

**Root Cause Analysis Investigation Board
Work Planning and Scheduling System
Final Report
Aug 2, 2012**

Table of Contents

Problem statement 3

Executive summary 3

Background 3

Acronyms 5

Timeline of major events..... 6

Findings and conclusions 7

Recommendations 14

Signature page.....Error! Bookmark not defined.

Appendix A

Capital Allocation Board Quarterly Status Reports

Appendix B

Root Cause Analysis Investigation Board Memorandum

Problem statement

BPA stopped the Work Planning and Scheduling System (WPSS) project when, after investing \$6.43 million over four years, the project failed to deliver a product that met BPA's business needs.

Executive summary

The following root cause analysis investigates BPA's decision to end the Work Planning and Scheduling System (WPSS) project.

WPSS experienced a number of setbacks and missed opportunities. It began with a flawed process for vendor selection and management, was confounded by unmanaged dependencies on other ongoing projects and a poor selection of resources, and was subject to several de-scoping efforts. These factors led to the project's eventual closeout.

Five root causes contributed to this project failure. The root causes and contributing factors fall under three categories: planning, project execution, and vendor selection and management. One of the root causes, the failure to exercise administrative controls, was a factor in each category.

The root causes were:

- 1) Failure to exercise administrative controls

Planning

- 2) Inadequate strategic planning skills to position the TPIP projects for success

Project execution

- 3) Resources did not have the necessary skills
- 4) Inadequate protocols for responding to troubled projects and identifying who is responsible at each level of governance

Vendor selection and management

- 5) Insufficient development and management of the statement of work

Background

BPA launched the WPSS project in April 2008 to develop a centralized planning and scheduling system for capital and expense projects. The WPSS project was one of eight

Bonneville Power Administration WPSS Root Cause Analysis Investigation Report

Transmission Services automation projects that resulted from the Enterprise Process Improvement Program. This group of projects was managed through the Transmission Process Improvement Program, or TPIP.

The primary objective of the WPSS project was to implement ClickSoftware's ClickSchedule and ClickPlan modules to develop a plan and corresponding work schedules to reflect a forecast of work and human resource requirements for a three-year horizon. The project relied heavily on the assumption that processes and data would be in place to support use of the software.

Market research conducted in fall 2007 identified five vendors with software that might meet BPA's requirements. BPA issued a request for offers on July 16, 2008, closing on Aug. 21, 2008. BPA selected ClickSoftware on a best buy basis and contracted with the vendor on Feb. 6, 2009 to deliver and implement ClickSchedule and ClickPlan. The software was installed, but it failed to meet critical business requirements.

The IT PMO portfolio manager, project manager and information system owner (ISO) proposed completion of an Alternative Analysis in November 2011. This analysis forced the agency to review its options for the project to move forward, and resulted in the decision to end the project.

Assumptions

The objective of a root cause analysis is to identify the direct causes and system causes that contributed to a failure; not to place blame on individuals. It is assumed that individuals do their jobs to the best of their ability in the work environment. The objective of this root cause analysis is to recommend ways to prevent future project failures.

RCA investigation process

The first investigation team was chartered by several WPSS functional sponsors in March 2012 to conduct an independent root cause analysis of the project failure. The team was given a timeline of six weeks to conduct the investigation and deliver a report. The investigation included an online engagement survey of WPSS project team members, more than 30 team member interviews, and a review of primary project documentation. The initial report was reviewed by the WPSS functional sponsors and approved for accuracy, but the report lacked a depth of understanding of the core issues. The executive sponsors then appointed a 10-member Root Cause Analysis Investigation Board of members from the project team. The board assembled on July 16-18, 2012, to investigate and analyze the WPSS project failure and identify the root causes. This report is a result of the combined efforts of both investigation teams.

Bonneville Power Administration
WPSS Root Cause Analysis Investigation Report

Acronyms

ACPRT:	Agency Capital Project Review Team
APSC:	Agency Priority Steering Committee
CAB:	Capital Allocation Board
COTR:	Contracting Officer's Technical Representative
COTS:	Commercial Off-The-Shelf Software
IT:	Information Technology
EPIP:	Enterprise Process Improvement Program
ISO:	Information System Owner
MSP:	Microsoft Project
PMO:	Project Management Office
SDLC:	System Development Lifecycle
SLC:	System Lifecycle
TAS:	Transmission Asset System
TPIP:	Transmission Process Improvement Program
WPSS:	Work Planning and Scheduling System

Bonneville Power Administration
WPSS Root Cause Analysis Investigation Report

Timeline of major events

- Jan 2007: Cross Agency Data Strategy Team recommends purchase of software for WPSS.
- April 2008: Original WPSS budget and scope was approved by ACPRT with budget of \$5,810K. Original project charter completed.
- Jan. 2009: Published the Magenta Team Workshop Report, which recommended 42 action items needed for future state process changes.
- Jan. 23, 2009: ACPRT approved the WPSS project. Decision memo signed to recommend ClickSoftware. Contract let for ClickSoftware
- June 2009: Audit completed due to projection that WPSS implementation date and key agency target would be missed
- Nov. 2009: Click Schedule and ClickPlan were decoupled from MSPI and TAS.
- April 2010: WPSS scope reduction presented to APSC.
- Sept. 2010: Determined that ClickPlan would be used in FY 2011 with manual data loading. ClickSchedule deferred until FY 2012. Scheduling being developed in Microsoft Sharepoint.
- Jan. 2011: Manual data loading and planning in ClickPlan was discontinued.
- May 2011: A Post Investment Review was completed.
- Oct. 2011 to Feb. 2012: Two of three ClickSoftware demonstrations failed to meet requirements.
- Feb. 2012: Alternatives Analysis completed for continuing to use ClickPlan.
- Feb. 2012: Post Investment Review updated and presented to the CAB.

Findings and conclusions

Five root causes were identified. The root causes and contributing factors fall under three categories: planning, project execution, and vendor selection and management. One root cause, the failure to exercise administrative controls, was a factor in each category. Because it is a theme throughout this report, it is introduced first. The root causes are not listed in the order of significance.

Root cause 1: Failure to exercise administrative controls

There were many opportunities throughout the project to revisit the business case and re-evaluate the value of the project as risks and issues were identified. However, in each case, employees at all levels – including team members, subject matter experts and those in the governing bodies – failed to recognize these opportunities or take effective action.

To assess the missed opportunities, it's important to understand the relationship of WPSS to other projects and process changes. For instance, WPSS relied on data that was to be developed in two other automation projects that were launched simultaneously: the Transmission Asset System (TAS) and Microsoft Project (MSP). The data from these systems was not available when WPSS was launched.

The following are a few examples of missed opportunities to revisit the business case throughout the life of the WPSS project:

- (1) In November 2009, it became clear that the data from TAS would not be ready in time to complete WPSS on schedule. TAS integration was temporarily decoupled from the WPSS project. Because ClickSchedule depended on TAS, BPA deferred ClickSchedule project deliverables and shifted the focus to ClickPlan. The intent was to shift back to ClickSchedule after ClickPlan was complete or the data from TAS was ready. This was a significant schedule change.
- (2) Also in November 2009, it became clear that Microsoft Project (MSP) could not deliver the data to WPSS in the required format, and the decision was made to decouple MSP and WPSS. The intent was to re-integrate the systems when the data was ready. This was a significant schedule change.
- (3) The TE design engineers were sponsors and targeted users at the beginning of the WPSS project. But by January 2010, TE realized that ClickSoftware wasn't meeting its requirements and decided to plan and schedule its work external to ClickSoftware. Without TE, the project lost a key stakeholder that represented 41 percent of the return on investment, based on the business case produced in January 2009. However, TE's departure did not trigger a re-evaluation of the business case. TE intended to rejoin the project once TF was able to demonstrate that the system

Bonneville Power Administration
WPSS Root Cause Analysis Investigation Report

would work.

In April 2010, when it became apparent that the project was not going to meet its FY 2010 milestones, the project team proposed a major scope reduction and timeline extension to the Agency Priority Steering Committee (APSC). This change would require 100 percent of the original budget, but only deliver approximately 50 percent of the original scope. The APSC approved this change.

Planning

Root cause 2: Inadequate strategic planning skills to implement the TPIP projects

a) Business process improvements and IT projects not properly planned or sequenced

The WPSS project was one of eight automation projects in Transmission Services that remained after BPA concluded the Enterprise Process Improvement Program (EPIP) in 2008. The EPIP built the picture of a future state for Transmission that included a high level system integration plan. It fell short by failing to build an effective strategic plan for how to transition from current state to future state. The assumption was that the simultaneous launch of the eight automation projects would achieve the future state.

Another weakness in strategic planning was project sequencing. Sequencing was not crucial for all of the TPIP projects, but it was particularly important to WPSS, which depended on process changes that needed to be made, as well as data that was to be created in other automation projects. These interdependencies were recognized in the FY 2010 TPIP Key Agency Target:

“The Work Planning and Scheduling effort will be informed by MSPI for Capital work and TAS for Maintenance work, all of which rely on the bidirectional integration of information from Supply Chain. The view into this world is made possible through eGIS and state of the art access that will connect our field world to our corporate world via mobile capability and improved Field Connectivity. The enhanced communication and visibility enabled through Field Connectivity will provide high-speed computer access and mobile synchronization in a timely manner.

These five projects will continue to be managed as a group to ensure Cross Project Integration and improve Cultural Acceptance.”

While the dependencies in TPIP were recognized, the projects were not prioritized or sequenced accordingly. Rather, they were launched simultaneously. This prevented the necessary process changes and upstream data requirements from being available for WPSS. BPA documented this issue in January 2009 with the release of recommendations by the Magenta Team, established to “identify needed future state process changes to enable work planning and scheduling and associated system needs.” The team

Bonneville Power Administration
WPSS Root Cause Analysis Investigation Report

recommended 42 action items. By the time the team met, the decision to purchase ClickSoftware had already been made.

b) Premature launch and compressed timeline

Pressures to complete the project in a compressed timeline (described below), combined with a lack of prioritization and sequencing of projects and process changes, led to the premature launch of WPSS. The investigation review board found that the project should not have begun until data from TAS and MSP was available and until key deliverables from the Transmission Project Management Improvement Project were complete.

Upon conclusion of EPIP in 2008, BPA published reports highlighting the program's success. The reports indicated that the full value of EPIP would not be achieved until the automation was in place. The agency was eager to complete the projects and demonstrate these savings to ratepayers.

Another pressure on WPSS was the anticipated increase in the Transmission annual capital budget, from approximately \$200 million to approximately \$600 million. BPA believed it needed the automated work planning and scheduling system in place to triple the amount of work that would be completed and ensure efficiency.

These factors, combined with a lack of project sequencing, contributed to the premature project launch and forced development of a compressed project delivery timeline. When the original budget and scope was approved in 2008, the project was to be completed in two years.

This root cause investigation revealed that this schedule did not provide adequate time to complete the project. Based on interviews with the original IT and Transmission EPIP managers, they felt the timeline was unrealistic. In addition, when BPA contracted with ClickSoftware in February 2009, the vendor informed BPA that the average time to implement the software was 15 months. Only nine months of the two-year timeline remained by the time BPA signed the contract with ClickSoftware. But because staff felt pressure to meet already established deadlines – a result of the pressures described above – they moved forward without proper planning. The expectation was that the work will get done. This was one of the first missed opportunities to revisit the business case, schedule and dependencies.

Staff interviewed during this investigation stated that BPA underestimated the challenge of implementing a commercial off-the-shelf, or COTS, solution. It was assumed that a COTS solution existed, and that it would be relatively simple to install compared to building a system in-house. Other transmission utilities had purchased COTS software for work scheduling and planning. The agency failed to recognize the level of business transformation and complex integration associated with this project. As a result, the project schedule did not account for the complexity of the process changes and software integration/implementation.

Bonneville Power Administration
WPSS Root Cause Analysis Investigation Report

Project execution

There were many missed opportunities to shut down or delay the WPSS project using existing controls prior to the decision to end it in February 2012. A significant cause of the missed opportunities was a lack in skills. In addition, roles and responsibilities were unclear.

Root cause 3: Resources did not have the necessary skills

a) Poor project management selection

A significant reason for the poor execution of the project was the selection of project managers who had no prior project management experience.

BPA consolidated multiple IT organizations across the Power, Transmission and Corporate organizations in 2004. As part of that consolidation, a single IT project management office was established. The IT PMO was created to provide centralized and coordinated management of capital and large expense IT projects.

When WPSS was launched in 2008, the IT PMO was still maturing. In addition, the manager of the IT PMO was new to BPA, hired in 2008. Many of the project managers in the IT organization were also new to IT and in many cases lacked IT project management experience.

The first WPSS project manager selected had no prior project management experience. This same project manager was also selected to manage another TPIP project, TAS, simultaneously. Later, this project manager was assigned to manage TAS full-time, and a new project manager who also lacked project management experience was assigned to lead WPSS. After one year, a third project manager was assigned who lacked experience in course correcting a troubled project. This project manager was replaced with the final project manager who was highly skilled in leading troubled projects to success.

The high turnover is evidence that care was not taken to assure qualified project managers were assigned to lead this complex, multi-million dollar project.

b) Inadequate project management skills

Three out of the four WPSS IT project managers lacked the essential skills, experience and credentials to plan and carry out the project. For instance, an acceptable project schedule was not produced. In the investigation, project team members indicated the goals were unclear and success was not defined. In addition, the first two project managers failed to develop plans to adequately address the business process and data dependencies.

Through this investigation, the team found instances where the project manager did not communicate issues between management levels or between IT and Transmission. For

Bonneville Power Administration
WPSS Root Cause Analysis Investigation Report

instance, during contract negotiations, the contracting officer warned the project manager of potential issues with the vendor (details of these issues are discussed under root cause 5). There is no evidence that the project manager communicated those warnings to the functional sponsors, and he continued to push negotiations through.

c) Inadequate skills among other team members

Other roles on the project team were filled by inexperienced staff, particularly the business analysts. Six different business analysts were assigned over the life of the project. While not all of the business analysts lacked critical skills, the higher quality business analysts were reassigned to higher priority TPIP projects. The intent was to put these resources on resolving the upstream problems and, as a result, slow down WPSS to allow for those resolutions. However, BPA did not re-evaluate the WPSS business case and failed to formally adjust the project schedule.

A key responsibility of the business analyst is to lead the development of business and system requirements. Each business analyst on this project was from IT. With each new business analyst, the requirements were revisited, and no consistent process or standard was used to develop the requirements.

Team members provided conflicting testimony during the investigation about the revision of the requirements. The testimony reflects a lack of common understanding or standards about how system requirements should be developed over the life of the project. The ITPMO has addressed this with new requirements standards in the System Lifecycle (SLC).

Root cause 4: Inadequate protocols for responding to troubled projects and identifying who is responsible at each level of governance

There were multiple levels of governance over the WPSS project:

- Capital Allocation Board (CAB)
- Agency Capital Project Review Team (ACPRT)
- Agency Priority Steering Committee (APSC)
- TPIP Steering Committee
- Executive sponsors in Transmission, IT and Supply Chain
- Program managers
 - IT PMO
 - IT portfolio manager
 - Business program manager
 - Contract manager
- IT and Transmission functional sponsors including TFBW and ISO
- Project Manager

Bonneville Power Administration WPSS Root Cause Analysis Investigation Report

The above governing bodies share the responsibility for management and oversight of capital projects. The APSC is the first level of approval for funding IT projects, followed by the ACPRT for projects between \$3 million and \$7 million. The TPIP Steering Committee provided oversight for all EPIP IT projects in Transmission. The executive sponsors are the project champions who review and approve the business case for the project, and they are responsible for removing obstacles to help projects succeed. All governing bodies are then responsible for monitoring the status of the project and taking corrective action if needed.

All governing bodies received information in monthly project status reports that showed the project, since the second quarter of 2010, was not meeting scope, budget or schedule milestones. The quarterly status reports are summarized in Appendix A showing how the project was reported as red starting in Q2 2010 until the close out in Q2 2012.

In spite of the red project status, the project sponsors wanted the project to succeed, and there was no consideration to re-assess the project, which they believed would eventually provide a return on the investment. The CAB did direct an audit in June 2009 and a Post Investment Review in Q2 2011, but neither of these actions was effective at mitigating the mounting risks that resulted in project close-out.

The fourth project manager and the functional sponsors in February 2012 created an alternative analysis that provided the facts needed to evaluate the software and make a business decision to stop the project. Until this point, the governing bodies did not require a review of the business case, perform an alternatives analysis, or complete a root cause analysis to help them take corrective action.

The IT Project Management Office has since developed new standards in the SLC that require the business case be updated every time a project changes scope.

Vendor selection and management

Root cause 5: Insufficient development and management of the statement of work

First, BPA missed an opportunity early in the vendor selection process by not independently seeking customer references. While BPA visited some of ClickSoftware's references, those visits were facilitated and attended by the vendor, and therefore potentially biased. Later, BPA learned from these references information that might have prevented the agency from contracting with this vendor. By actually seeing how other customers use the software, BPA might have realized that the software was not being used the way the agency planned to use it.

Despite the weakness in reference checking, an effective Statement of Work may have mitigated the impact. The statement of work (SOW) is the document that states what the business wants to get from the contract. In this case, the SOW was written from an IT perspective, and it was missing business acceptance criteria. The contracting officer

Bonneville Power Administration
WPSS Root Cause Analysis Investigation Report

warned the project manager on several occasions that the statement of work was not sufficient to ensure the vendor completed the work that BPA expected it to do. The contracting officer wrote to the project manager and the COTR:

“The way this is worded is exactly what will lead to another termination (of a BPA software acquisition).”

The contract included defined milestones and met System Development Lifecycle (SDLC) technical requirements. It was assumed that once the contract was in place, IT would be able to approve the milestones in the statement of work because it was a COTS installation. However, the IT-specific SOW milestones were not adequate to test the product and ensure it would meet BPA’s business requirements. The software ultimately required many customizations, therefore the business needed to be involved in drafting and approving the contract milestones. As the scope of the project changed, the contracting officer was not notified to revise or revisit the acceptance criteria in the contract per best practices. All this resulted in the project manager approving contract milestones and the COTR making vendor payments without team or sponsor approval.

BPA had multiple opportunities to opt out of this contract. The agency had the ClickSoftware product in-house on a trial use agreement for one month before signing the contract, in addition to lab testing once the contract was signed. These early tests were IT-centric, however, and did not test the business use of the software. This contract was “stage-gated” so that BPA could terminate it at any time. BPA could have refused acceptance of any milestone, which would have stopped the project from progressing until BPA accepted the work performed. Unfortunately, the quality of the Statement of Work and the lack of business involvement resulted in continued payments to the vendor.

Bonneville Power Administration
WPSS Root Cause Analysis Investigation Report













Recommendations

- 1) Address failures to use administrative controls
 - a) Enforce the use of administrative controls.
 - i. Work with PMO to determine threshold for “troubled projects.”
 - ii. Communicate with APSC regarding roles and responsibilities related to troubled projects.
 - iii. Institute periodic reviews of business cases to ensure assets are still worthy of investments.
 - b) Develop and institutionalize policy for documenting and communicating decisions that deviate from governing bodies’ recommendations.
- 2) Planning
 - a) Address inadequate strategic planning
 - i) Build the skills, authority, and infrastructure in Transmission for strategic planning.
 - ii) Develop a strategic plan for Transmission to keep business plans in line with overall strategy.
 - iii) Build process management and process improvement skills throughout the agency and promote solid process management across functions.
 - iv) Establish a function and skill set to properly prioritize and sequence process improvement efforts in accordance with the strategic plan. The goal is to accomplish properly sequenced work within known resource constraints. The Integrated Program and Process Improvement (IPPI) is starting to perform this function now in the Plan, Design, Build and Operations and Maintenance programs.
 - b) Address pressure to launch projects prematurely
 - i) Adhere to System Lifecycle (SLC) controls specific to project stage gates.
 - ii) Strengthen APSC and Chief Information Officer project approval authority so that the standards for stage-gate project approval are understood and enforced.
 - iii) Improve the APSC review process to ensure adequate time and resources are dedicated to the project approval process.
 - iv) Invest in business transformation process improvement skills and resources to ensure clear plans are developed to get BPA business processes from the current state to the future state.
 - v) Develop the ability to define and deliver business transformation plans prior to software investments.

Bonneville Power Administration
WPSS Root Cause Analysis Investigation Report

- 3) Project execution
 - a) Ensure resources have critical skills
 - i) Tailor staffing plans according to the needs of each project, including the level of experience and skills required.
 - ii) Hire resources according to the staffing plan. Follow Project Management Institute best practices and wait to start projects until appropriate resources are available.
 - iii) Look for opportunities to co-locate team members from different organizations to improve collaboration and communication.
- 4) Clarify responsibility and accountability of governing bodies
 - a) Review all policy, charters and guidance documents and clarify the roles, responsibilities, authorities and relationships among the following governing bodies: CAB, ACPRT, APSC, executive sponsors, program managers, IT PMO, IT portfolio managers, functional sponsors and project managers.
 - b) Consolidate these policy documents into one location for training.
 - c) Require the PM (held accountable by the PMO) to conduct kickoff meetings for new projects to explain the roles, responsibilities, authorities and relationships between the roles defined above.
 - d) Require the PM (held accountable by the PMO) to review the stage gates and phases of SLC throughout the project with executive sponsors, team sponsors and program managers, and clarify roles and responsibilities in each phase.
- 5) Test and prove software/tools will meet both IT and business requirements prior to committing to the full purchase
 - a) Follow the new improved SLC planning phase guidelines established for vendor selection. The following sections, added to the SLC since the launch of WPSS, might have prevented the vendor selection problems in WPSS:
 - i) Proof of concept (prototyping) guidelines
 - ii) Conduct Alternatives Analysis in planning phase
 - b) Involve the PM, ISO, CO and business sponsors in developing the statement of work and acceptance criteria.
 - c) Per the SLC, ensure the sponsor team and ISO approve the acceptance of milestone completion.

Bonneville Power Administration
WPSS Root Cause Analysis Investigation Report
Appendix A

Major Capital Projects - End-of-Project Target Performance										Quarterly Status Report
Project	Description	Direct Capital \$M			In-Service Date		Direct Capital	Schedule	Scope/ Capability	Comments
		Target	Forecast	Actual	Target	Forecast				
Q2 2009										
Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 4.1		3/31/10	9/30/10				Contract finalization resulted in the "full rollout" date being pushed into the yellow window.
Q3 2009										
Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 5.5	\$ 1.9	3/31/10	9/30/10				Contract finalization resulted in the "full rollout" date being pushed into the yellow window. The APSC has approved the new schedule.
Q4 2009										
Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 5.6	\$ 1.9	3/31/10	9/30/10				The cost target variance is a minor over-run of \$34k, triggering the yellow status. Contract finalization resulted in the "full rollout" date being pushed into the yellow window. The APSC has approved the new schedule.
Q1 2010										
Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 5.8	\$ 3.0	3/31/10	9/30/10				The cost increase is primarily a function of schedule difficulties. The schedule slippage is due to an overly aggressive schedule and delays with the systems that WPSS relies on, namely MSP (Microsoft Project) and TAS. There have been delays in getting requirements from MSP, and TAS has not yet reached the stability needed to support WPSS rollout. The schedule is undergoing a complete review, with an eye toward splitting WPSS into two phases to allow for the supporting systems to mature before the second phase of WPSS. When finalized, those changes are likely to push the project completion date into FY11.

Bonneville Power Administration
WPSS Root Cause Analysis Investigation Report
Appendix A

Q2 2010

Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 7.1	\$ 3.9	3/31/10	9/30/11	●	●	●	The cost increase is due to schedule extension. A proposal is under consideration to split the project into a Central Planning phase, followed by a Field Deployment phase. It is likely the first phase will cost as much as the original project estimate. The schedule slippage is due to hardware environments that were not delivered on time, delaying the initial pilot. That in turn, delayed the development of the requirements for customization of the COTS software. For scope, integration with MS Project has been deferred until that program matures. Deployment to field supervisors has also been deferred until TAS is implemented.
--	--	--------	--------	--------	---------	---------	---	---	---	---

Q3 2010

Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 5.4	\$ 4.5	3/31/10	9/30/10	●	●	●	The project will be completed by 9/30/10 with a significant reduction in scope. An estimated 50% of the original scope is being delivered, while nearly 100% of the original cost estimate is being realized. The following functionality has been deferred to a subsequent effort: integration with work definition systems (TAS, MSP), auto scheduling, reporting, and deployment to field supervisors.
--	--	--------	--------	--------	---------	---------	---	---	---	---

Q4 2010

Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 6.0	\$ 5.5	3/31/10	TBD	●	●	●	The project is being paused until a TPIP road map is completed in Q1 of FY11. The roadmap will establish context, linkages and deliverables for WPSS and other, interrelated TPIP projects. The road map will be presented to the CAB in December and a revised WPSS business case will be submitted for CAB review in Q2.
--	--	--------	--------	--------	---------	-----	---	---	---	--

Q1 2011

Bonneville Power Administration
WPSS Root Cause Analysis Investigation Report
Appendix A

Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 5.8	\$ 5.8	3/31/10	TBD				The project is being paused until a TPIP road map is completed. The roadmap will establish context, linkages and deliverables for WPSS and other, interrelated TPIP projects. The road map will be presented to the CAB and a revised WPSS business case will be submitted for CAB review in Q2.
Q2 2011										
Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 6.1	\$ 5.9	3/31/10	TBD				The project team has been asked to prepare a post-investment review for the project as it currently stands. In addition, they've been asked to prepare a scope of work for the remainder of FY11. It is expected that the current project will be closed out by the end of FY11 and a separate business case be prepared for any successor project.
Q3 2011										
Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 7.1	\$ 6.0	3/31/10	7/31/12				The ACPRT and CAB have not approved the current forecast for cost, schedule or scope. Discussions with the project team are underway.
Q4 2011										
Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 7.1	\$ 6.2	3/31/10	7/31/12				The ACPRT and CAB have not approved the current forecast for cost, schedule or scope. A post investment review was requested last March. The project team expects to present its recommendations for moving forward in November, along with responses to the post-investment review request.
Q1 2012										
Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 7.1	\$ 6.2	3/31/10	7/31/12				The ACPRT and CAB have not approved the current forecast for cost, schedule or scope. A post investment review was requested in March 2011, even though the project is still in flight. The post-investment review results are expected in February, with a plan for moving forward expected in March 2012.
Q2 2012										
Work Planning and Scheduling System (WPSS)	Develop and deploy a work scheduling system for transmission work.	\$ 5.5	\$ 6.8	\$ 6.8	3/31/10	4/30/12				This project is complete. The project was terminated and the costs incurred were expensed. A post investment review was presented to the CAB in April 2012.