

STATUS OF PANTEX PLANT WASTE MANAGEMENT PROJECT/PROGRAM CONTROL SYSTEM

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ABSTRACT

During a December 1990 Waste Management Program Review held in Albuquerque, New Mexico, the Waste Management and Operational Surety Division (WMOSD) introduced the project control system to be used for the Waste Management (WM) Operations Program. The system was entitled "TRAC-WM" (Tracking and Control for Waste Management). The stated objective for this system was to establish a frame work for planning, managing, and controlling work within the WM program. As a result Mason & Hanger (the operating contractor at the Pantex Plant) initiated the development of a computerized waste management project tracking system.

INTRODUCTION

As a result of an increase in mission requirements due to Five Year Plan goals, DOE Headquarters program requirements, WMOSD guidance, Tiger Team Audit findings, and State and Federal regulations, the Pantex Plant Waste Management budget for both Defense Programs (DP) and EM-30 (Environmental Management, Waste Management) funded activities went from under \$3 M to over \$12 M dollars. To properly manage and control this significant increase in program cost, a computerized project control system was set up, initially, to track a variety of program development projects. According to the FY91 project/budget development implementation flow sheet (Fig. 1), projects and contracts were initiated without the benefit of a computerized project control system. Previously there have been no formal requirements for establishing a computerized project control system for waste management at Pantex. A preliminary planning budget was used to start the 1991 Work Plan and initiate buying requisitions based on the 1990 Five Year Plan (FY92-FY96). During the 1991 Five Year Plan (FY93-FY97) development, the FY1991 budget was revised in order to complete the planned projects for that year.

After the December 1990 Program Review meeting in Albuquerque, Pantex Waste Management group was required to use Time Line project management software and to track and submit Time Line reports on the entire FY1991 EM-30 \$9.2 M program. When the budget was set, the final project and contract list was established and the schedule and budget was entered into the Time Line database. Once the Time Line database met minimum format and reporting requirements, the system was tied into the procurement, invoicing, and accounting systems through a unique account code scheme. The account code scheme was developed to track costs for two different reporting formats to meet both WMOSD and Mason & Hanger Corporate requirements.

PROJECT CONTROL SYSTEM DEVELOPMENT

Initially, Pantex Waste Management projects were loaded into the Harvard Project Management (HPM) database. HPM is a good project management software package to use when critical path management (CPM) and net-

working are the primary concerns of the project manager. HPM starts off with a Work Breakdown Structure (WBS) format that will automatically convert into a PERT (Program Evaluation Review Technique) diagram. PERT is an excellent technique when a project manager needs to reallocate resources and/or tasks when changing circumstances requires him/her to do so. PERT becomes less important when a project manager is resource limited and budgetary restrictions require him/her to prioritize the tasks. PERT allows the Project Manager to shift tasks to be worked in parallel, when resources are available, thus shortening the critical path to the final completion date. When resources are not available, tasks are worked in a sequential fashion and PERT becomes less important. In addition, it became evident that HPM was limited when it came to status and budget reports. As a reporting and budgeting tool, the Time Line Project Management software, required by WMOSD, is more useful. When evaluating the differences between different project management software packages, the type and format of the output has to be considered. The Time Line outline format is consistent with the WBS hierarchy that is required by WMOSD and DOE Order 4700.1. Time Line's output; reporting features (ACWS, ACWP, EAC, etc.), schedule customizing features, and status notes capabilities are more suited to DOE project management system requirements (4700.1).

In addition to the development related projects, the Waste Management Group at Pantex monitor ongoing operations in support of production related activities. Generic tasks were created that represented the types of activities the permanent on-site personnel were involved in on an ongoing basis, such as waste storage and preparing waste manifests. The costs of the ongoing support were loaded into the generic tasks and tracked and reported on a monthly basis the same as the projects. Until FY 1991, project costs were tracked by the WM Section Manager and the Mason & Hanger budget department. Formal cost estimates were provided by the Design Department for Line Item (LI) and General Plant Projects (GPP) and the Purchasing Department for outside service contracts. As the program grew significantly and as Headquarters requirements developed, it became apparent that dedicated waste management project controls and cost estimating personnel were required to properly monitor and

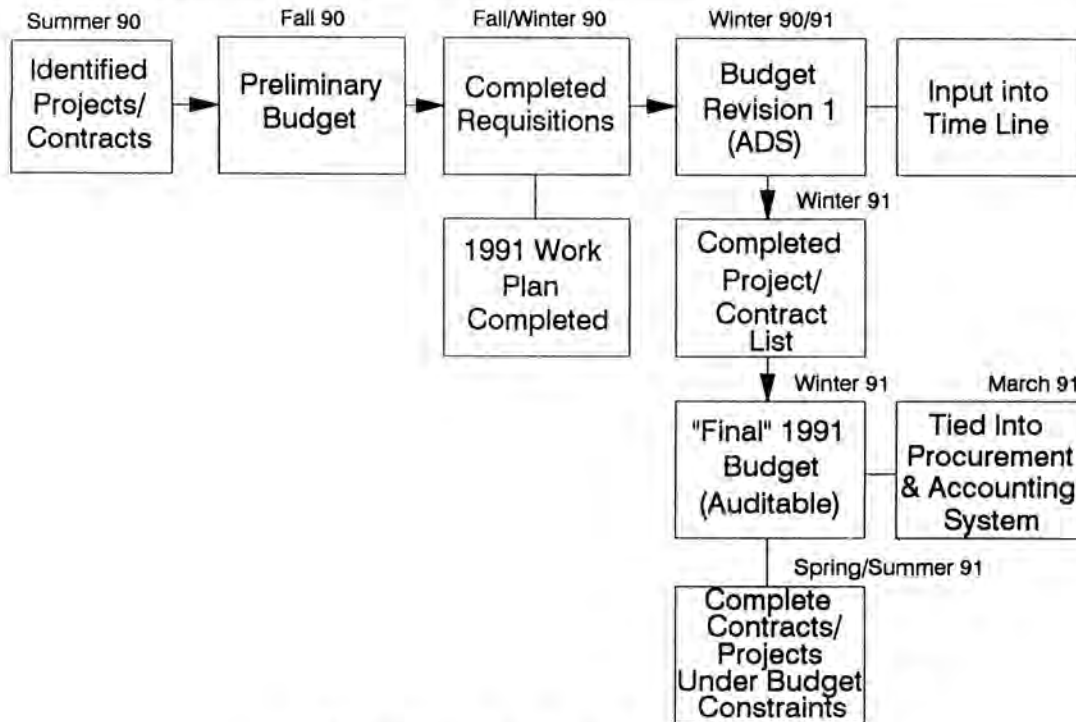


Fig. 1. FY91 project/budget development.

track the project activities and to support the growing documentation needs.

PROGRAM CONTROL SYSTEM DEVELOPMENT

During the remainder of FY1991, Pantex Waste Management Group received direction and guidance for meeting the objectives of the "TRAC-WM". Loading the entire EM-30 funded program into the Time Line database was the first requirement. At that point the project control system became a "program" control system. The system includes the program development projects and the ongoing waste operation activities. Program management is defined here as the tracking and monitoring of all funded activities within a particular program, such as the Waste Management Program at the Pantex Plant.

Data validation is provided by backup documentation that consisted of a "living" 1991 Work Plan, cost estimates, procurement, and budgetary documents. Traceability is provided by a unique account code assigned to all major activities. The account codes designate funding source, ADS (Activity Data Sheet) code, waste stream, and task and/or contract.

Cost tracking is performed by the Time Line database using data from the detail accounting reports supplied by the Mason & Hanger Accounting and Budgeting Departments. As invoices are entered into the accounts payable system by the unique account code, the costs are credited to the activities tracked by Time Line. All original Waste Management Group buying requisitions are submitted to the Waste Management "Program" Controls Manager (also known as the Cost Account Manager). This individual compares the type and scope of the requisition to the current work plan and the current cost plan. If the requisition meets project and program requirements, then a unique 7-digit account code is assigned to the requisition. The first three digits represent the funding source (EM-30 or Defense Programs). The fourth digit rep-

resents the type of activity and ADS code that is specified by the Department of Energy's Five Year Plan (Continuity of Operations (1) ADS 3123; Treatment (2) ADS 3126; Storage (3) ADS 3125; and Disposal (4) ADS 3124). The fifth digit represents the waste stream (mixed (2); hazardous (3); radioactive (5); or multiple waste streams (6)). The last two digits represent the tasks and/or contract. For example off-site hazardous waste disposal services is 9864301; 986 is EM-30 funding, 4 is disposal, 3 is hazardous waste, and 01 is the first contract.

At the end of every month a Detail Report (Time Line status notes) is generated and distributed to the various project managers for comment. A copy of the schedule is also distributed to update percent achieved for each task. Ongoing operations are given a percent complete by the month of the year (9th month equals 75% complete). After the detail cost reports are received from the Accounting Department, a Lotus spreadsheet is updated by the Program Controls Manager, to be used for cost phasing, internal budgeting, and for export to the Time Line database (at this time the exporting is performed manually). A budget and schedule status report will be reviewed, signed off, and transmitted to the appropriate authorities (Mason & Hanger Management, Amarillo Area Office, and WMOSD).

Feedback received from DOE Headquarters and WMOSD project control assessments has been favorable overall. It has been noted that improvements are needed in: procedures, cost quality, and traceability of backup documentation. These improvements are currently underway.

CONCLUSION

Figure 2 (FY 92 Project/Budget Development) indicates where the Pantex Waste Management Group is in relation to the Program Control System development for FY1992. The 1992 Work Plan, buying requisitions, preliminary budget, and

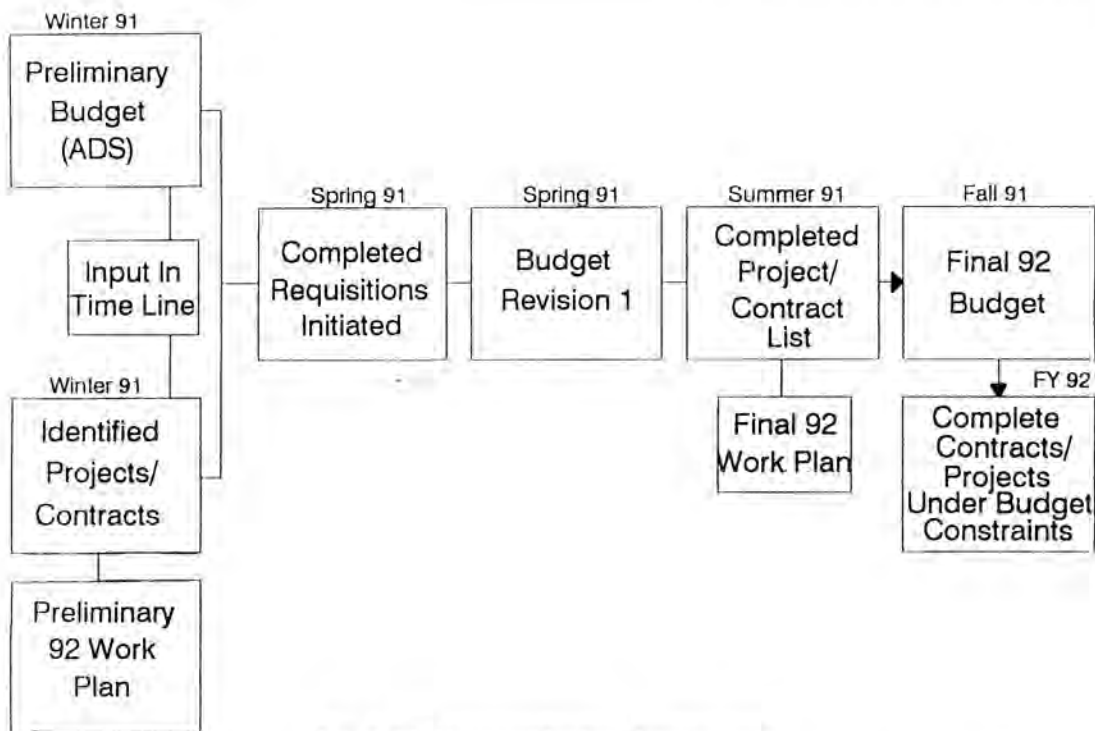


Fig. 2. FY92 project/budget development.

the computerized database are in place at the start of the fiscal year instead of during the year, as was the case for FY1991. As changes occur the program control system can be edited without any major impacts to management. With the database and supporting documentation traceable to work breakdown structure and accounting codes, auditors will be better able to validate the system. Once established this system will support the next Five Year Plan preparation (FY1992, FY94-FY98) and will assist in turning the Five Year Plan from a planning document into a budget ready document.

Ultimately, the purpose of a Waste Management Program Control System is to assist the responsible manager to efficiently track and monitor waste management activities, that are designed to meet the multitude of State and Federal laws, and to provide for increased safety for plant workers and the public.

BIBLIOGRAPHY

WMOSD Memorandum; Waste Management Control System, Dec., 1990.