progress payments.

Typical Areas Where OFCI May Be Used

Typical areas where OFCI have been used follow. Each use needs to be carefully assessed to assure that risk and reward are appropriately balanced.

- Process equipment
- Large field-erected equipment

- Power transmission systems
- Long lead electrical equipment
- Lighting systems
- Electrical controls
- Long lead instrumentation and control (I&C) systems
- Programmable logic controls (PLC)
- Pumps
- Aeration systems
- Blowers
- Conveyors; conveyor idlers and pulleys
- Conveyor belting
- Ship loaders, stacker/reclaimers
- Crushers, car dumpers
- Feeders/screens/weighing equipment
- Crushing/screening plants processing equipment
- Scrubbers
- Electrical motors
- Variable frequency drives
- Chillers
- Nuclear reactor vessels
- Steam generators
- Large power turbines
- Locomotives and rolling stock
- Scientific or experimental equipment
- Structural steel
- Stainless steel pipe and fittings
- Scaffolding
- Construction power and water
- Site security
- Select bulk materials

Case History

On a global-scale, natural resources project, a shift in strategy to improve capital efficiency employed several techniques including the use of more extensive OFCI. Key elements of this OFCI supply strategy as part of a multi-project program included:

- Programmatic supply contracts for owner's strategic suppliers. Key items of OFCI supply included:
 - Ship loaders
 - Stacker/reclaimers

- Rail
- Rolling stock and equipment wear surfaces
- Ore cars
- Locomotives
- Crushers
- Car dumpers
- Conveyor idlers and pulleys
- Feeders/screens/weighing equipment
- Crushing/screening plants
- Processing equipment
- Power transmission systems
- Conveyor belting
- Owner retaining iron ore, metallurgical coal pricing, and volatility risk as part of strategic structural steel OFCI strategy are described below. This included using a set of readily produced, standard member sizes to be used in program-wide steel design with standardized connection details, bolt sizes, and tools.
- Provision of temporary floating dormitory facilities at the port.
- Engagement of all such strategic suppliers in the front-end loading (FEL) process

Giga Program Example

In developing an execution plan for this “giga” program, programmatic needs were reviewed for major commodities with an eye towards capturing the leverage opportunities that come with a large capital spend. Structural steel was identified as a multi-billion dollar procurement opportunity if the steel buy could be consolidated and number of custom shapes required reduced. The historical approaches to design, procurement, and construction would not support this leverage opportunity so the challenge was to modify the management and program delivery approach to capture the tremendous leverage opportunity this giga program presented.

The approach developed was to do a consolidated programmatic steel buy for major structural steel, using staged delivery over the life of the program coupled with locked-in pricing (and select adjustment factors) and pre-negotiated option and cancellation provisions. All steel shapes were to be from a catalog of standard steel shapes the supplier produced. This catalog was provided to all design teams together with a changed design approval process that required any custom shapes to attain program-level approval (i.e., raised the bar to drive standardization). Consolidation of supply required a changed approach to quality control and assurance (to avoid systemic issues) and a more active role in the supply logistics chain to assure needs would be met. Construction contracts were modified from supply and erect to erection of owner furnished material (OFMI approach). This required recognition of different risk profiles assumed by contractors and a re-baselining of the approach to appropriate fee determination. This last point was key to gaining broad contractor acceptance.

Recognizing the inherent leverage this giga program represented allowed leveraged spending for significant volume discounts; facilitated strengthening quality control and assurance approaches; gained

greater certainty about the state of the overall supply chain; simplified the design process by discouraging custom shapes; simplified the site logistics and material tracking requirements by reducing the total supply categories to be tracked, stored, and dispatched to the right place at the right time (each custom shape was previously a unique item of supply); and reduced total programmatic construction pricing by lowering commodity pricing and delivery risk as well as lowering quantity risk allowances in contractor bids.

Conclusion

Owner furnished/contractor installed can offer both the owner and the project significant benefits. These benefits can be realized only if the owner (1) recognizes the shifts in risk profile that accompany the benefits and (2) has the necessary organizational maturity, procurement competency, and skills (these may be provided by a dedicated external resource) in place to deliver the benefits.

Just as OFCI shifts the risk profile for the owner, it also changes the risk profile for the contractor. Again, organizational maturity is required together with a “partnering” mindset that is supported by strong project and OFCI scopes.

In the case of supply chain shortages such as those experienced during the COVID-19 pandemic, OFCI may offer an opportunity to ensure key equipment is available to support project delivery.

For Further Reading – Executive Insights

- Owner-Provided Materials under the Executive Insights “Accelerating Project Delivery” Topic Area
- Procurement and Supply Chain — Introduction

About the Author

Bob Prieto was elected to the National Academy of Construction in 2011. He is a senior executive who is effective in shaping and executing business strategy and a recognized leader within the infrastructure, engineering, and construction industries.

Although the author and NAC have made every effort to ensure accuracy and completeness of the advice or information presented within, NAC and the author assume no responsibility for any errors, inaccuracies, omissions or inconsistencies it may contain, or for any results obtained from the use of this information. The information is provided on an “as is” basis with no guarantees of completeness, accuracy, usefulness or timeliness, and without any warranties of any kind whatsoever, express or implied. Reliance on any information provided by NAC or the author is solely at your own risk.