Operate and Maintain Phase Procedures

Version 1.1

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Version History

Version Number	Implemented By	Revision Date	Approved By	Approval Date	Description of Change
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1. Operate and Maintain Phase

The Department of Housing and Urban Development's (HUD) Project Planning and Management (PPM) Life Cycle is the rigorous application of sound investment, project management principles and best practices for organizing and managing IT projects. As a component of HUD's overarching Information Technology Management (ITM) Framework, it provides the context for the HUD IT governance process and describes the interdependencies between project management, investment management, and capital planning components.

The PPM Life Cycle covers all aspects of a project from the initial development of an idea through to its decommissioning. Because there is wide variance in the methods, techniques and tools needed to support an IT project, the PPM Life Cycle is flexible and can be tailored to address the needs and requirements of each individual project regardless of its size. It aims to capture the minimum level of detail necessary to ensure project success. Each project, working in conjunction with the Office of the Chief Information Officer (OCIO), will capture decisions around PPM Life Cycle tailoring in the *Project Process Agreement* (PPA), which documents the reasons for using, combining, or skipping specific artifacts applicable to the project.

The PPM Life Cycle applies to all HUD IT projects, including but not limited to:

- New projects
- Major enhancements to existing projects
- Projects associated with operations and maintenance investments
- High-priority, fast-track IT projects
- New Commercial-off-the-Shelf (COTS) product acquisitions

There are seven major phases of the PPM Life Cycle; artifacts have been created for each phase. These artifacts are interrelated, either rolling up other artifacts, or building upon a concept to define a lower level of detail.

This document addresses the processes and related procedures for the Operate and Maintain Phase, the sixth phase in the PPM Life Cycle.

Figure 1 - The Operate and Maintain Phase Relative to the Entire PPM Life Cycle

The purpose of this document is to:

- Provide a detailed description of the phase
- Identify the tasks and activities that take place during the phase
- Give guidance and templates on completing the tasks and activities required to exit the phase
- Detail the roles and responsibilities associated with completing each of the tasks and activities for this phase

1.1 Operate and Maintain Phase Description

During the Operate and Maintain (O&M) Phase, the certified and accredited solution runs in the full-scale production environment for sustained use and operations and maintenance support. In this phase, the operations project team performs all daily activities necessary to operate the solution and ensure that it meets ongoing functional and non-functional needs. These activities include monitoring the solution's performance to ensure adequate response time, availability, security, and problem-free operation; providing helpdesk support; and, training users.

The operations project team carries out maintenance tasks including infrastructure upgrades, software patches, managing and executing changes to the solution's baseline code and configuration, and resolving Plans of Action and Milestones (POA&Ms). Periodically the solution will also need to be re-certified and re-accredited for continued operation in the production environment.

This phase will continue as long as the solution is in use. At least annually, the team also assists with the operational analysis of the solution. This analysis helps to determine if the solution should continue operating as-is, be modified/enhanced to meet changing business and technical requirements, or retired. When the time comes that the solution is no longer needed or will be retired, it moves into the Decommission Phase where a plan for its final disposition is prepared, approved, and executed.

1.1.1 High-Level Operate and Maintain Phase Process Flow

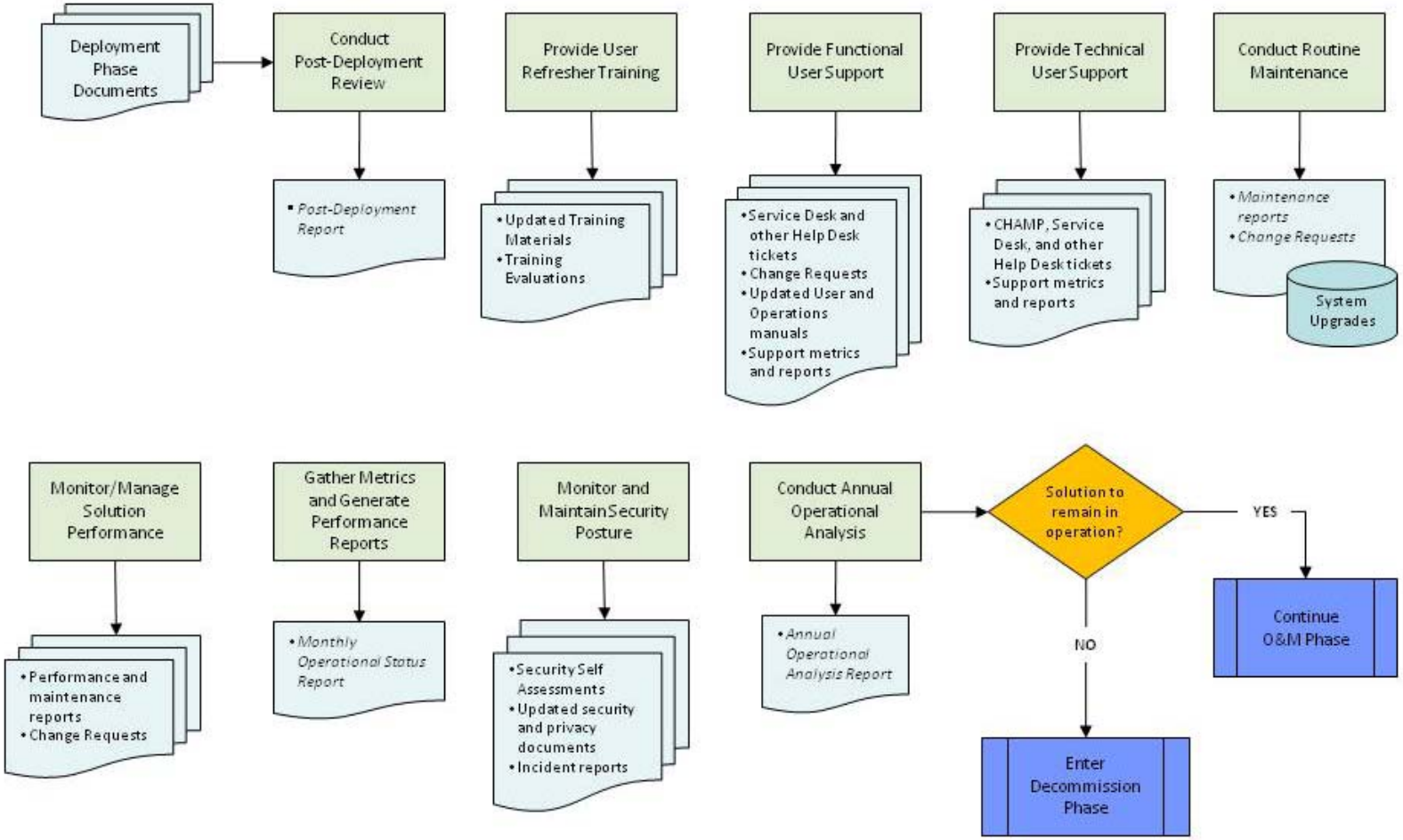

Figure 2 - High-Level Operate and Maintain Phase Process Flow

1.1.2 Entry Criteria/Input

Before the Operate and Maintain Phase can begin, the governance body(ies) must have reviewed the Deployment Phase package and given approval for the project to begin the Operate and Maintain Phase. The Deployment Phase package consists of the *Project Completion Report.*

In addition, the operations project team will utilize all relevant documents completed in earlier phases of the PPM Life Cycle while the solution remains in the Operate and Maintain Phase. Critical artifacts include, but are not limited to:

- *Project Charter*
- *Project Business Value Analysis*
- *Project Schedule* (WBS)
- *Interface Control*
- *Contingency Plan*
- *System Security Plan*
- *Training Manual*
- *User Manual*
- *Operations and Maintenance Manual*
- *Test Report*

1.1.3 Control Gate Review Criteria

In order to pass through the Operate and Maintain Phase control gate, the project must receive approval of the Operate and Maintain Phase package. The Operate and Maintain Phase package consists of:

- *Post Deployment Report*
- *Annual Operational Analysis*
- Updated *Operations and Maintenance Manual*
- Updated *User Manual*
- *Monthly Operational Status Report*
- *Change Request Form(s)*
- Various system usage and performance reports
- Various support metrics and reports
- Security self-assessment and other updated security and privacy artifacts (in the Cyber Security and Management (CSAM) system)

1.1.4 Tasks

The following tasks take place in the Operate and Maintain Phase:

- T6-1 Conduct Post-Deployment Review
- T6-2 Provide User Training
- T6-3 Provide Functional User Support
- T6-4 Provide Technical Support
- T6-5 Monitor and Manage Solution Performance
- T6-6 Gather Metrics and Generate Performance Reports
- T6-7 Monitor and Maintain Security and Privacy Posture

- T6-8 Perform Routine Maintenance
- T6-9 Conduct Annual Operational Analysis

1.2 Operate and Maintain Phase Task Descriptions

T6-1 Conduct Post-Deployment Review

What Happens?

A post-deployment review is conducted and the results documented in the *Post Deployment Report*.

Who Does What?

The IT and business project managers and other members of the integrated project team (IPT) conduct a review to measure the project's success and work toward continuous improvement. The review team presents the results in the *Post Deployment Report*.

What Comes in?

- *Project Charter*
- *Project Business Value Analysis*
- *Project Schedule* (WBS)
- *Lessons Learned*
- User feedback
- System usage reports

What Controls Need to be Used?

The team uses the controls listed below to create the relevant artifacts or complete the task activities:

- *Post Deployment Report* template, instructions, and checklist

What is Produced?

Work Product	Responsibilities		Must Create	Should Create	Should Update	Must Update	Must Complete
Post Deployment Report	Responsible	IPT	X				
	Accountable	IT and business PMs					
	Consulted	Operations project team					
	Informed	Project sponsor and investment owner					

Detailed Tasks

The following defines the detailed sub-tasks that take place within this task:

T6-1.1 Conduct Review – After a period of sustained operation (after at least one full processing and reporting cycle has been completed and all end users have been trained on the solution), the IPT conducts a review of the solution that was released into the production environment to determine if it is operating as expected. The review team seeks to ascertain the degree of success from the project (in particular, the extent to which it met its objectives, delivered planned levels of benefit, and addressed the specific requirements as originally defined). The team examines the efficacy of all elements of the installed solution to see if further

improvements can be made to optimize the benefit delivered, and to learn lessons from the project that can be used to improve future project work and solutions.

T6-1.2 Create Post Deployment Report – The review team generates the *Post Deployment Report*, which documents implementation experiences, indicates if the solution is delivering the specified business needs, recommends solution enhancements, and provides guidance for future projects. The team uses the *Post Deployment Report* template, instructions, and checklist to develop the report.

T6-2 Provide User Training

What Happens?

The operations team provides users with periodic refresher training, as needed.

Who Does What?

Based on contractual requirements and the needs of the business stakeholders, the operations team provides training on the solution. The training may include one-on-one sessions, webcasts, and classes.

What Comes in?

- Training Materials
- *Training Plan*

What Controls Need to be Used?

The team uses the controls listed below to create the relevant artifacts or complete the task activities:

- *Training Material Instructions*

What is Produced?

Work Product	Responsibilities		Must Create	Should Create	Should Update	Must Update	Must Complete
Training Material	Responsible	Operations manager			X		
	Accountable	Business PM					
	Consulted	Operations project team					
	Informed	Project sponsor and investment owner					
Training Evaluations	Responsible	Operations manager	X				
	Accountable	Business PM					
	Consulted	Operations project team					
	Informed	Project sponsor and investment owner					

Detailed Tasks

The following defines the detailed sub-tasks that take place within this task:

T6-2.1 Perform Training Needs Assessment – Review production support tickets and/or survey the stakeholders to identify specific training needs.

T6-2.2 Update Training Material – Update the training materials based on training needs identified in the assessment. Update the solution's Frequently Asked Questions web page. Distribute training material to the various stakeholders.

T6-1.1 Conduct Training Sessions – Conduct training sessions based on the *Training Plan* developed earlier in the solution's life cycle.

T6-3 Provide Functional User Support

What Happens?

Functional support is provided to the end users upon request and as needed.

Who Does What?

The operations team provides the end users with support on using the solution's functionalities and resolving issues that the users encounter.

What Comes in?

- *Operations and Maintenance Manual*
- *User Manual*

What Controls Need to be Used?

The team uses the controls listed below to create the relevant artifacts or complete the task activities:

- Helpdesk protocols and guidelines

What is Produced?

- Support tickets
- Support metrics and reports

Detailed Tasks

The following defines the detailed sub-tasks that take place within this task:

T6-3.1 Provide Helpdesk Support – The helpdesk team provides the day-to-day functional support required by users of the solution. This includes assisting the users with navigating the solution, identifying the appropriate inputs and outputs, and addressing error messages and defects. The helpdesk determines if defects or errors indicate solution-wide issues that they should escalate to HUD management, communicate to the entire user base, and/or forward to the technical support team for resolution. The helpdesk uses a HUD standard repository for logging support requests and tracking them to resolution. The repository also allows the team to accumulate a knowledge base of support issues and their associated resolutions (including workarounds) and serves as a source of support metrics.

The operations manager ensures that procedures are in place to keep the helpdesk personnel informed of all changes or modifications to the solution and allow the personnel to maintain the required level of proficiency with the solution.

T6-4 Provide Technical Support

What Happens?

Technical support is provided to users, as needed.

Who Does What?

The operations project team provides technical support to end users.

What Comes in?

- *Operations and Maintenance Manual*
- Technical manuals

What Controls Need to be Used?

The team uses the controls listed below to create the relevant artifacts or complete the task activities:

- Support protocols and guidelines

What is Produced?

Work Product	Responsibilities		Must Create	Should Create	Should Update	Must Update	Must Complete
Service Desk or CHAMP Tickets	Responsible	Operations project team	X				
	Accountable	Operations manager					
	Consulted	IT PM					
	Informed	Project sponsor and investment owner					

Detailed Tasks

The following defines the detailed sub-tasks that take place within this task:

T6-4.1 Provide Technical Support – The operations project team provides technical support to the users of the solution. This support may involve granting and terminating access rights to the solution as authorized by the project manager or authorized designee, setup of workstations or terminals to access the solution, and maintenance of the operating system for both server and workstation. Technical support personnel may be involved with issuing user IDs or login names and passwords.

The team uses a HUD-standard repository such as the HITS Service Desk or the Centralized HUD Account Management Process (CHAMP) system to log requests and problems and to track issues through to resolution.

T6-5 Monitor and Manage Solution Performance

What Happens?

The operations team monitors the daily operation of the system to ensure the following:

- Capacity of the platform is not exceeded
- Solution is operating with sufficient response time
- Security controls are functioning properly
- Sufficient transaction throughput occurs
- Downtime is minimized (e.g., mean time between failures and mean time to failure)
- Solution is operating efficiently

Who Does What?

The operations manager, network manager, and telecommunications manager analyze the system, network, and database utilization reports to determine areas that may require tuning to improve overall performance, responsiveness, and availability.

What Comes in?

- Solution utilization reports
- Network utilization reports
- Database utilization reports
- Solution-related Service Desk tickets

What Controls Need to be Used?

The team uses the controls listed below to create the relevant artifacts or complete the task activities:

- Configuration management guidelines

What is Produced?

The following defines the detailed sub-tasks that take place within this task:

Work Product	Responsibilities		Must Create	Should Create	Should Update	Must Update	Must Complete
Change Request	Responsible	Operations manager		X			
	Accountable	IT PM					
	Consulted	Operations project team					
	Informed	Project sponsor and investment owner					

Detailed Tasks

The following defines the detailed sub-tasks that take place within this task:

T6-5.1 Monitor Solution Performance – The operations manager reviews the solution performance reports. If the reports indicate that the solution is performing below acceptable thresholds, the operations project team analyzes the issues and identifies a resolution. If the resolution involves

making a change to the solution, the operations manager or designee completes a *Change Request* form. No change to the solution is allowed without going through the change request process, which is described in the *Configuration Management Plan*.

T6-5.2 Schedule Routine Maintenance – If the operations project team discovers that routine maintenance jobs need to be run (e.g., bounce the server, install system software patches, execute data reorganization jobs/scripts) to improve performance, the team follows the established process for performing system (not application software) maintenance.

T6-5.3 Gather User Feedback – The operations project team schedules and conducts periodic surveys of the solution's users to determine their level of satisfaction with the current operation.

T6-5.4 Identify New Requirements and Recommend Improvements – The operations project team generates or solicits recommendations for updating the solution to meet new requirements or improve performance. They gather sufficient detail to enable the team (or a separate/future project development team) to generate the change request and make the necessary modifications. They ensure recommendations include changes to system documentation as well as to software and hardware.

T6-5.5 Process and Manage Change Requests – The configuration manager oversees the change request process and facilitates the requested changes when approved by the Change Control Board (CCB). The team documents proposed changes to baseline (controlled) software affecting the solution in a software change request and submits the request to the CCB for review and approval before proceeding.

T6-6 Gather Metrics and Generate Performance Reports

What Happens?

The operations project team gathers needed metrics and creates the *Monthly Operational Support Report*.

Who Does What?

The operations team collects measurement data regarding the operations and maintenance activities for the solution.

What Comes in?

- Solution-related Service Desk, CHAMP, and other support tickets
- Operations measurement reports

What Controls Need to be Used?

The team uses the controls listed below to create the relevant artifacts or complete the task activities:

- Reporting guidelines

What is Produced?

Work Product	Responsibilities		Must Create	Should Create	Should Update	Must Update	Must Complete
Monthly Operational Status Report	Responsible	Operations manager	X				
	Accountable	Business PM					
	Consulted	Operations project team					
	Informed	Project sponsor and investment owner					

Detailed Tasks

The following defines the detailed sub-tasks that take place within this task:

T6-6.1 Create a Monthly Operational Status Report – The operations manager creates a monthly Operational Status Report that provides key metrics around helpdesk and production operations support. For example, helpdesk metrics may include number of reported problems, number of Service Desk and CHAMPS tickets closed, average problem resolution time, problem severity levels, and recommendations on ways to reduce or correct recurring problems. Operations metrics may include solution downtime/uptime, database and network performance metrics, etc.

T6-7 Monitor and Maintain Security and Privacy Posture

What Happens?

All components of the solution are monitored to ensure that the solution continues to meet Federal and HUD security and privacy requirements and standards. Security documentation is updated/created as necessary.

Who Does What?

The security specialist and operations project team monitor the solution and its operating landscape to ensure continued compliance with security and privacy requirements, support re-certification and accreditation efforts, keep documentation current, and remediate weaknesses.

What Comes in?

- Security and privacy artifacts
- *Contingency Plan*

What Controls Need to be Used?

- HUD IT security standards and guidelines
- Federal IT security standards and guidelines

What is Produced?

Work Product	Responsibilities		Must Create	Should Create	Should Update	Must Update	Must Complete
Updated security artifacts	Responsible	IT security specialist			X		
	Accountable	Operations manager					
	Consulted	Operations project team					
	Informed	Project sponsor and investment owner					
Incident reports	Responsible	IT security specialist	X				
	Accountable	Operations manager					
	Consulted	Operations project team					
	Informed	Project sponsor and investment owner					

Detailed Tasks

The following defines the detailed sub-tasks that take place within this task:

T6-7.1 Monitor Security and Privacy Controls – The operations project team performs periodic reviews of the solution (software, hardware, communications, personnel, procedures, standards, and contingency plans) to ensure the security and privacy controls are still performing as designed. This includes the following activities:

- Monitor information security controls and performance statistics, report the results, and escalate problems when they occur.
- On an ongoing basis, verify that security incidents are reported as soon as they are detected and that they are resolved in compliance with HUD and National Institute of Standards and Technology (NIST) policies and procedures.
- Monitor the production environment to identify changes that may introduce new privacy risks. In accordance with OMB and HUD requirements, they update the solution's *Privacy Impact Assessments* (PIAs) as necessary to reflect new or changed information collection authorities, business processes, or other factors affecting the collection and handling of information in identifiable form.

Any changes to HUD security requirements require additional reviews to be performed on the system to ensure the system meets the new requirements.

T6-7.2 Conduct Annual Self-Assessments – The operations project team conducts annual assessments of the management, technical and operational security controls to ensure that the solution operates at an acceptable level of risk.

T6-7.3 Support Contingency Plans – The operations project team ensures contingency planning for disaster recovery is current, tested, and funded.

T6-7.4 Support C&A Activities – The operations project team supports the solution's re-certification and re-accreditation efforts.

T6-7.5 Maintain Security Documentation – The operations project team ensures that security-related documents, including risk assessments and security plans are updated as necessary in response to continuous testing and monitoring.

T6-7.6 Address Security Weaknesses – In collaboration with the IT security specialist and the HUD Office of IT Security, the operations project team facilitates the remediation of information security weaknesses, and provide a means for:

- Planning and monitoring corrective actions
- Defining roles and responsibilities for weakness resolution
- Assisting in identifying the information security funding requirements necessary to mitigate weaknesses
- Tracking and prioritizing resources
- Informing decision makers

T6-8 Perform Routine Maintenance

What Happens?

The routine maintenance activities are managed and implemented, including the application of hardware and software upgrades.

Release upgrades of the system software and hardware into the production environment, when required, to ensure the system remains responsive to the user's needs. Such upgrades may incorporate improved or additional functions or data, enhanced security measures, updated system hardware, increased capacity or improved system performance.

Who Does What?

The operations project team, in coordination with the HITS team, conducts all scheduled, routine maintenance tasks in accordance with HUD standards and guidelines.

What Comes in?

- Infrastructure upgrade notification
- HUD Application Release Tracking System (HARTS) submissions

What Controls Need to be Used?

- Vendor-supplied upgrade instructions

What is Produced?

Work Product	Responsibilities		Must Create	Should Create	Should Update	Must Update	Must Complete
Upgrades to system software and hardware	Responsible	Operations manager					X
	Accountable	Business PM					
	Consulted	Operations project team IT PM Network manager Server manager					
	Informed	Project sponsor and investment owner					

Detailed Tasks

The following defines the detailed sub-tasks that take place within this task:

T6-8.1 Develop and Implement Maintenance Routine – The operations project team assesses the current hardware and software configurations and establishes routine maintenance and preventive schedules. The team also establishes monitoring routines. The team aims for a proactive approach to maintenance, anticipating where software and hardware problems may occur so that they can be corrected before disruption occurs.

T6-8.2 Plan Upgrades – When new versions of software and hardware become available, the operations project team identifies affected users, establishes the schedule for the implementation, identifies any administrative changes necessary, and ensures configuration management has all necessary information to implement the plan.

T6-8.3 Upgrade Hardware –The operations project team coordinates with the HITS team to perform periodic monitoring to determine if an upgrade or replacement of hardware is required. If hardware needs to be replaced or upgraded, the team develops a plan detailing the type of upgrade, the impact on the solution, and the timeframe for making the upgrade. The team collaborates with all affected user groups to ensure that the upgrade occurs at a time and in such a manner as to be minimally disruptive to business operations. The team obtains all necessary approvals and concurrences and performs the hardware upgrade or replacement in accordance with vendor-supplied directions and established HUD IT procedures. The team coordinates the testing to ensure that the upgrade had no negative impact on the solution.

T6-8.4 Upgrade Software – The operations project team coordinates with the HITS team to determine if a software upgrade or patch is required. If software needs to be patched or upgraded, the team develops a plan detailing the required change, the impact on the solution, and the timeframe for making the change. The team collaborates with all affected user groups to ensure that the upgrade/patch occurs at a time and in such a manner as to be minimally disruptive to business operations. The team obtains all necessary approvals and concurrences and performs the software upgrade or patch in accordance with vendor-supplied directions and established HUD IT procedures. The team coordinates the testing to ensure that the upgrade/patch had no negative impact on the solution.

T6-8.5 Perform Emergency Data Fixes –The operations project team supports emergency fixes for production data issues. The team coordinates with the development team to identify the resolution to the issue, create and test the required script(s), and obtain approval from the CCB or other appropriate body to implement the fix. The team forwards the change request (including the script(s) and all supporting documentation) to the HITS team for implementation, conducts the necessary follow-up tests to verify that the fix was deployed successfully, and communicates the results to the affected user group(s). All files and documentation are stored in the configuration management system.

T6-8.6 Schedule for Maximum Use of Solution Resources – The operations manager ensures that operations personnel are aware of the user community's requirements (including periods of high demand usage) and the operations and maintenance schedule allows the users access to the solution when needed. The operations project team schedules all activities that may result in an interruption of service to the users (e.g., system backup and updates) during the hours having the least impact on users' needs.

T6-8.7 Reduce Maintenance Downtime – Although periodic maintenance is required to keep the solution responsive to users' needs, the operations project team performs such maintenance in a manner that will reduce the amount of downtime. This may mean consolidating solution updates so that they can be performed all at once, thus reducing the number of times the solution needs to be brought down or performing maintenance during off hours when the user has little or no need for the system.

T6-9 Conduct Annual Operational Analysis

What Happens?

The annual operational analysis review is performed to evaluate user satisfaction with the operational asset, its performance, and adaptability to changing business needs, and new technologies that might improve the asset. The reviews ultimately determine whether the IT investment should continue, be modified, or be retired. The *Annual Operational Analysis* report is generated.

Who Does What?

The investment owner, business PM, IT PM, and other stakeholders schedule the review, gather the supporting artifacts, and document the review results in the *Annual Operational Analysis* report.

What Comes in?

- *Project Business Value Analysis*
- Capital planning and investment control (CPIC) metrics
- User feedback (including survey results)
- Cost information
- Previous *Annual Operational Analysis* report(s)

What Controls Need to be Used?

The team uses the controls listed below to create the relevant artifacts or complete the task activities:

- *Annual Operational Analysis Report* template, instructions, and checklist

What is Produced?

The following defines the detailed sub-tasks that take place within this task:

Work Product	Responsibilities		Must Create	Should Create	Should Update	Must Update	Must Complete
Annual Operational Analysis Report	Responsible	Investment owner Business PM	X				
	Accountable	IT PM					
	Consulted	Operations project team					
	Informed	IRC					

Detailed Tasks

The following defines the detailed sub-tasks that take place within this task:

T6-9.1 Initiate the Review – The investment owner, business project manager, and other members of the review team establish a strategy and schedule for completing the operational analysis activities. The team also determines the methods for collecting and analyzing the data needed to complete the analysis, and identifies and obtains the required resources (e.g., personnel and information sources including artifacts). The methodology chosen must be in alignment with HUD's planning process and must build on the Department's memory.

T6-9.2 Assess Customer Satisfaction – In analyzing customer results, the review team focuses on whether the investment is fully meeting the customer's needs and whether the cost to the customer is as low as it could be for the results delivered. The focus here is simply on whether the investment is delivering the services that it is intended to deliver.

T6-9.3 Measure Strategic and Business Results – Strategic and business results measure the effect of the investment on the performing organization itself. The review team assesses these results to measure how well the investment is meeting business needs, and whether it is contributing to the achievement of HUD's strategic goals and continues to be aligned with HUD's strategic direction. This portion of the operational analysis addresses questions such as:

- Does this investment help HUD (or a specific business area) get its job done?
- What strategic goal does this investment address, and how does it help HUD achieve that goal?
- Is there another investment (office, business area, solution, service, etc.) that could be doing this work better, more efficiently, or at lower cost?

T6-9.4 Review Financial Performance – In measuring the financial performance, the operational analysis compares current performance with a pre-established cost baseline. Financial performance is typically a very quantitative measure and should be subjected to a periodic review for reasonableness and cost efficiency. The review team examines the current performance of the investment.

- Is performance within acceptable limits of variance for cost and schedule?
- If not, what corrective actions are we taking to get back on track?
- Has executive management concurred on the planned corrective actions?

T6-9.5 Track Innovations – Addressing innovation in the operational analysis is an opportunity to conduct a qualitative analysis of the investment's performance in terms of the three previous factors. The review team demonstrates that they have revisited alternative methods of achieving the same customer results and strategic goals. This aspect of the operational analysis addresses questions such as:

- How could we better meet the customer needs?
- Could we meet these same customer needs at lower cost?
- How could we combine this investment with others to better meet HUD's strategic goals?
- How could we make better use of technology to provide a higher level of service at lower cost?

T6-9.6 Make Recommendations on Future Status of Investment – The review team's recommendations reflect a thorough examination of the need for the investment, the performance being achieved by the investment, the advisability of continuing the investment, and alternative methods of achieving the same investment results. The team's analysis may demonstrate that the operational asset is delivering expected value efficiently and effectively; contributing to HUD's performance, cost, and strategic goals; and meeting the service needs of its customers. Alternatively, the team may determine that the asset needs to be modified,

modernized, replaced, or removed from service if ownership costs are higher than anticipated, if support trends are becoming too costly, or if the asset is not meeting performance goals. The IT Investment Review Sub-committee (IRC) considers the review team's recommendation and decides whether to approve or reject it.

T6-9.7 Create the Annual Operational Analysis Report – The review team documents the results of the analyses in the *Annual Operational Analysis* report using the associated template, instructions and checklist as guides.

If the IRC decides that the solution should be retired, the solution moves into the Decommission Phase of the PPM Life Cycle. Otherwise, it remains in the Operate and Maintain Phase.

T6-10 Compile and Submit Operate and Maintain Phase Package for Go/No Go Decision

Upon completion of the annual operational assessment, a recommendation is made for the future of the solution. If the recommendation is to retire the solution, a control gate review is necessary to ensure approval of this decision. The completed and reviewed project documents are compiled into the Operate and Maintain Phase Package and are presented to the governance bodies for a Go/No Go control gate decision.

Who Does What?

The IPT compiles the Operate and Maintain Phase project documentation into the Operate and Maintain Phase Package. The package varies depending on the size and complexity of the project, and may include:

- *Post Deployment Report*
- *Annual Operational Analysis Report*
- Updated *Operations and Maintenance Manual*
- Updated *User Manual*
- *Monthly Operational Status Report*
- *Change Request Form*
- Various system usage and performance reports
- Various support metrics and reports
- Security self-assessment and other updated security and privacy artifacts (in the Cyber Security and Management (CSAM) system)

Along with this package, the IPT submits a formal request to the IT governance bodies for review and approval of the project's Operate and Maintain Phase artifacts.

After reviewing the project artifacts for retiring systems, the TRC approves the project to move into the Decommission Phase, allows the project to proceed subject to certain conditions, or rejects the recommendation. If the recommendation is rejected, the IPT follows the appeals process to re-submit the project for review. (The control gate review also may involve determining if a new project life cycle should be initiated, starting at the Need/Concept Phase.)

If the project requires additional oversight from the CCC and/or the EIB, the TRC forwards the project artifacts to the relevant governance body along with a *Control Gate Review Decision Form* reflecting the TRC's recommendation.

What Comes in?

- Operate and Maintain Phase package

What Controls Need to be Used?

Users of the PPM Life Cycle utilize the controls listed below when creating the relevant artifacts:

- Project Go/No Go decision meeting guidelines
- *Control Gate Review Decision Form* template

What is Produced?

- Approved Operate and Maintain Phase package

- Decision by TRC/CCC/EIB to proceed to the Decommission Phase (or Need/Concept Phase, if applicable)

Detailed Tasks:

The following defines the detailed sub-tasks that take place within this task:

T6-10.1 Assemble Operate and Maintain Phase Package – The IPT compiles the Operate and Maintain Phase package and forwards it, along with the formal request for review, to the TRC for approval.

T6-10.2 Obtain Go/No Go decision – The TRC reviews the Operate and Maintain Phase package and:

- Approves the project to move into the Decommission or Need/Concept Phase,
- Approves the project to proceed with conditions, or
- Rejects the project

If the project requires additional oversight from the CCC or EIB as identified in Tier 2 of the *Project Process Agreement*, the TRC communicates with the chair of the appropriate body and provides the necessary documentation for review.

T6-10.3 Resolve any Conditions for Project Approval – If the TRC, CCC, or EIB has approved the project with conditions, the IPT adjudicates their comments and re-submits the changes for approval.