

# U.S. Department of Energy

*Project Name*

**Feasibility Study Report**

*September 2002*

# TEMPLATE

U. S. DEPARTMENT OF ENERGY

*Organization Title 1*

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U.S. DEPARTMENT OF ENERGY

*Organization Title 1*  
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## Table of Contents

|  |       |
|--|-------|
| Preface.....                             | ii    |
| Management Summary .....                 | iii   |
| 1. Introduction .....                    | 1 - 1 |
| 1.1 Purpose.....                         | 1 - 1 |
| 1.2 Project History .....                | 1 - 1 |
| 1.3 Methodology .....                    | 1 - 1 |
| 1.4 References.....                      | 1 - 1 |
| 2. General Information .....             | 2 - 1 |
| 2.1 Current Systems and Processes.....   | 2 - 1 |
| 2.1.1 Current Operations.....            | 2 - 1 |
| 2.1.2 Physical Environment .....         | 2 - 1 |
| 2.1.3 User Organization .....            | 2 - 1 |
| 2.2 System Objectives.....               | 2 - 1 |
| 2.3 Issues.....                          | 2 - 1 |
| 2.4 Assumptions and Constraints.....     | 2 - 2 |
| 3. Alternatives .....                    | 3 - 1 |
| 3.1 Alternative .....                    | 3 - 1 |
| 3.1.1 Description.....                   | 3 - 1 |
| 3.1.2 Benefits and Costs .....           | 3 - 1 |
| 3.x Alternative x .....                  | 3 - 1 |
| 3.y Comparison of Alternatives .....     | 3 - 2 |
| 4. Recommendations and Conclusions ..... | 4 - 1 |
| Appendixes .....                         | A - 1 |

# Preface

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**Document Version Control:** It is the reader's responsibility to ensure they have the latest version of this document. Questions should be directed to the owner of this document, or the project manager.

This document was generated by the **PROJECT NAME** project team. **System/Project Name** will be developed for the **Organizational Name** Branch of the U.S. Department of Energy.

**Lifecycle Stage:** **Project Name** is in the Planning Stage of the software lifecycle.

**Approval:** *A completed stage exit will constitute approval of this document.*

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This document may contain information of a sensitive nature. This information should not be given to persons other than those who are involved in the **Project Name** project or who will become involved during the lifecycle.

# Management Summary

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Provide a brief one-page summary describing the purpose, methods, issues, and results of the feasibility study.

# 1. Introduction

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This chapter provides the purpose of the feasibility study, the background of the proposed project, the methodology used for performing the study, and any reference materials used in conducting the feasibility study.

Feasibility may not be an issue for some small software development projects. A full-scale feasibility study is not required when feasibility is obvious. If the proposed project has clear-cut requirements, will be developed on an existing platform, and has minimal risks associated with it, a feasibility review may be all that is necessary. If a feasibility review is conducted in place of a full-scale study, the information in this work product may be reduced to a feasibility statement (refer to chapter 4 for additional information).

## 1.1 Purpose

Describe the purpose of the feasibility study.

## 1.2 Project History

Provide a brief history of the project.

## 1.3 Methodology

Describe the methodology that was used to perform the feasibility study.

## 1.4 References

Identify the sources of information/reference materials that were used to conduct the feasibility study, such as:

- DOE Systems Engineering Methodology (SEM)
- DOE Analysis of Benefits and Costs (ABC's) Guideline: Volume 1, A Manager's Guide to Analysis of Benefits and Costs
- DOE Analysis of Benefits and Costs (ABC's) Guideline: Volume 2, An Analyst's Handbook for Analysis of Benefits and Costs

## **2. General Information**

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This chapter describes the current automated or manual procedures being used; the project stakeholders' objectives for the proposed system; issues that remain to be resolved; and general assumptions and constraints that were required for performing the study (e.g., "The system must be developed in time for the next budget call.").

### **2.1 Current Systems and Processes**

This section describes any existing systems and the associated manual and automated business processes.

#### **2.1.1 Current Operations**

Describe the current operations.

#### **2.1.2 Physical Environment**

Identify the physical environment (hardware and software) being used for the existing system or business processes.

#### **2.1.3 User Organization**

Include a description of the user organization(s) that use the system or business processes.

### **2.2 System Objectives**

This section presents a general description of the proposed system and the major performance objectives. Include the objectives and high-level requirements the system will be designed to meet. Describe whether the system will be fully automated or include some manual activities, the functionality the system will provide, the general processes and operations that are required, the expected system end products, and an estimated timeline for system development and implementation. A high-level justification for the system can be included.

### **2.3 Issues**

This section provides a summary of important issues that may affect the development and operation of the system, such as the use of data bases; processing and data flow; information access and retrieval; data communication; workload volume and system capacity; system interfaces; security, privacy and control; and training.



## **2.4 Assumptions and Constraints**

This section presents the assumptions or constraints that will affect the proposed system, such as:

- Operational life
- Date new system is required
- Interaction of proposed system with other systems and organizations
- Financial considerations including development and operational costs
- Legislative and policy mandates or issues
- Changing hardware/software/operating environments
- Availability of information and resources

## 3. Alternatives

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This chapter describes the viable alternatives for the system. Each alternative should have its own section within the chapter. One alternative should always be to maintain the "status quo," which is the continuation of the existing system and processes. Describe and quantify the benefits and costs for each alternative. Compare alternatives using standard analysis of benefits and costs methods to include constraints, limitations, dependencies, and risks. Cost, benefit, and summary matrices can be presented either within the chapter or in an appendix.

### 3.1 Alternative 1

This section defines the alternative and describes how it would satisfy the system requirements. If specific software tools or techniques are advocated, describe them in the context of the overall proposed system.

#### 3.1.1 Description

Include the following types of information:

- Operational components that may be affected by implementation of the alternative
- Hardware and software platform configuration options
- Software packages that would need to be acquired
- Additions or modifications to existing systems or support software
- New equipment that would need to be acquired
- Currently used equipment that would continue to be used
- Changes in operating procedures
- Changes in organizational structure, personnel, or skill requirements
- Systems that should be interfaced or integrated
- Computer facilities needed
- Development impacts such as staff resources

#### 3.1.2 Benefits and Costs

Identify the benefits and costs associated with this alternative. Provide adequate cost and benefit information to enable each alternative to be evaluated and compared with the other alternatives.

### 3.x Alternative x

This section is repeated for each alternative considered as a possible solution to meet the stated requirements.

### **3.y Comparison of Alternatives**

Identify the evaluation criteria that will be used to judge the suitability of alternatives to satisfy requirements. Compare each alternative's benefits and costs to determine whether it is feasible and cost effective to build the proposed system, and which approach is most desirable.

## 4. Recommendations and Conclusions

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In this chapter present all final recommendations and conclusions resulting from the study. Identify and justify the recommended approach. Summarize the most viable platform configuration, and present the estimated lifecycle costs for the system and the schedule for the project plan. Provide the primary reasons for rejecting each of the other proposed alternatives.

If a feasibility review was conducted in place of a full-scale study, the information in this work product may be reduced to a feasibility statement with the following information.

- Project objectives
- Summary of issues concerning:
  - development and implementation
  - assumptions, constraints, and limitations
  - project scope
- Results of research on hardware and software alternatives
- Significant risk factors
- Feasibility recommendation(s)

# Appendixes

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Include comparison charts, matrices, vendor materials, and graphics that support the study findings.