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Independent Government Cost Estimates (IGCEs) are required to support proper planning of acquisitions and to implement program management and oversight per Office of Management and Budget's (OMB) Circular A-11. It is the policy of the Office of Environmental Management (EM) that an IGCE be prepared and furnished to the Contracting Officer (CO) at the earliest practicable time for each proposed contract action anticipated to exceed ten million dollars. IGCEs are conducted under the auspices of the EMCBC Office of Cost Estimating. The purpose of this Lessons Learned Bulletin is to familiarize EM project personnel with some of the fundamentals of this process.

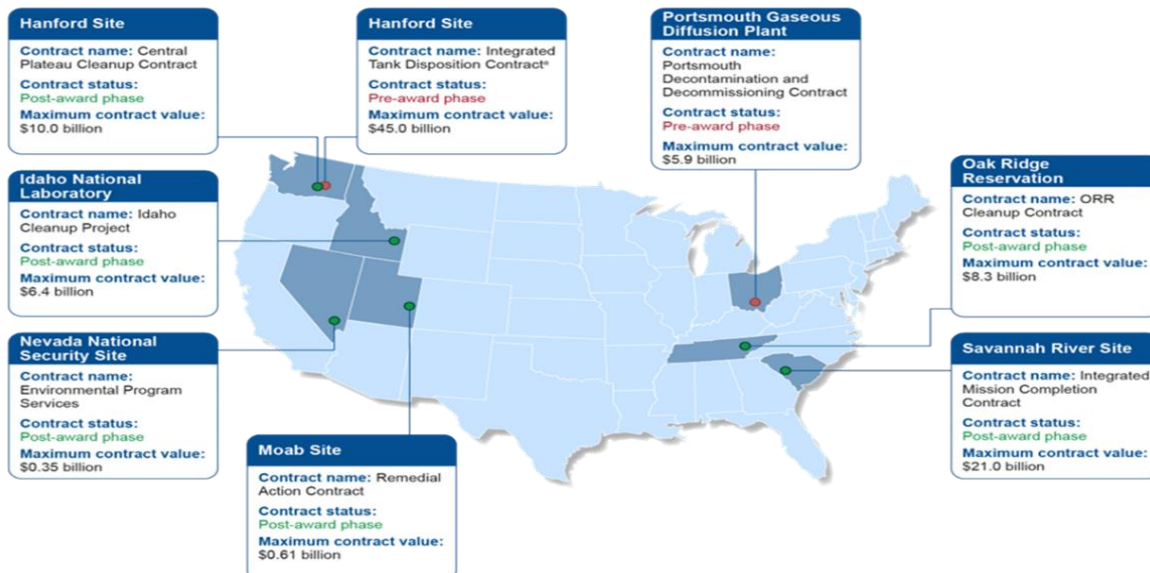
Discussion:

Background

In 2019, the Department of Energy (DOE)-EM began using a new contracting approach to support its mission now referred to as the End State Contracting Model (ESCM). Implementation of the ESCM is an effort to move activities at DOE's 15 active environmental cleanup sites closer to completion. EM has competitively awarded indefinite delivery/indefinite quantity (IDIQ) contracts for up to 15-years of cleanup work. IDIQ contracts are typically used when the exact quantities and timing for products or services are not known at the time of contract award. EM's prior contracting approach, which generally required developing detailed scopes of work for the full length of the contract were more detailed and required more upfront effort in developing the request for proposals.

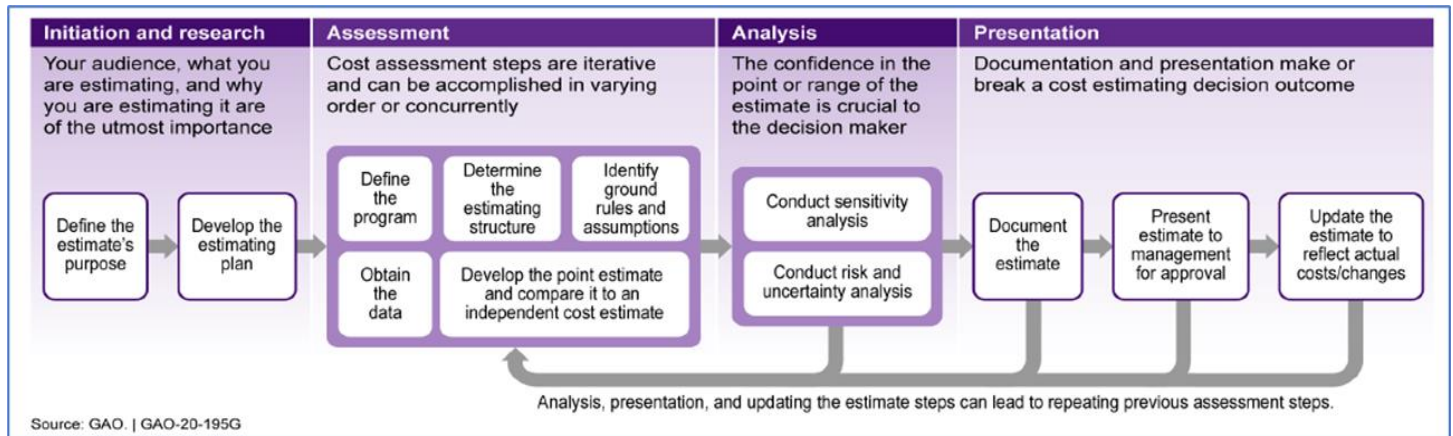
Discussion

The U. S. Government Accountability Office (GAO) Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Program Costs (GAO-20-195G, March 2020)¹ requires an IGCE. The guide states "An IGCE should be developed based on the same Statement of Work (SOW) or Performance-Based Work Statement (PWS) (describing scope, terms and conditions, contract clauses, etc.) used by the contractor. Ideally, the IGCE is also based upon the same or a similar technical approaches as that proposed by the contractor and based upon the same assumptions about the work scope that are made by the contractor." The guide emphasizes that an IGCE should be prepared using The Twelve Steps of High-Quality Cost Estimating Process identified in the GAO Cost Estimating and Assessment Guide.



As of June 2022, ESCM contracts represented about \$3.3 billion—or about 45% of EM’s total estimated annual contract value for major projects, as shown in the figure above.

The GAO’s Cost Estimating and Assessment Guide lays out a process to follow:



1. Estimate’s purpose: the purpose of the estimate is determined by its intended use.
2. Estimating Plan: the estimating plan documents the members of the estimating team and the schedule for completion. Under ESCM proposals are typically due in 30-60 days once PWS/SOW is negotiated.
3. Define the Program: Technical baseline description identifies adequate technical and programmatic basis for estimate.
4. Estimating Structure: product-oriented work breakdown structure defines in detail the work necessary is essential. PWS/SOW documents are typically not organized in a “product oriented” structure or organized by a common WBS structure established site program baselines. This makes it difficult to crosswalk existing baseline estimates with negotiated task orders. It is critical that the contract proposal and IGCE use the same structure.
5. Ground Rules & Assumptions: establish the estimate’s boundaries using a common set of standards and judgments about past, present, or future conditions. Estimating team must develop these with site Subject Matter Experts (SMEs) to ensure IGCE is based on the same items in the contractor proposal.
6. Obtain the data: collect and adjust data from existing programs to estimate the cost of a new program. It is critical that the IGCE is based on the same data as the contractor proposal. Site SMEs must provide data to IGCE estimators.
7. Point Estimate: develop the cost estimate for each element and compare the overall point estimate to another estimate.
8. Sensitivity Analysis: examine the effect of changing one assumption or cost driver at a time. This involves varying assumptions one at a time to assess impacts on estimate. Time to perform a proper sensitivity analysis is often not afforded to IGCE estimators.
9. Risk/Uncertainty Analysis: quantify risk and uncertainty to identify a level of confidence associated with the point estimate. The Association for the Advancement of Cost Engineering (AACE) recommend establishing cost uncertainty ranges based on the level of clearly defined scope definition. (For environmental cleanup projects, see AACE Recommended Practice 107R-19).²
10. Document the Estimate: thoroughly document the estimate such that someone unfamiliar with the estimate can update or recreate it. Basis of Estimate (BOE) documentation development needs to be part of estimating plan with adequate time allotted. This is typically done at Final Draft stage.
11. Present Estimate: present the estimate and its underlying methodologies to management for approval.
12. Update the estimate: to actuals costs, changes in conditions, progress toward meeting goals.

Conclusion

With EM's End-State Contracting Model Contracts, it is important for EM to maintain high quality independent government estimates following the GAO Cost Estimating and Assessment Guide.

Recommended Actions:

1. Involve estimators early regarding task order planning:
 - Scope,
 - Ground rules and assumptions,
 - Common structure.
2. Ensure technical data supplied to contractor is also provided to IGCE estimator as soon as possible.
3. Increase rigor in baseline estimates per requirements to ensure that they can be used to inform IGCEs.
4. Establish reserve contract support for estimators to assist in meeting deadlines for estimates.

Critical Decision(s): All

Facility Type(s): All

Work Functions(s): Project Management

Technical Discipline(s): All

References:

1. U. S. Government Accountability Office (GAO) Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Program Costs (GAO-20-195G, March 2020).
2. Association for the Advancement of Cost Engineering, Recommended Practices, *107R-19: Cost Estimate Classification System - As Applied in Engineering, Procurement, and Construction for the Environmental Remediation Industries*, October 5, 2021.
3. *Independent Government Cost Estimates* - U. S. DEPARTMENT OF ENERGY (DOE) OFFICE OF ENVIRONMENTAL MANAGEMENT (EM) EM Head of Contracting Activity Directive - Contracting Activity 2.0 Revision Number: 0 Effective Date: May 23, 2017.
4. Office of Environmental Management *Independent Cost Review (ICR) Guide*, Revision 1, EMCBC-00330-1, dated March 13, 2019