**Preparing an Acquisition Strategy**

The Acquisition Strategy (AS) should be a high level and concise document (**main text of the document, not including attachments and appendices should be approximately 10-15 pages**). For very large or complex projects, the acquisition strategy document may reference supporting analyses or materials pertinent to the conclusions.

This guide serves as a tool for federal project directors (FPDs) and the Integrated Project Team (IPT) for developing a project acquisition strategy document. An AS is a high-level technical and business management approach developed and used by Federal personnel designed to achieve project objectives within specified resource constraints. It is also considered the framework for the next phases of planning, organizing, staffing, controlling, and leading a project. In summary, the acquisition strategy provides an approach for activities essential for project success and for formulating functional strategies and plans. Laboratory or contractor personnel may be consulted during acquisition strategy development.

The DOE O 413.3B requires an AS, and the approval of the AS by the Program Secretarial Officer for projects with total project cost (TPC) of $50M or greater, as part of the Critical Decision-1 (CD-1), Approve Alternative Selection and Cost Range Milestone. See SC Decision Matrix for SC approval authorities.

***Format and Content***

The acquisition strategy should be a logical extension of the approved mission need narrowing the range of technical alternatives to the one or group best suited for the project. The detail and extent of the alternative analysis is tailored to the size, risk, and complexity of the project. **When an element is not applicable, include a brief explanation of why the element is not relevant to facilitate the review process.**

The following pages describe the format and content of an Acquisition Strategy.

**Acquisition Strategy**

**for the**

**PROJECT NAME (ACRONYM)**

**Project # \_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ HQ or Site Office Location**

**Office of [Program Office]**

**Office of Science**

**U.S. Department of Energy**

**Date Approved:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Month/Year**

Total Project Cost Range: \_$xxxM to $xxxM\_\_

CD-0 Approval Date: \_\_\_\_\_\_\_\_

**Acquisition Strategy for the**

**Project Name (Acronym) Project at the**

**\_\_\_\_\_\_\_\_\_\_ HQ or Site Office**

**Submitted by:**

Date:

[Name], Federal Project Director, [Site Office], DOE

Date:

[Name], Contracting Officer, [Site Office], DOE

Date:

[Name], Manager, [Site Office], DOE

Date:

[Name], Program Manager

Office of [Program Office], Office of Science, DOE

Date:

[Name], Other Program Staff As Needed

Office of [Program Office], Office of Science, DOE

Date:

[Name], Associate Director (*if TPC high-end is greater than $100M*)

Office of [Program Office]

Office of Science, DOE

**Concurrence:**

Date:

[Name], Deputy Director (*if TPC high-end is greater than $400M*)

Office of Science, DOE

Date:

[Name], Director

Office of Project Assessment, Office of Science, DOE

**Approval:**

Date:

[Name], Title of Acquisition Executive (see Approval Matrix)

Office of Science

**Acquisition Strategy for the**

**Project Name (Acronym) Project at the**

**\_\_\_\_\_\_\_\_\_\_ HQ or Site Office**

**Change Log**

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| **Revision History** | | |
| **Rev.** | **Date** | **Reason** |
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**Acquisition Strategy for the**

**Project Name (Acronym) Project at the**

**\_\_\_\_\_\_\_\_\_\_ HQ or Site Office**

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# 1. JUSTIFICATION OF MISSION NEED

Provide a clear and concise paragraph (a few sentences) that summarizes the DOE, SC, and Program mission need and describe how the project fits within the mission including the benefits anticipated. **This section should be a consolidation of Mission Need Statement sections 1 and 2.**

***Example 1****: Goals of DOE are to achieve the major scientific discoveries that will drive U.S. competitiveness; inspire America; and revolutionize approaches to the Nation’s energy, national security, and environmental quality challenges. Additionally, there is a goal to provide a Foundations of Science.*

*The U.S. Department of Energy’s (DOE’s) Office of Basic Energy Sciences (BES) mission is to “support fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels in order to provide the foundations for new energy technologies and to support DOE missions in energy, environment, and national security”*

*To maintain this mission, there is a continual need for a better understanding of materials at an unprecedented resolution and brightness. Currently, the existing SC facilities are aged and more advanced capabilities in xx and xx are needed to meet the mission need.*

*Without a fundamental understanding of the components of … and processes involved in …, scientists will be restricted in their ability to understand the factors contributing to design more efficient …for conversion … and for scientists to continue to make new discoveries in… that could lead to advances in ….*

***Example 2****: As part of DOE’s strategic mission to achieve major scientific discoveries, and in accordance with the XXXX Policy Act of XXX, the HEP Program supports fundamental research in xxxx. In addition, HEP Program constructs, … To maintain this mission, HEP needs to better understand fundamental characteristics of xx particles… Currently, there are no existing facilities in the U.S. that have the capability to better understand…*

*To maintain this mission, there is a continual need for a better understanding of materials at an unprecedented resolution and brightness. Currently, the existing SC facilities are aged and more advanced capabilities in xx and xx are needed to meet the mission need.*

*Without a fundamental understanding of the components of … and processes involved in …, scientists will be restricted in their ability to understand the factors contributing to design more efficient …for conversion … and for scientists to continue to make new discoveries in… that could lead to advances in ….*

# 2. PROJECT DESCRIPTION AND PERFORMANCE PARAMETERS TO OBTAIN EXPECTED OUTCOME

This section describes how the project will fill the mission need/gap. Specifically, the description may include:

* The major technical and performance parameters
* If applicable, what items or services will be produced?
* What are the estimated quantities of products or services?
* What is the proposed location of the new asset?
* For a facility, what is the required square footage?
* What excess buildings or facilities will be eliminated as a result of this new acquisition?
* What specific laws, regulations, agreements or other factors will significantly influence the project?
* Is this a hazard category 1, 2 or 3 nuclear facility or other hazardous facility?
* Is the facility required to comply with the DOE requirement for Leadership in Energy and Environmental Design (LEED) Green Building Rating System certification?
* If this is decontamination and decommissioning (D&D) project, identify the planned end use.

***Example****: To meet the mission need the following* ***minimal*** *KPPs are needed.*

* *xx size facility with*
* *xx brightness*
* *xx spatial resolution,*
* *xx energy resolution,*
* *Be readily accessible to xxxx users in the Southwestern part of U.S., ….*
* *Ensure that the U.S. maintains its scientific and economic competiveness, these capabilities must be available within the next ten years….*

# 3. ALTERNATIVEs ANALYSIS

Identify, list, and describe at least three reasonable alternatives, which could meet the required capability and the primary advantages and disadvantages of each. Reasonable alternatives should include innovations; not only the solutions used previously. Examples of alternative include renovating existing facilities or use of other facilities, a proposed new facility, and the current baseline, i.e., the status quo. The narrative or comparative tables used should provide sufficient detail to discriminate one alternative from another while maintaining the level of granularity or detail at the strategic level.

**3.1 Total Lifecycle Costs and Benefits**

Discuss and/or summarize the Lifecycle Costs (LCC) and benefits of the alternatives, such as operations and maintenance costs, costs of dismantling and demolition at project completion, and benefits of the alternatives. Please note that LCC is not the only factor in determining the selection of the alternative. Other discriminators listed below may also be applicable.

* Meet mission need (including meeting stakeholder issues/requirements)
* Technical—technical complexity of the option
* Environment, safety, and health (including legal and regulatory requirements)
* Schedule and funding (availability, profile, etc.) limitations
* Interfaces and integration requirements
* Safeguards and security
* Location and site conditions

Table 1 is a sample matrix of how risk items may be consolidated in the ranking scheme for evaluating technical alternatives. The details of the analysis could be completed in a separate working document but presented in tables at the summary level.

***Example 1****: Table Format*

***Table 1—Evaluation of Alternatives***

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***No.*** | ***Alternative Title and Description*** | ***LCC Estimate ($M)*** | ***Lifecycle Benefit Estimate*** | ***Meet Mission Need/ Tech/Engr/Stakeholder*** | ***Schedule and Funding*** | ***Technical complexity*** | ***Interface & Integration*** | ***Safeguard & Security*** | ***ES&H, Legal & Regulatory*** | ***Summary of Ranking*** |
| *1* | *Status Quo/No Action* | *$3990* | *10* | *0* | *10* | *N/A* | *10* | *8* | *10* | ***4*** |
| *2* | *Renovate Existing Facility at XX Location* | *$3790* | *7* | *10* | *10* | *6* | *10* | *8* | *6* | ***2*** |
| *3* | *Construct New Facility at XX Location* | *$3380* | *1* | *5* | *5* | *4* | *1* | *5* | *8* | ***1*** |
| *4* | *Utilize other Universities or laboratories* | *$200* | *N/A* | *0* | *N/A* | *N/A* | *N/A* | *N/A* | *N/A* | ***3*** |

!trategies.ts, or other the project will be tailored. Tailoring includes combining CD, delegation of AE authority, special fuN *Note: The above ranking scale is from 1 to 10 with 1 being optimal and 10 being worst case.*

***Example 2****: Text Format*

*Alternative 1 – Maintain the “Status Quo” or Do Nothing: This option will not meet the DOE and SC mission need and strategic goals since existing facility capabilities are not adequate to … Also, because of the age of the facility, the operation and maintenance costs are becoming more prohibitive. The O&M costs are comparable to a new facility which offers a greater than ten times the current technical capability.*

*Alternative 2 – Renovate the existing structures at xxx location: Because of the need for a facility in the Northeast U.S., and the wealth of resources and infrastructure available at the xxx location , this alternative includes partial demolition and renovation of xxx at the xxx locations; This option can meet the minimal mission need, but is not the optimal solution. This option is also more technically complex as there are coordination and safety issues associated with planning the project while portions of the facility are occupied or still in operation. The O&M cost for this option is expected to be higher since not all efficiencies can be incorporated into the facility. Because no new land will be disturbed, environmental activities will not be as extensive nor will the project need to consider the one-for-one replacement requirements.*

*Alternative 3 – Build a new facility at xxx location: Because of the need for a facility in the Northeast U.S., and the wealth of resources and infrastructure available at the xxx location, this alternative includes building all new facilities at the xxx Lab. This alternative allows for more technical capability, productivity gains from the more synergistic, efficient laboratory environment, and more efficient use of energy and resources. Although this option has the lowest life-cycle costs, this alternative also includes the highest up-front investment costs due to the one-for-one replacement requirement costs, sitework, and more complex environmental permitting requirements.*

*Alternative 4 – Utilize other Universities or other laboratories: Although other facilities in Germany and Japan are available, these facilities do not meet the technical capability requirements to adequately to close the capability gaps. The xx facility in Japan is planning on upgrading its systems to operate at xx capability and the U.S. can collaborate in the upgrade. However, because of the distance and limited accessibility (Japanese scientists will have first priority to use the machine), this is not a viable option. Also, this option will allow the Japanese to take a lead in the area of xxxx, which is contrary to strategic goal 1—maintaining U.S. competitiveness.*

*Below is the LCC summary of the alternatives.*

|  |  |  |  |
| --- | --- | --- | --- |
| ***No*** | ***Alternative Title*** | ***Capital Cost ($M)*** | ***Project LCC ($M)*** |
| 1 | *Status Quo/No Action* | *$0* | *$3,990* |
| 2 | *Renovate Existing Facility at XX Location* | *$1,737* | *$3,790* |
| 3 | *Construct New Facility at XX Location* | *$1,852* | *$3,380* |
| 4 | *Utilize other Universities or laboratories* | *$35* | *$200* |

*Refer to xxx document for more details on the LCC analysis.*

In addition to the discriminators listed above, there could be other project specific criteria that may need to be evaluated, such as minimizing downtime or operations during construction, accessibility, or nuclear requirements.

# 4. RECOMMENDED ALTERNATIVE

State the final recommended alternative based on the preceding analysis in an integrated form. Summarize why this is the preferred alternative; support the recommendation with facts from the analysis.

***Example****: Based on the above considerations, Alternative #3--acquiring a new facility at the xxx location-- is the most likely path to be pursued to meet the mission need in a timely and cost-effective manner.*

# 5. TOTAL PROJECT COST RANGE

**For the selected alternative**, identify the projected TPC expressed as a cost range. The TPC includes the total estimated cost (TEC) and other project costs (OPC) as defined in DOE

Order 413.3B.

Provide a table with the lower and upper cost estimate range for each of the major work breakdown structure (WBS) elements and the summary totals. Explain the basis for the lower and upper range of the cost estimates and identify major elements or products not included, but necessary to implement the acquisition strategy (see Table 2).

***Example 1****:*

***Table 2—High and Low TPC Range***

|  |  |  |
| --- | --- | --- |
|  | ***Low Range ($M)*** | ***High Range ($M)*** |
| ***Total Estimated Cost (TEC)*** |  |  |
| *Preliminary & Final Design* | *$101* | *$154* |
| *Project Support* | *$144* | *$216* |
| *Construction (Including Equipment)* | *$585* | *$1,002* |
| *TEC Contingency* | *$295* | *$485* |
| ***Subtotal TEC*** | *$1,125* | *$1,857* |
| ***Other Project Cost (OPC)*** |  |  |
| *OPC* | *$235* | *$304* |
| *OPC Contingency* | *$40* | *$69* |
| ***Subtotal OPC*** | *$275* | *$372* |
| ***Total Project Cost (TPC) ($M)*** | ***$1,400*** | ***$2,230*** |

*In this example, the major cost difference between the low and high range is the quantity of equipment to be included as part of the project and the resulting space required to house the equipment.*

***Example 2****:*

***Table 2—High and Low TPC Range***

|  |  |  |
| --- | --- | --- |
|  | ***Low Range ($M)*** | ***High Range ($M)*** |
| ***Total Estimated Cost (TEC)*** |  |  |
| *Preliminary & Final Design* | *$128* | *$128* |
| *Project Support* | *$180* | *$180* |
| *Construction (Including Equipment)* | *$794* | *$794* |
| *TEC Contingency* | *$25* | *$785* |
| ***Subtotal TEC*** | *$1,126* | *$1,126* |
| ***Other Project Cost (OPC)*** |  |  |
| *OPC* | *$270* | *$270* |
| *OPC Contingency* | *$5* | *$75* |
| ***Subtotal OPC*** | *$275* | *$275* |
| ***Total Project Cost (TPC) ($M)*** | ***$1,400*** | ***$2,230*** |

*In this example, the major cost difference between the low and high range is due to allocation of contingency from uncertainties such as escalation rates, currency exchange rates, market conditions, changes in commodity prices, and other risks.*

If a more detailed estimate by WBS element is required, a reference should be made to the preliminary PEP or any other available document.

# 6. FUNDING PROFILE

Indicate the funding type (MIE, Line-Item, Operating Expense) and include a funding profile **for the selected alternative** that distributes the cost by fiscal year and the funding sources, including those from outside. See the suggested Table 3 below for presenting the budget point estimate funding profile (at CD-1 a cost range is presented but for budget planning purposes a target point estimate is required). It should be clearly noted that at CD-1 the project has not been baselined and the presented funding profile is for planning purposes only and is not definitive.

***Example****: Table 3----Initial Funding Profile*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Fiscal Year*** | ***FY***  ***06*** | ***FY***  ***07*** | ***FY***  ***08*** | ***FY***  ***09*** | ***FY***  ***10*** | ***FY***  ***11*** | ***FY***  ***12*** | ***FY***  ***13*** | ***FY***  ***14*** | ***FY***  ***15*** | ***Total ($M)*** |
| ***OPC*** | *$15* | *$54* | *$50* | *$41* | *$13* | *$3* |  |  |  |  | *$177* |
| ***TEC PED*** |  | *$6* | *$56* | *$67* |  |  |  |  |  |  | *$129* |
| ***TEC Construction*** |  |  |  | *$275* | *$314* | *$390* | *$291* | *$105* | *$48* |  | *$1,422* |
| ***Pre-Ops*** |  |  |  |  |  | *$2* | *$20* | *$45* | *$44* | *$13* | *$124* |
| ***Total Project Cost ($M)*** | ***$15*** | ***$61*** | ***$106*** | ***$383*** | ***$327*** | ***$395*** | ***$310*** | ***$150*** | ***$92*** | ***$13*** | ***$1,852*** |

*This funding profile represents the most likely alternative or the mid-range of the current CD-1 cost estimate. The project has not been baselined and the presented funding profile is for planning purposes only and is not definitive*.

**7. KEY MILESTONES AND EVENTS**

Identify key milestones and events in the acquisition, development, and implementation process of the project.

***Example****:*

***Table 4—Key Milestones and Events***

|  |  |
| --- | --- |
| ***Key Milestones*** | ***Schedule*** |
| *CD-0, Approve Mission Need* | *8/22/06 (actual)* |
| *CD-1, Approve Alternative Selection and Cost Range* | *12/07* |
| *CD-3a, Approve Long Lead Procurement* | *5/08* |
| *CD-2/3, Approve Performance Baseline/Start of Construction* | *10/09* |
| *CD-4, Approve Project Completion* | *4rd Quarter, FY2015* |

# 8. TAILORING STRATEGY

This section should document how the requirements of DOE O 413.3B will be met through a tailored application of project management and project controls.

Tailoring is necessary for efficient delivery of projects and should be applied to all projects considering size, complexity, cost, and risks. Tailoring does not imply the omission of essential elements, and requirements must be addressed to the extent necessary and practical.

Tailoring may involve consolidation or phasing of CDs, substituting equivalent documents, using a graded approach to document development and content, concurrency of processes, or creating a portfolio of projects to facilitate a single CD or Acquisition Strategy for the entire group of projects. Tailoring may also include adjusting the scope of Independent Project Reviews and External Independent Reviews, delegation of acquisition authority, and other applications.

***Example****: Because this is a non-complex, repetitive facility construction project, tailoring principles will be applied. The application of the following tailoring approaches will accelerate the project completion and save significant cost. This project plans to use the following tailoring principles:*

* + *Design-build approach to construct the facilities*
  + *Request construction funding prior to CD-2 approval*
  + *Delegate the AE authority from the Deputy Director, Office of Science to the Associate Director of xxx Program.*
  + *The project also will not develop a project specific SVAR, but use the site-wide SVAR,*
  + *Long-lead procurement for sitework is planned prior to CD-2*
  + *The project will have simultaneous CD2/3 approvals*

# 9. BUSINESS AND ACQUISITION APPROACH

Discuss acquisition approaches, such as the major contracts and types contemplated for the project. The various contract alternatives include: contracting out, privatizing the activity, non-ownership options, such as leasing, or engaging in joint venture projects with other organizations to minimize the amount invested and reduce the organization’s risk.

***Example****: DOE does not have the procurement or technical resources to perform the work. DOE will utilize the M&O contractor to execute the project. The engineering and design for the technical equipment will be performed by the M&O since the xxx Lab is an expert in this area. However, the M&O will sub-contract work for conventional facility design and construction. DOE will require the M&O to use a fixed-price contract and to purchase commercial off the shelf items as much as possible.*

# 10. MANAGEMENT STRUCTURE AND APPROACH

Discuss the management approach to managing the project, and supporting program and project

interrelationships. Identify the IPT, organization structure, and staffing skills.

***Example****: Figure xx is the planned management structure for the xxx project.*

*The Integrated Project Team (IPT) will include Federal and Contractor professionals representing Architect/Engineers, budget/finance, contracting/procurement, ES&H, legal, Project Management/Controls, Q/A, security, stakeholders/end users, technical managers, and others as applicable . The team size and membership will change as a project progresses. Refer to the IPT Charter for more details.*

# 11. RISK ANALYSIS

For the recommended alternative, this section represents a preliminary assessment of risks that could jeopardize the ability of the project to meet scope requirements within the budget and the proposed schedule. This effort leads to a preliminary risk management strategy that serves as a starting point for a formal Risk Management Plan for the recommended alternative. The risk analysis also identifies risk mitigation approaches for which the costs need to be included in the project cost range at CD-1.

At the summary level, identify high or major risks and possible mitigation strategies for the applicable major risks. Below is a listing of potential risk items. If critical decisions have been combined or other project acceleration is proposed, identify the risks of the project as well as for combining or accelerating the work.

* Facility, technology, or system to perform or meet the project requirements
* Environment, safety, and health, legal and regulatory
* Cost and schedule
  + Workforce issues (cost, availability, legacy transitions)
  + Funding and budget
  + Interfaces and integration requirements
  + Safeguards and security
  + Location and site conditions
  + Required Government-furnished services/items and their availability
  + Expertise and human resources from DOE’s perspective and the management or technical expertise required to perform the work.

***Example****: A detailed Risk Management Plan that describes the project’s risk identification and management approach and associated risk register will be developed. The major risks currently identified and the risk management approaches are identified below.*

*Technical Risk—The high quality and purity of material needed as well as tight tolerances for the components are a major risk to the project. The project is performing R&D and evaluating various, less stringent requirements to determine the technical impact to the project. The project is also planning to establish an Advisory Committee and frequent independent technical reviews to minimize technical risks. The project has included cost and schedule contingency in case these risks are realized. The design-build approach does not introduce major risks, as this only applies to conventional facilities that are not technically complex or challenging.*

*Project Funding—Risks associated with continuing resolutions and not receiving funds as planned. The mitigating approach includes assuming three months of CR in the schedule, planning to award contracts in third quarter of fiscal years, and utilizing contracting methods with lower initial funding authorization. These contracting methods allow the work to begin prior to receipt of full funding but will require attention from technical and contracting staff.*

*Procurement Risks—The availability of limited manufacturers of high-field magnet capability will be factor. These procurement risks have been mitigated through rigorous procurement processes, including a competitive bid process, extremely detailed and flexible specifications and a request for information from potential vendors.*

*ES&H—It is highly likely that strong public stakeholder will oppose this project and delay the NEPA process. The project is developing outreach programs to inform and communicate with concerned citizens. The project is also establishing a team of litigators to address the issues.*

*Interfaces and integration requirements—The combined CD-2/CD-3 approach to accelerate the schedule needs to be coordinated with the maintenance shutdown of the xxx facility. The project tunneling can only be performed during the shutdown to minimize noise, dust, and vibration of the xxx facility.*

*Staffing and resources—There are very few experienced personnel domestically in this field of study and the project will need to implement special recruiting efforts internationally to obtain required personnel and resources for the project.*

*There are not major risks associated with site or location conditions, safeguards and security, or other cost and schedule challenges.*

Appendices

**References**