|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | |
|  |  |  | |
|  |  | ***Acquisition Management System Guidance*** | |
| **Business Case Template for Programs Requesting a Baseline Change Decision** | | |  |

**July 2023**

Federal Aviation Administration

800 Independence Avenue SW

Washington, DC 20591

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Federal Aviation**  **Administration** | |
|  |  |  | |
|  |  | (Date) | |
| **Business Case for**  **(Name of Program)**  **Baseline Change Decision** | | |  |

Enterprise Architecture Roadmap Statement #

Approved by: Date:

Vice President (ATO) or Director (non-ATO) of

Sponsoring Service Organization or Line of Business

Contact Point

*Name*

*Organizational Code*

*Phone Number*

*FAX Number*

Federal Aviation Administration

800 Independence Avenue SW

Washington, DC 20591

**TABLE OF CONTENTS**

**EXECUTIVE SUMMARY**

**1.0 investment description**  [**Error! Bookmark not defined.**](#_Toc367082618)

[1.1 Background 1](#_Toc367082619)

[2.0 Problem Statement 1](#_Toc367082620)

[2.1 Change in Operating Environment 1](#_Toc367082621)

[2.2 Change in Requirements 2](#_Toc367082622)

[2.3 Change in Scope 2](#_Toc367082623)

[3.0 Assumptions 2](#_Toc367082624)

[4.0 Business Case Analysis 2](#_Toc367082625)

[4.1 Cost Analysis 2](#_Toc367082626)

[4.1.1 Summary Table 2](#_Toc367082627)

[4.1.2 Burn Rate 3](#_Toc367082628)

[4.1.3 Cost Analysis 3](#_Toc367082629)

[4.2 Benefits Analysis (Quantitative/Qualitative) 3](#_Toc367082630)

[4.3 Schedule Analysis 3](#_Toc367082631)

[4.4 Risk and Sensitivity Analysis 4](#_Toc367082632)

[4.4.1 Risk Analysis 4](#_Toc367082633)

[4.4.2 Issues and Opportunities 4](#_Toc367082634)

[4.4.3 Sensitivity Analysis 4](#_Toc367082635)

[4.5 Economic Analysis 4](#_Toc367082636)

[4.5.1 Cost/Benefit Analysis 5](#_Toc367082637)

[4.5.2 Net Present Value (NPV) 5](#_Toc367082638)

[5.0 Affordability Analysis 5](#_Toc367082639)

[6.0 Recommendation 5](#_Toc367082640)

[7.0 Impact if Not Funded or Delayed 5](#_Toc367082641)

**APPENDICES**

Appendix A: Business Case Analysis Team Members

Appendix B: References

**SUPPORTING DOCUMENTS**

Life Cycle Cost Estimate

Acquisition Program Baseline

Benefits Analysis Report

Shortfall Analysis Report

*This template may be tailored by the IP&A Business Case Review group depending upon the nature of the baseline change request. Requests for tailoring should be made very early in the baseline change analysis process.*

*All guidance documents cited in this template can be found on the IP&A website at* [*www.ipa.faa.gov*](http://www.ipa.faa.gov) *or the FAA Acquisition System Toolset website at http://fast.faa.gov*

**EXECUTIVE SUMMARY**

*Summarize the key information in this document, highlighting those elements that should be most relevant to the Joint Resources Council when making a baseline change decision. Include the following at a minimum: The reason for the baseline change request; the baseline change request (e.g., more money by fiscal year, change in schedule, or a change in the performance baseline); and the impact on FAA service delivery is the baseline change is not approved.*

# INVESTMENT DESCRIPTION

*Describe the status of the program and identify the reason(s) for the baseline change request (e.g., breach due to schedule, cost, or performance). Discuss the magnitude of the breach and estimate the impact of the breach on service delivery and dependent assets if no additional resources are made available and the program continues at its current scope.*

## Background

*Discuss program execution results to date such as:*

* *What is the original mission-critical business need being addressed?*
* *What is the date of last JRC baseline decision?*
* *How many times has the program been re-baselined and why?*
* *How much has the program been modified since the initial baseline?*
* *Is the program on any “High Risk” or related “Oversight” list? If yes, why, and for how long?*
* *What is the Earned Value Management (or other) financial system track record for this program and how are costs projected?*
* *What milestones have been met and were they delivered on-time?*

# Problem Statement

## Change in Operating Environment

*Develop a picture for senior management concerning changes in the operating environment for the program that have occurred since the original JRC baseline decision that are relevant to the re-baseline decision. These would likely take the form of:*

* *Changes in the internal environment, particularly to the plan for integrating the solution in question with other assets in the NAS*
* *Changes in the external environment, especially  operational factors related to the air transportation industry*
* *Changes to the plan for the use of originally proposed technology*

## Change in Requirements

*Discuss the role, if any, of requirements changes over the life of the program to date. Has mission-creep or requirements-creep since the original baseline decision contributed to breaching the original schedule or cost baseline?*

*Should any new requirements that have surfaced since the original baseline decision and are now part of program planning be retained or jettisoned?*

## Change in Scope

*Discuss any current or anticipated change in program scope.*

# ****Assumptions****

*List the key assumptions and conditions having major influence on this business case analysis and its conclusions. The list should include as a minimum:*

* The assumed remaining service life and disposition date of the existing capability
* The assumed required implementation date for the proposed investment
* The assumed service life of the proposed investment
* The future operational environment

See “*Business Case Analysis Guidance, Appendix B”* for definitions of assumptions, constraints, and conditions.

# Business Case Analysis

*See Business Case Analysis Guidance, Appendix A, Table A-1 for analysis requirements by ACAT.*

## Cost Analysis

### Summary Table

*Provide a summary table of lifecycle costs similar to the table shown.*



### Burn Rate

*Provide a table showing burn rate over the life of the program.*

### Cost Analysis

*Briefly summarize the cost analysis conducted to generate high-confidence risk-adjusted lifecycle cost estimates. Summarize the sensitivity analysis performed on key cost drivers and the effect of technical, schedule, and cost risk on cost and schedule. Cost estimates should be presented in Risk-Adjusted Then-Year (RATY) dollars. Reference the Life Cycle Cost Estimate and Cost Basis of Estimate. Additionally, this section should include a table that depicts in total and on an annual basis the number of AJW-2 federal FTEs and/or AJW-2 support contractor FTEs performing implementation activities consistent with the FTEs depicted, or will be depicted, in the Corporate Work Plan (CWP). The table should also include the dollars required for AJW-2 materials purchases and/or support contractor travel and labor.*

## B****enefits Analysis (Quantitative/Qualitative)****

*Briefly summarize the original qualitative and quantitative benefits estimate. Discuss whether the original benefits analysis is still valid and explain why. If a revised benefits analysis is appropriate, engage the IP&A Operations Research group and provide a summary table comparing the revised benefits estimate with the original benefits baseline.*

## ****Schedule Analysis****

*Summarize the activities undertaken to generate a revised risk-adjusted schedule. Discuss results and provide a graphic comparing the new schedule to the baselined schedule.*

*See “Guide to Business Case Schedule Evaluations” on the FAA website at http://ipa,faa,gov.*

## ****Risk**** and Sensitivity Analysis

### Risk Analysis

*Risk analysis is an objective assessment to determine the probability of an undesirable event occurring during solution implementation and the significance of the consequence of the occurrence. It is a process in which a group of programmatic, technical, and analytical specialists review the cost and benefits estimates, as well as supporting ground rules, assumptions, and the basis of the estimates. If the analysis indicates that an undesirable event may arise, the potential impact(s) resulting from such an occurrence is evaluated. At a minimum, the areas of risk to be analyzed are: costs, benefits, schedule, and technical.*

*Summarize the risks associated with implementing the investment program both with and without approval of this baseline change request. Include the overall risk rating supported by a 5 X 5 risk matrix. Identify and evaluate major risks and summarize the mitigation strategy for each. Reference the risk mitigation plan*.

See “*Guide to Conducting Business Case Risk Assessments” on the IP&A website at http://ipa.faa.gov*

### Issues and Opportunities

*Summarize the major issues that have been identified, analyzed, and incorporated into the business case, as well as any opportunities that would have a positive impact on FAA service delivery. For ATO programs, reference the PMO Risk, Issues, and Opportunities Management Plan.*

### Sensitivity Analysis

*Sensitivity analysis involves changing key parameters in the cost model to test their effect on cost. In order for sensitivity analysis to reveal how the cost estimate is affected by a change in a single assumption, the cost estimator must examine the effect of changing one assumption or cost driver at a time while holding all other variables constant. Perform a sensitivity analysis on key cost-drivers to determine their impact on cost. Sensitivity analysis includes:*

* *Testing the sensitivity of cost elements to changes in input values and key assumptions*
* *Identifying effects of changing quantities or program schedule on the overall cost estimate*
* *Determining which assumptions are key cost-drivers and which cost elements are affected most by changes*

*Use the following table to identify the key cost-drivers on which a sensitivity analysis was performed and summarize their impact on cost.*

|  |  |
| --- | --- |
| **Key Cost-Driver** | **Cost Impact** |
|  |  |
|  |  |

## ****Economic Analysis****

*Economic analysis is the process of translating a cost and benefit analysis into a risk-adjusted benefit/cost ratio and Net Present Value (NPV).****See Business Case Analysis Requirements, Appendix A to Business Case Analysis Guidance for the required level of risk adjustment. Refer to the “Guide to Conducting Economic Evaluations” on the IP&A website at http://ipa,faa.gov***

### ****Cost/Benefit Analysis****

*Describe the risk-adjusted cost/benefit analysis conducted for this baseline change request and summarize results. Weigh total expected costs against the total expected benefits. Include the designated discount rate per OMB guidelines to calculate the present-value cost and benefits based on risk-adjusted estimates for benefits and costs.*

### ****Net Present Value (NPV)****

*The NPV indicates the net value of an investment in today’s dollars. All costs and benefits are adjusted to "present value" by using discount factors to account for the time value of money. NPV is a way of making costs and benefits occurring in different years commensurable. It is the algebraic combination of the present value of costs and benefits. OMB Circular A-94 establishes NPV as the standard criterion for deciding whether the costs of a government investment can be justified on economic principles.*

*Determine and show in the table below (or appropriate variation) the monetized value of the future stream of expected net benefits and costs, as well as net present value, from this baseline change request discounted to the present. Briefly explain the assumptions and calculations used to determine these values.*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Present Value of Benefits** | **Present Value of Costs** | **Net Present Value** |
| **Baseline Change Request** |  |  |  |
|  |  |  |  |

# ****Affordability Analysis****

*Send the lifecycle cost estimate for the baseline change request to FAA Finance. This office assesses the budget impact and relative contribution to agency goals of this baseline change against other ongoing and proposed investment programs in the FAA financial baseline. When a baseline change cost request cannot be funded within the financial baseline, FAA Finance may propose offsets from lower priority programs. The budget impact assessment shapes subsequent deliberations of the baseline change request team.*

# Recommendation

*Describe the baseline change request and provide supporting rationale (i.e., affordability, schedule, operational risk, impact on dependent operational assets, etc.).*

# Impact if Not Funded or Delayed

*Briefly state what will happen if the baseline change request is delayed or not approved. Briefly describe the impact on other initiatives or operational assets dependent on this program.*

**APPENDICES**

**Appendix A: Business Case Analysis Team Members**

*Identify the organization and briefly define the role of each business case team member in the following table.*

|  |  |  |
| --- | --- | --- |
| **Name** | **Organization** | **Role** |
|  |  |  |
|  |  |  |

**Appendix B: References**

*Use the following table to list references and documents used in this business case analysis. Examples include basis of estimates for cost and schedule and related assessments.  Each reference should include document title, originating organization, and date.*

|  |  |  |
| --- | --- | --- |
| **Document Title** | **Originating Organization** | **Approval Date** |
|  |  |  |
|  |  |  |

**SUPPORTING DOCUMENTS**

**Life Cycle Cost Estimate**

**Acquisition Program Baseline** (Revised)

**Benefits Analysis Report** (Revised)

**Shortfall Analysis Report** (Original)

.