Project Management Plan[[1]](#footnote-1)

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| *Project Title* | [type the project title here] |
| *Project Manager* |  |
| *Project Sponsor* |  |
| *­Project Start Date* |  |
| *Target End Date* |  |

Document Control

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Project Approval

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Contents

[1 Project Overview 4](#_Toc358715471)

[1.1 Purpose, Objectives, and Scope 4](#_Toc358715472)

[1.1.1 Project Purpose & Objectives 4](#_Toc358715473)

[1.1.2 Project Scope 4](#_Toc358715474)

[1.1.3 Out-of-scope 4](#_Toc358715475)

[1.2 Assumptions and Constraints 4](#_Toc358715476)

[1.2.1 Assumptions 4](#_Toc358715477)

[1.2.2 Constraints 4](#_Toc358715478)

[1.3 Project Deliverables 5](#_Toc358715479)

[1.4 Schedule and Budget Summary 5](#_Toc358715480)

[1.4.1 Schedule Summary 5](#_Toc358715481)

[1.4.2 Budget Summary 5](#_Toc358715482)

[2 Project Organization 6](#_Toc358715483)

[2.1 External Interfaces 6](#_Toc358715484)

[2.2 Internal Structure 6](#_Toc358715485)

[2.3 Roles and Responsibilities 6](#_Toc358715486)

[3 Managerial Process Plans 7](#_Toc358715487)

[3.1 Start-up Plan 7](#_Toc358715489)

[3.1.1 Estimation Plan 7](#_Toc358715490)

[3.1.2 Staffing Plan 7](#_Toc358715491)

[3.1.3 Resource Acquisition Plan 7](#_Toc358715492)

[3.1.4 Staff Training Plan 7](#_Toc358715493)

[3.2 Work Plan 8](#_Toc358715494)

[3.2.1 Work Activities 8](#_Toc358715495)

[3.2.2 Schedule Allocation 8](#_Toc358715496)

[3.2.3 Resource Allocation 8](#_Toc358715497)

[3.2.4 Budget Allocation 8](#_Toc358715498)

[3.3 Control Plan 9](#_Toc358715499)

[3.3.1 Requirements Control Plan 9](#_Toc358715500)

[3.3.2 Schedule Control Plan 9](#_Toc358715501)

[3.3.3 Budget Control Plan 9](#_Toc358715502)

[3.3.4 Quality Control Plan 9](#_Toc358715503)

[3.3.5 Project Reporting Plan 10](#_Toc358715504)

[3.3.6 Metrics Collection Plan 10](#_Toc358715505)

[3.4 Risk Management Plan 11](#_Toc358715506)

[3.5 Closeout Plan 11](#_Toc358715507)

[4 Technical Process Plans 12](#_Toc358715508)

[4.1 Process Model 12](#_Toc358715512)

[4.2 Methods, Tools, and Techniques 12](#_Toc358715513)

[4.3 Infrastructure Plan 12](#_Toc358715514)

[4.4 Product Acceptance Plan 12](#_Toc358715515)

[5 Supporting Process Plans 13](#_Toc358715516)

[5.1 Configuration Management Plan 13](#_Toc358715518)

[5.2 Verification and Validation Plan 13](#_Toc358715519)

[5.3 Documentation Plan 13](#_Toc358715520)

[5.4 Quality Assurance Plan 14](#_Toc358715521)

[5.5 Reviews and Audits Plan 14](#_Toc358715522)

[5.6 Problem Resolution Plan 14](#_Toc358715523)

[5.7 Subcontractor Management Plan 14](#_Toc358715524)

[5.8 Process Improvement Plan 15](#_Toc358715525)

[5.9 Additional Plans 15](#_Toc358715526)

[6 Appendix 16](#_Toc358715527)

# 1 Project Overview

## Purpose, Objectives, and Scope

### Project Purpose & Objectives

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| IEEE Std 1058-1998 Guidance: (Subclause 1.1.1) Purpose, scope, and objectives  This section shall define the purpose and objectives of the project. This shall include a brief statement of the business or system needs to be satisfied by the project, with a concise summary of the project objectives, the products to be delivered to satisfy those objectives, and the methods by which satisfaction will be determined. The project statement of purpose shall describe the relationship of this project to other projects, and, as appropriate, how this project will be integrated with other projects or ongoing work processes. |

### Project Scope

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| IEEE Std 1058-1998 Guidance: (Subclause 1.1.1) Purpose, scope, and objectives  This section shall define the scope of the project and the products to be delivered. The statement of scope shall be consistent with similar statements in the project agreement and other relevant system-level or business-level documents. |

### Out-of-scope

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| IEEE Std 1058-1998 Guidance: (Subclause 1.1.1) Purpose, scope, and objectives  This section shall define any considerations of scope or objectives to be excluded from the project or the resulting product. |

## Assumptions and Constraints

### Assumptions

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| IEEE Std 1058-1998 Guidance: (Subclause 1.1.2) Assumptions and Constraints  This section shall describe the assumptions (some beliefs to be true based on our knowledge, experience, and available information) on project factors, such as the schedule, budget, resources, components to be reused, acquirer components to be incorporated, technology to be employed, and product interfaces to other products. |

### Constraints

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| IEEE Std 1058-1998 Guidance: (Subclause 1.1.2) Assumptions and Constraints  This section shall describe the imposed constraints (limitations) on project factors such as the schedule, budget, resources, components to be reused, acquirer components to be incorporated, technology to be employed, and product interfaces to other products. |

## Project Deliverables

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| IEEE Std 1058-1998 Guidance: (Subclause 1.1.3) Project deliverables  This section shall list the work products that will be delivered to the acquirer, the delivery dates, delivery locations, and quantities required to satisfy the terms of the project agreement. In addition, this section shall specify the delivery media and any special instructions for packaging and handling. The list of project deliverables may be incorporated into the document directly or by reference to an external document such as a Contract Data Requirements List (CDRL) or a Product Parts List (PPL). |

## Schedule and Budget Summary

### Schedule Summary

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| IEEE Std 1058-1998 Guidance: (Subclause 1.1.4) Schedule and budget summary  This section shall provide a summary of the schedule for the project. The level of detail should be restricted to an itemization of the major work activities and supporting processes as, for example, those depicted by the top level of the work breakdown structure.  (WBS details shall document in the “WBS and WBS Dictionary”.) |

### Budget Summary

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| IEEE Std 1058-1998 Guidance: (Subclause 1.1.4) Schedule and budget summary  This section shall provide a summary of the budget for the project.  (The level of detail shall be equivalent to the content of the “Project Budget Plan Template”.) |

# Project Organization

## External Interfaces

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| IEEE Std 1058-1998 Guidance: (Subclause 4.1) External interfaces  This section shall describe the organizational boundaries between the project and external entities. This should include, but is not limited to, the following: the parent organization, the acquiring organization, subcontracted organizations, and other organizational entities that interact with the project. Representations such as organizational charts and diagrams may be used to depict the project’s external interfaces. |

## Internal Structure

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| IEEE Std 1058-1998 Guidance: (Subclause 4.2) Internal structure  This section shall describe the internal structure of the project organization to include the interfaces among the units of the development team. In addition, the organizational interfaces between the project and organizational entities that provide supporting processes, such as configuration management, quality assurance, and verification and validation, shall be specified in this section. Graphical devices such as organizational charts or diagrams should be used to depict the lines of authority, responsibility, and communication within the project. |

## Roles and Responsibilities

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| IEEE Std 1058-1998 Guidance: (Subclause 4.3) Roles and responsibilities  This section shall identify and state the nature of each major work activity and supporting process and identify the organizational units that are responsible for those processes and activities. A matrix of work activities and supporting processes vs. organizational units may be used to depict project roles and responsibilities.  (Comprehensive reference can be found in the “Roles and Responsibilities Templates”.) |

# 3 Managerial Process Plans



## Start-up Plan

### Estimation Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 5.1.1) Estimation plan  This section shall specify the cost and schedule for conducting the project as well as methods, tools, and techniques used to estimate project cost, schedule, resource requirements, and associated confidence levels. In addition, the basis of estimation shall be specified to include techniques such as analogy, rule of thumb, or local history and the sources of data. This section shall also specify the methods, tools, and techniques that will be used to periodically re-estimate the cost, schedule, and resources needed to complete the project. Re-estimation may be done on a monthly basis and/or periodically as necessary. |

### Staffing Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 5.1.2) Staffing plan  This section shall specify the number of staff required by skill level, the project phases in which the numbers of personnel and types of skills are needed, the source of personnel and the duration of need. Resource Gantt charts, resource histograms, spreadsheets, and tables may be used to depict the staffing plan by skill level, by project phase, and by aggregations of skill levels and project phases. |

### Resource Acquisition Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 5.1.3) Resource acquisition plan  This section shall specify the plan for acquiring the resources in addition to personnel needed to successfully complete the project. The resource acquisition plan should include a description of the resource acquisition process, including assignment of responsibility for all aspects of resource acquisition. The plan should include, but not be limited to, acquisition plans for equipment, computer hardware and software, training, service contracts, transportation, facilities, and administrative and janitorial services. The plan should specify the points in the project schedule when the various acquisition activities will be required. Constraints on acquiring the necessary resources shall be specified. |

### Staff Training Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 5.1.4) Project staff training plan  This section shall specify the training needed to ensure that necessary skill levels in sufficient numbers are available to successfully conduct the project. The training schedule shall include the types of training to be provided, numbers of personnel to be trained, entry and exit criteria for training, and the training method (e.g., lectures, consultations, mentoring, or computer-assisted training). The training plan should include training as needed in both technical and managerial skills. |

## Work Plan

### Work Activities

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| IEEE Std 1058-1998 Guidance: (Subclause 5.2.1) Work activities  This section shall specify the various work activities to be performed in the project. A work breakdown structure shall be used to depict the work activities and the relationships among work activities. Work activities should be decomposed to a level that exposes all project risk factors and allows accurate estimate of resource requirements and schedule duration for each work activity. Work packages should be used to specify, for each work activity, factors such as the necessary resources, estimated duration, work products to be produced, acceptance criteria for the work products, and predecessor and successor work activities. The level of decomposition for different work activities in the work breakdown structure may be different depending on factors such as the quality of the requirements, familiarity of the work, and novelty of the technology to be used. |

### Schedule Allocation

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| IEEE Std 1058-1998 Guidance: (Subclause 5.2.2) Schedule allocation  This section shall provide scheduling relationships among work activities in a manner that depicts the time-sequencing constraints and illustrates opportunities for concurrent work activities. Any constraints on scheduling of particular work activities caused by factors external to the project shall be indicated in the work activity schedule. The schedule should include frequent milestones that can be assessed for achievement using objective indicators to assess the scope and quality of work products completed at those milestones. Techniques for depicting schedule relationships may include milestone charts, activity lists, activity Gantt charts, activity networks, critical path networks, and PERT. |

### Resource Allocation

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| IEEE Std 1058-1998 Guidance: (Subclause 5.2.3) Resource allocation  This section shall provide a detailed itemization of the resources allocated to each major work activity in the project work breakdown structure. Resources shall include the numbers and required skill levels of personnel for each work activity. Resource allocation may include, as appropriate, personnel by skill level and factors such as computing resources, tools, special testing and simulation facilities, and administrative support. A separate line item should be provided for each type of resource for each work activity. A summary of resource requirements for the various work activities should be collected from the work packages of the work breakdown structure and presented in tabular form. |

### Budget Allocation

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| IEEE Std 1058-1998 Guidance: (Subclause 5.2.4) Budget allocation  This section shall provide a detailed breakdown of necessary resource budgets for each of the major work activities in the work breakdown structure. The activity budget shall include the estimated cost for activity personnel and may include, as appropriate, costs for factors such as travel, meetings, computing resources, tools, special testing and simulation facilities, and administrative support. A separate line item shall be provided for each type of resource in each activity budget. The work activity budget may be developed using a spreadsheet and presented in tabular form. |

## Control Plan

### Requirements Control Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 5.3.1) Requirements control plan  This section shall specify the control mechanisms for measuring, reporting, and controlling changes to the product requirements. This section shall also specify the mechanisms to be used in assessing the impact of requirements changes on product scope and quality, and the impacts of requirements changes on project schedule, budget, resources, and risk factors. Configuration management mechanisms shall include change control procedures and a change control board. Techniques that may be used for requirements control include traceability, prototyping and modeling, impact analysis, and reviews. |

### Schedule Control Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 5.3.2) Schedule control plan  This section shall specify the control mechanisms to be used to measure the progress of work completed at the major and minor project milestones, to compare actual progress to planned progress, and to implement corrective action when actual progress does not conform to planned progress. The schedule control plan shall specify the methods and tools that will be used to measure and control schedule progress. Achievement of schedule milestones should be assessed using objective criteria to measure the scope and quality of work products completed at each milestone. |

### Budget Control Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 5.3.3) Budget control plan  This section shall specify the control mechanisms to be used to measure the cost of work completed, compare planned cost to budgeted cost, and implement corrective action when actual cost does not conform to budgeted cost. The budget control plan shall specify the intervals at which cost reporting will be done and the methods and tools that will be used to manage the budget. The budget plan should include frequent milestones that can be assessed for achievement using objective indicators to assess the scope and quality of work products completed at those milestones. A mechanism such as earned value tracking should be used to report the budget and schedule plan, schedule progress, and the cost of work completed. |

### Quality Control Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 5.3.4) Quality control plan  This section shall specify the mechanisms to be used to measure and control the quality of the work processes and the resulting work products. Quality control mechanisms may include quality assurance of work processes, verification and validation, joint reviews, audits, and process assessment. |

### Project Reporting Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 5.3.5) Reporting plan  This section shall specify the reporting mechanisms, report formats, and information flows to be used in communicating the status of requirements, schedule, budget, quality, and other desired or required status metrics within the project and to entities external to the project. The methods, tools, and techniques of communication shall be specified in this section. The frequency and detail of communications related to project measurement and control shall be consistent with the project scope, criticality, risk, and visibility. |

### Metrics Collection Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 5.3.4) Metrics Collection plan  This section shall specify the methods, tools, and techniques to be used in collecting and retaining project metrics. The metrics collection plan shall specify the metrics to be collected, the frequency of collection, and the methods to be used in validating, analyzing, and reporting the metrics. |

## Risk Management Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 5.4) Risk management plan  This section shall specify the risk management plan for identifying, analyzing, and prioritizing project risk factors. This section shall also describe the procedures for contingency planning, and the methods to be used in tracking the various risk factors, evaluating changes in the levels of risk factors, and the responses to those changes.  The risk management plan shall also specify plans for assessing initial risk factors and the ongoing identification, assessment, and mitigation of risk factors throughout the life cycle of the project. This plan should describe risk management work activities, procedures and schedules for performing those activities, documentation and reporting requirements, organizations and personnel responsible for performing specific activities, and procedures for communicating risks and risk status among the various acquirer, supplier, and subcontractor organizations.  Risk factors that should be considered include risks in the acquirer-supplier relationship, contractual risks, technological risks, risks caused by the size and complexity of the product, risks in the development and target environments, risks in personnel acquisition, skill levels and retention, risks to schedule and budget, and risks in achieving acquirer acceptance of the product. |

## Closeout Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 5.5) Project closeout plan  This section shall contain the plans necessary to ensure orderly closeout of the project. Items in the closeout plan should include a staff reassignment plan, a plan for archiving project materials, a plan for postmortem debriefings of project personnel, and preparation of a final report to include lessons learned and analysis of project objectives achieved. |

# 4 Technical Process Plans



## Process Model

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| IEEE Std 1058-1998 Guidance: (Subclause 6.1) Process model  This section shall define the relationships among major project work activities and supporting processes by specifying the flow of information and work products among activities and functions, the timing of work products to be generated, reviews to be conducted, major milestones to be achieved, baselines to be established, project deliverables to be completed, and required approvals that span the duration of the project. The process model for the project shall include project initiation and project termination activities. To describe the process model, a combination of graphical and textual notations may be used. Any tailoring of an organization’s standard process model for a project shall be indicated in this section. |

## Methods, Tools, and Techniques

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| IEEE Std 1058-1998 Guidance: (Subclause 6.2) Methods, tools, and techniques  This section shall specify the development methodologies, programming languages and other notations, and the tools and techniques to be used to specify, design, build, test, integrate, document, deliver, modify and maintain the project deliverable and non-deliverable work products. In addition, the technical standards, policies, and procedures governing development and/or modification of the work products shall be specified. |

## Infrastructure Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 6.3) Infrastructure plan  This section shall specify the plan for establishing and maintaining the development environment (hardware, operating system, network, and software), and the policies, procedures, standards, and facilities required to conduct the project. These resources may include workstations, local area networks, tools for analysis, design, implementation, testing, and project management, desks, office space, and provisions for physical security, administrative personnel, and janitorial services. |

## Product Acceptance Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 6.4) Product acceptance plan  This section shall specify the plan for acquirer acceptance of the deliverable work products generated by the project. Objective criteria for determining acceptability of the deliverable work products shall be specified in this plan and a formal agreement of the acceptance criteria shall be signed by representatives of the development organization and the acquiring organization. Any technical processes, methods, or tools required for product acceptance shall be specified in the product acceptance plan. Methods such as testing, demonstration, analysis, and inspection should be specified in this plan. |

# 5 Supporting Process Plans



## Configuration Management Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 7.1) Configuration management plan  This section shall contain the configuration management plan for the project, to include the methods that will be used to provide configuration identification, control, status accounting, evaluation, and release management. In addition, this section shall specify the processes of configuration management to include procedures for defining initial baselines of work products, logging and analysis of change requests, change control board procedures, tracking of changes in progress, and procedures for notifying concerned parties when baselines are first established or later changed. The configuration management process should be supported by one or more automated configuration management tools. |

## Verification and Validation Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 7.2) Verification and validation plan  This section shall contain the verification and validation plan for the project to include scope, tools, techniques, and responsibilities for the verification and validation work activities. The organizational relationships and degrees of independence between development activities and verification and validation activities shall be specified. Verification planning should result in specification of techniques such as traceability, milestone reviews, progress reviews, peer reviews, prototyping, simulation, and modeling. Validation planning should result in specification of techniques such as testing, demonstration, analysis, and inspection. Automated tools to be used in verification and validation should be specified. |

## Documentation Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 7.3) Documentation plan  This section shall contain the documentation plan for the project, to include plans for generating non-deliverable and deliverable work products. Organizational entities responsible for providing input information, generating, and reviewing the various documents shall be specified in the documentation plan. The documentation plan should include a list of documents to be prepared, the controlling template or standard for each document, who will prepare it, who will review it, due dates for review copy and initial baseline version, and a distribution list for review copies and baseline versions. |

## Quality Assurance Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 7.4) Quality assurance plan  This section shall provide the plans for assuring that the project fulfills its commitments to the process and the product as specified in the requirements specification, the document, supporting plans, and any standards, procedures, or guidelines to which the process or the product must adhere. Quality assurance procedures may include analysis, inspections, reviews, audits, and assessments. The quality assurance plan should indicate the relationships among the quality assurance, verification and validation, review, audit, configuration management, system engineering, and assessment processes. |

## Reviews and Audits Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 7.5) Reviews and audits plan  This seciton shall specify the schedule, resources, and methods and procedures to be used in conducting project reviews and audits. The plan should specify plans for joint acquirer-supplier reviews, management progress reviews, developer peer reviews, quality assurance audits, and acquirer-conducted reviews and audits. The plan should list the external agencies that approve or regulate any product of the project. |

## Problem Resolution Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 7.6) Problem resolution plan  This section shall specify the resources, methods, tools, techniques, and procedures to be used in reporting, analyzing, prioritizing, and processing problem reports generated during the project. The problem resolution plan should indicate the roles of development, configuration management, the change control board, and verification and validation in problem resolution work activities. Effort devoted to problem reporting, analysis, and resolution should be separately reported so that rework can be tracked and process improvement accomplished. |

## Subcontractor Management Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 7.7) Subcontractor management plans  This section shall contain plans for selecting and managing any subcontractors that may contribute work products to the project. The criteria for selecting subcontractors shall be specified and the management plan for each subcontract shall be generated using a tailored version of this standard. Tailored plans should include the items necessary to ensure successful completion of each subcontract. In particular, requirements management, monitoring of technical progress, schedule and budget control, product acceptance criteria, and risk management procedures shall be included in each subcontractor plan. Additional topics should be added as needed to ensure successful completion of the subcontract. A reference to the official subcontract and prime contractor/subcontractor points of contact shall be specified. |

## Process Improvement Plan

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| IEEE Std 1058-1998 Guidance: (Subclause 7.8) Process improvement plan  This section shall include plans for periodically assessing the project, determining areas for improvement, and implementing improvement plans. The process improvement plan should be closely related to the problem resolution plan; for example, root cause analysis of recurring problems may lead to simple process improvements that can significantly reduce rework during the remainder of the project. Implementation of improvement plans should be examined to identify those processes that can be improved without serious disruptions to an ongoing project and to identify those processes that can best be improved by process improvement initiatives at the organizational level. |

## Additional Plans

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| IEEE Std 1058-1998 Guidance: (Clause 8) Additional plans  This section shall contain additional plans, or activities, required to satisfy product requirements and contractual terms. Additional plans for a particular project may include plans for assuring that safety, privacy, and security requirements for the product are met, special facilities or equipment, product installation plans, user training plans, integration plans, data conversion plans, system transition plans, product maintenance plans, logistic engineering approach, or product support plans. |

# Appendix

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| IEEE Std 1058-1998 Guidance  Annexes may be included, either directly or by reference to other documents, to provide supporting details that could detract from the document if included in the body. |

1. This Project Management Plan template is designed with reference to the IEEE Standard for Software Project Management Plans   
   (IEEE std 1058-1998). As projects have different characteristics, the project manager shall determine and remove those plan items not relevant to or inapplicable for the project. [↑](#footnote-ref-1)