The Enhanced Work Planning Implementation Plan

What is the EWP Implementation Plan?

The EWP Implementation Plan is developed by the EWP Team Leader and on-site facilitator working with senior management from the M&O contractor and the DOE site office. The plan describe the activities which will be most helpful in achieving lasting improvement in performance. It defines the scope of the planned EWP project, deliverables, required resources, critical milestones, and satisfaction criteria.

What is the purpose of the EWP Implementation Plan?

The EWP Implementation Plan assures involvement, encourages ownership of the project's results, helps ensure that the focus is on issues of direct concern to the site, and establishes accountability for participants.

Can the EWP Implementation Plan be changed or modified?

Feedback from the EWP team and other participants on ways to improve the EWP or expand the scope of the project is part of the process. Plans are often revised to reflect such new information or expansions.

Who develops the EWP Implementation Plan?

The EWP Team Leader meets with the Assistance Team, reviews pertinent background information, and observes applicable activities to become familiar with the existing management systems, and processes. The EWP Team Leader and on-site facilitator then draft a plan and forward it to the Assistance Team for concurrence. The plan is then sent to the site DOE and M&O contractor senior management for review and approval. The EWP Team Leader and Assistance Team work together to resolve any conflects during this process.

Who signs the EWP Implementation Plan?

Signatures are obtained from the EWP Team Leader; the on-site facilitator; site management; DOE site management; and a Headquarters program office director, if applicable. Other DOE signatures are sometimes obtained, if the EWP Team Leader decides it will improve the chance of success of the planned activities.

A generic EWP Implementation Plan:

Section 1.0 **Introduction**, describes the EWP process, the objectives of the effort, and the individuals involved.

Section 2.0 **Background**, summarizes relevant information regarding the area where EWP will be applied. Information including important issues from past demonstration projects and any improvement initiatives already under way may be presented here.

Section 3.0 **Scope of Work**, (1) discusses activities that will be completed, (2) summarizes methodology that will be employed, and (3) identifies plans to apply lessons learned from other DOE sites or the commercial industry.

Section 4.0 Enhanced Work Planning Teams and Participants, lists ...

Section 5.0 **Roles**, describe roles and responsibilities of key individuals i.e. EWP Team Leader, on-site facilitator, and Assistance Team.

Section 6.0 Technical Assistance and level of effort facilitators will provide.

Section 7.0 **Deliverables**, identifies deliverables for each activity enumerated in Section 3.0.

Section 8.0 **Satisfaction criteria**, defines a list of items, completion of which will indicate that theEWP project has achieved its objectives of providing improvements.

Section 9.0 **Performance measures** to be used to monitor the satisfaction criteria set in section 8.

Section 10.0 **Schedule** - Time line

Signatures appear on the plan's cover page, which may also specify revisions and revision dates.

Sample Plans:

The initial EWP demonstration projects undertaken across the DOE Complex were conducted with assistance form The Office of Field Support and The Office of Worker Protection Programs and Hazards Management using existing program structures. The demonstrations were conducted according to **Technical Assistance Plans** used to define the role of EH Technical Assistants as well as the EWP activities. Two samples of these Technical Assistance Plans are presented here as general information for the development of Enhanced Work Planning Implementation Plans.

TECHNICAL ASSISTANCE PLAN
FOR
CONTINUATION OF ENHANCED WORK PLANNING DEMONSTRATION
AT
FERNALD, OHIO

December 1, 1995

1.0 INTRODUCTION

Over the last several months, representatives from the EH Technical Assistance Team, DOE-HQ, DOE-FN, and FERMCO have been involved in an Enhanced Work Planning (EWP) Demonstration which has shown significant success but which has also identified a number of items which cannot be addressed without the additional funding solicited by the Technical Assistance Plan. Since the scope and funding of the EWP demonstration currently underway does not permit the Core Team to fully develop, test, refine, and implement all desired enhancements, additional funding is sought. It is the purpose of this Technical Assistance Plan to define activities to be performed in support of the continuation of this very important initiative.

2.0 BACKGROUND

An Enhanced Work Planning (EWP) Demonstration has been underway at Fernald since July 1995. Since July, a multi disciplinary "Core Team" (made up of over fifteen representatives from various organizational groups within FERMCO, an EH representative from DOE-HQ, and an on-site EH technical assistant serving as "project facilitator") has been working on becoming familiar with the existing work planning processes and identifying how they could be improved or enhanced. Over twenty "Work Planning Elements Warranting Enhancements" (see Figure 1) have been identified by the Core Team as means to maximize productivities and efficiencies while at the same time advancing site objectives relating to worker safety and health.

Presently, the Core Team (with concurrence from departmental directors and DOE officials on the project's higher level "Assistance" Team), have been focusing on about six "work planning elements warranting enhancements" dealing mainly with issues associated with maintenance-related activities within FERMCO's Remedial Support Operations (RSO) division. Funded out of DOE headquarters by EH, the time frame for the demonstration is limited to several months (i.e., through October 1995).

To date, the EWP Demonstration has been very successful. Among the benefits attributed in whole or in part to the demonstration include:

- As a direct result of getting the multi disciplinary Core Team together to discuss planning backlogs and how the system can be improved, a cost avoidance of $1.9 million has been realized. This stemmed from the recognition by the Core Team that many preventive maintenance tasks don't really need to be performed on systems that will never be turned on or in buildings which will never be occupied.

- Since the start of the EWP demonstration in early July 1995, a 33% drop has occurred in the site-wide backlog of maintenance work requests (from 4939 work requests to 3335). This drop is largely attributed to increased

effectiveness and productivity of the planners and "support" groups. Effectiveness and productivity have been enhanced primarily due to: 1) improved mutual awareness of what each group needs from the planning process, 2) noticeably increased responsiveness and commitment on working together to reduce the backlog, and 3) recognition that the status quo can be changed and that new ideas will be listened to and acted upon.

- o There have been 350 asbestos-related work requests requiring planning since '94. Since the start of the EWP demonstration, asbestos-related corrective maintenance work order backlogs have been reduced to 250. Drops are attributed to: 1) recognition that about 10% of the work requests were really duplicates (often stemming from imprecise descriptions of work by the requestor/facility owner), and 2) that the multi disciplinary Core Team could find no good reason why simpler, cheaper corrective action alternatives could not be performed (e.g., 'wet wrap' versus 'removal').

- o Redundant, obsolete, or unnecessary forms and permits have been identified and taken out of the enhanced planning process. In their place, an improved work request/work order form has been developed (and is presently being tested and refined) which clarifies duties and responsibilities and lends itself better to the "electronic work request" system presently being developed by FERMCO's Management Programs.

- o Enhancements have placed increased responsibilities with support groups (rather than the planners) for identifying when permits are required, what the permit requirements should be, how requirements can be made more consistent for similar jobs, etc. This change is intended to dramatically increase the productivity of the planners while placing the responsibility for identifying/specifying requirements with the technical experts who are most knowledgeable.

*Per 8/31/95 discussions with FERMCO's Jim Trujillo, Manager, RSO, Management Programs, John Wilcox, Work Coordination Center, and others.

3.0 SCOPE AND PLANNED ACTIVITIES

In support of the continuation of the Fernald EWP effort, EH technical assistants will continue to support DOE-FN and FERMCO staff by providing on-site project facilitators as well as Headquarters support on key technical issues. Whereas the initial launching of the EWP demonstration required significant time for familiarization of project teams with current planning practices, identification of elements warranting enhancements, understanding what each respective group requires out of the planning process, etc., the project's continuation will be able to immediately build on the momentum already established. Consequently, efforts can be focused without delay on specific project objectives as already identified by the Core team.

In particular, activities will be centered on the types of enhancements identified in Figure 1 but which have not yet been fully addressed. From among these items, emphasis will be placed on assisting FERMCO personnel perform the following:

- Enhance the utility and conduct of the Work Coordination Center meetings;

- Enhance use of feedback systems by the Core Team to allow a better understanding of how well work was planned versus how the work was actually conducted (e.g., on schedule? on budget? causes of delays? effectiveness of safety and health exposure characterizations?, etc.). One feedback system will involve enhancing the use of the Computerized Maintenance and Materials System's (CMMS) by FERMCO managers, supervisors and employees as a means of monitoring performance and establishing effective resource loading;

- Assist with the incorporation of enhanced work planning elements into "electronic signature" and "electronic work order" initiatives currently underway;

- Assist in the formal integration of approved and accepted enhancements into FERMCO's system through, for example, applying for Temporary Change Notices (TCNs) for "enhanced" forms to be used, writing revised procedures and job descriptions, establishing formal "charters" for EWP groups, etc.;

- Enhance incorporation of hazard assessments, exposure characterizations, and medical department involvement into the team planning process. Enhance reporting and recordkeeping activities performed by the safety, health and medical groups so that compiled information can be better used to document risks and hazards on a "by job" basis and among "similarly exposed" populations;

- Assist in the exporting of enhancements (developed primarily for "non-projectized" corrective maintenance activities) and/or the EWP process itself to other FERMCO organizational groups/projects such as Safe Shutdown, Advanced Waste Water Treatment, Vitrification, etc.

- Continue to test the enhancements already initiated by the Fernald EWP demonstration via ensuring their incorporation into the planning and conduct of actual work activities to occur while the project continues. Enhancements being tested can then be refined, as appropriate. Merits of enhancements being tested will continue to be assessed through comparison against performance criteria.

4.0 Project Team

Building on the approach and EWP teams already established in July 1995, EH technical assistants will provide assistance in developing and carrying out a detailed plan of attack for this demonstration project. Day-to-day project activities and priorities will be directed by FERMCO's Mr. Jim Trujillo with input from other members of the Core and Assistance Teams. Mr. Wally Quaider, Fernald Area Office's Deputy Associate Director of the Office of Safety and Assessment, will be informed of specific project objectives and activities on an on-going basis and will serve in an oversight capacity. On-site efforts will be led by Mr. Frank Fitzpatrick, CIH, with headquarters support provided primarily by Bill McArthur, Ph.D., CIH and the EH Technical Assistance Program. Mr. Fitzpatrick's on-site support will be supplemented by other technical experts with qualifications in areas such as conduct of operations, accounting systems, occupational safety and health, etc.

5.0 ADDITIONAL ES&H SUPPORT FOR THE FERNALD SITE

The charter of the Technical Assistance Team, comprised of personnel from the DOE's Office of Environment, Safety and Health (EH), represents an innovative approach in which EH technical assistants participate with line management from both the DOE and Management and Operations (M&O) contractors to develop practical solutions and provide assistance in implementing those solutions. Rather than identifying new or repetitive problems, EH Technical Assistants provide one-on-one assistance to their customers (DOE line management and the M&O contractor). This approach allows the EH Technical Assistance Team to use its collective experience to assist in performance improvements and improve the effectiveness of daily facility activities.

In addition to the work described herein, as required, the Technical Assistance Program can also provide additional assistance to the site in areas such as maintenance and work controls, ES&H consultation, planning, demonstrations, program development, training, testing, and field trials.

6.0 DELIVERABLES

Deliverables for this task include:

- Documentation of how this demonstration project is being planned and conducted (e.g., approach to accomplishing project objectives, meeting agendas, milestone charts, meeting minutes, etc);

- Reports related to demonstration trials and the effectiveness of tested enhancements;

- Progress reports as required by DOE and FERMCO personnel;

The time lines for deliverables will be specified by DOE-FN (Mr. W. Quaider).

7.0 SCHEDULE/LEVEL OF EFFORT/COSTS

Technical Assistance support for the continuation of the Fernald EWP is anticipated to require the participation of one FTE senior level occupational safety and health specialist for a period of approximately six months (30 weeks). In addition, the periodic involvement of a maintenance and work control specialist and other similarly qualified experts is anticipated. Support will primarily be on-site (i.e., about 80%). The remaining 20% off-site support time will be spent by the Technical Assistants interfacing and coordinating with DOE headquarters and the Ohio Field Office. It is anticipated that the EH Technical Assistance will be periodically involved in meetings at DOE headquarters in Germantown, Md.

The anticipated project schedule is as follows:

Continuation Start Date: October 1, 1995

Period of Performance: Through April 1996

Completion Date: May 1, 1996 (approx.)

Based on this scope and level of effort, $120, 000 funding* is sought. Services will be invoiced on a time and materials basis and not exceed this amount without written authorization.

* Assumes labor rates and requirements detailed in Apex's contract with Brookhaven National Laboratory (BNL) will be utilized. Includes BNL markup and airfare/ travel to Germantown, Md. approximately once every two weeks. Travel expenses will be invoiced based on government-allowable rates.

7.0 CUSTOMER SATISFACTION CRITERIA

The successful completion of these Technical Assistance activities can be objectively measured by the customer survey responses to the following criteria:

- o the enhanced work planning demonstration is conducted in a manner which meets mutually agreed-to objectives and approaches as defined in this Technical Support Plan;

- o documentation of the work planning demonstration process is complete and accurate and assembled in a manner which would facilitate possible export of information to other FERMCO organizations and DOE sites;

8.0 FOLLOW UP ACTIVITIES (To be determined.)

9.0 APPROVALS

We, the undersigned, do hereby support the conduct of the Fernald Enhanced Work Planning Demonstration, Phase 1 Continuation, as described in this Technical Assistance Plan.

_____

Jim Trujillo (Core Team Leader) Date
Manager, Managment Programs
FERMCO

_____

David Kozlowski Date
Associate Director
Office of Safety and Assessment
DOE-FN

_____

Frank Fitzpatrick Date
Technical Assistance Program (EH-53)
DOE-HQ

_____

B. Michael Hillman Date
Office of Field Support (EH-53)
DOE-HQ

_____

C. Rick Jones Date
Director
Office of Worker Protection and Hazards Management (EH-52)
DOE-HQ

_____

Robert Barber Date
Director
Office of Field Support (EH-53)
DOE-HQ

EH Technical Support Plan For Enhanced Work Planning Demonstration At K-25

(Oak Ridge)

ENHANCED WORK PLANNING DEMONSTRATION PROJECT

DEMONSTRATION AND TECHNICAL ASSISTANCE PLAN FOR K-25 WASTE MANAGEMENT DIVISION

1.0 INTRODUCTION

An Enhanced Work Planning Demonstration Project will be conducted at the Oak Ridge K-25 Facility in FY96 to identify and test concepts to improve work planning efficiency and effectiveness, from operations, productivity, cost-effectiveness, and safety standpoints. This Demonstration Project will be conducted by the K-25 Waste Management Division. Concepts to be tested include:

_Taking a team approach to planning involving craft and safety and health early in the planning process;

_Applying risk based planning approaches supported by an enhanced Job Hazard Analysis (JHA) process;

_Establishing communication links for effective risk based approaches to planning and conducting work, and to conducting exposure assessment and medical surveillance;

_Integrating worker protection with work planning;

_Providing hazard recognition training to work planners.

As this process proceeds at K-25, the Enhanced Work Planning Team will network with those responsible for re-engineering the work control and work planning processes at K-25 in preparation for the following two projects: (a) K-1202 Storage Tank Valve Replacement, and (b) K-1420-A Storage Tank Sludge Removal. Specifically, the EWP Team and EH Technical Assistance Team members will support the implementation of enhanced job hazard analysis applied by planning teams.

This Demonstration and Technical Assistance Plan is intended to define the overall scope and approach to conduct an Enhanced Work Planning (EWP) Demonstration Project at K-25. This Demonstration and Technical Assistance Plan supports the Enhanced Work Planning, "A Team Approach to Worker Protection", dated October 11, 1995. The support areas are discussed within this plan. Once the Project is underway the K-25 Team participating in the effort will further define the details of the demonstration and associated assistance.

2.0 EWP TEAMS AND PARTICIPANTS

A K-25 Site EWP Core Team has already been assembled to coordinate the overall Project. The overall Core Team will include representatives from Industrial Hygiene, Industrial Safety, Radiological Control, Fire Protection, Engineering, and DOE-EH. The Core Team typically meets weekly during the early stages of the Demonstration and less often as the Project evolves.

The EH Technical Assistance Team will support the Core Team in its implementation efforts that are consistent with EWP concepts. In addition, continued assistance will be provided with the enhanced job hazard analysis. Possible training of K-25 staff in various topics such as hazard recognition and application of the hazard analysis process may be ascertained.

3.0 SCOPE OF WORK FOR THE K-25 WASTE MANAGEMENT DIVISION EWP DEMONSTRATION

The overall EWP Demonstration process will be to (a) form the EWP Core and Assistance Teams, (b) these teams then scope and plan the details of the EWP Demonstration, (c) the teams develop performance objectives for the Demonstration, (d) conduct the Demonstration, (e) ensure Lessons Learned from other EWP demonstration projects are implemented as applicable at K-25, and (f) evaluate and report the results.

General aspects for the focus of the EWP Demonstration at K-25 include the following and each is discussed below.

_Implementation of work planning and hazard analysis approaches that are consistent with EWP concepts.

_Train planning teams and personnel (optional).

_Demonstrate medical surveillance enhancement (optional).

3.1 Implementation of K-25 Waste Management Division Work Planning and Hazard Analysis Processes

The Enhanced Work Planning objectives are to plan and conduct work and apply hazard analysis/control and teamwork in a complexity and risk based manner. Key representatives of the Core Team will use an integrated approach to provide upfront team planning of selected projects.

As EWP implementation evolves, the effectiveness of the approaches would be measured by performance indicators to be determined (reference Section 7.0). The outcome would be the establishment of a proven model for this type of activity. The Enhanced Work Planning Team would share this information across Oak Ridge and among similar initiatives throughout the DOE Complex. Approaches from other initiatives would also be shared with K-25 and continuing re-engineering efforts at other facilities for their consideration.

3.2 Train Planning Teams and Personnel (Optional)

To ensure effective implementation of work planning and associated hazard analysis and control, K-25 Core teams and personnel may receive various types of training: for instance, in hazard recognition and control, use of the job hazard analysis process, etc. With EH Technical Assistance and EWP Team assistance, these training needs will be determined and training will be provided.

This information will be valuable to the EWP effort by establishing an example or model for training as it applies to this type of project and to work planning teams.

3.3 Medical Surveillance Enrollment (optional, to be determined)

Possible efforts to enhance the medical surveillance program in a risk based manner will be determined. This is also an important aspect of Enhanced Work Planning, and one aspect of the EWP Demonstration Project is being oriented to medical surveillance enhancement.

Enhanced medical surveillance approaches could be applied to the K-25 EWP Demonstration. Successful approaches will then be exported to other facilities as part of the EWP Demonstration.

Under this aspect, a cross-section of personnel from the facility could be evaluated for the type of medical surveillance enrollment, if any, that they should have. The Enhanced Work Planning Team would work with facility management and IH staff to complete hazard profiles with selected employees. Workplans, hazard assessments, and information from JHAs would contribute to this base of information. From these hazard profiles for the employees, the appropriate enrollment or "de-enrollment" into/out of medical surveillance would occur. Once the system is tested on selected employees, it could be applied for the remaining staff. This would provide the model approach for medical surveillance enrollment processes in terms of criteria and their

applicability in a risk based manner. Staff would then be in the proper level of medical surveillance.

4.0 K-25 WASTE MANAGEMENT DIVISION ROLES

The impact on K-25 Waste Management Division staff time would be fairly minimal, although some investment in time will be necessary. To conduct an Enhanced Work Planning Demonstration Project, K-25 would do the following:

_Designate a small number of staff (e.g., 1 or 2 staff members representing craft, supervisors, planners/engineers, safety and health, or others as appropriate) to participate on the Enhanced Work Planning Core Team. Time impact for each person would probably be four hours per week, or even less at times, to attend orientation sessions, attend planning and information meetings of the EWP Core Team, develop approaches to the Demonstration as a whole, develop performance objectives and indicators, share ideas and lessons learned, present progress, plan for next steps, review reports, etc. Typically, there are meetings on a weekly basis when the effort is started and then as little as monthly as the Demonstration Project proceeds.

_Implement the work control and work planning process being structured for the K-25 Waste Management Division. EH Technical Assistance would be provided during this implementation.

_Help determine training needs and schedule/attend training sessions.

_If the medical surveillance option is conducted at K-25, with support from the EWP Core Team members, complete employee hazard profiles for medical surveillance enrollment purposes. K-25 line managers, IH support, and the employee would be involved.

_As desired, provide input and review EWP Team reports, share successes with other organizations, and advise other organizations supporting their implementation of similar concepts.

5.0 BENEFITS AND SUPPORT TO K-25 WASTE MANAGEMENT DIVISION

Assistance will be provided to K-25 Waste Management during its readiness and implementation efforts. Assistance benefits coming from the effort would include:

_The EWP Demonstration facilitates networking across the site and throughout the DOE system, providing valuable lessons learned and sharing of ideas and approaches.

_Successful K-25 Waste Management Division initiatives would be recognized site-wide and complex-wide, and they would contribute to model approaches being developed.

_Implementation of the complexity and risk based approach would ensure worker safety and also contribute to practical, efficient, cost-effective, and productive work control and work planning processes. Risk-based medical surveillance also benefits worker protection and work efficiency.

6.0 EH TECHNICAL ASSISTANCE LEVEL OF EFFORT

The EH Technical Assistance Program will provide the support of a safety and health professional (e.g., industrial hygienist/safety professional) to support the K-25 Waste Management Division in implementation, training, job hazard analysis, etc. Level of effort details are to be determined. This assistance will be funded by DOE-EH.

The EH Technical Assistance Program will also provide support, as appropriate, other professionals involved in the EWP effort in disciplines of safety and health, industrial hygiene, maintenance and work controls, training, performance measures, etc.

7.0 PERFORMANCE MEASURES AND CUSTOMER SATISFACTION CRITERIA

Performance objectives and indicators will be developed by the EWP Core Team. Possible performance measures are as follows:

- Improvements made relative to the time required for planning a project.
- Percent reduction in replanning projects.
- Reduction in hazard-related events or occurrences.
- Improvements in tracking project costs.
- Reduction in project downtime which cou the project.
- Reduction in trends for occurrences especially relating to materials handling

- Enhancing review of completed tasks to establish Lessons Learned which may also serve to identify and eliminate "bottle-necks"

8.0 SCHEDULE

The overall schedule for the EWP Demonstration Project is to determine overall plans in November and early December, formulate the EWP Teams and hold initial planning sessions in December, begin the process in January, and complete the EWP Demonstation by the end of April.
Schedule details will be developed by the EWP Teams, once formed. Various facility efforts will likely track on different schedules based on facility activities and initiatives.

9.0 DELIVERABLES

Deliverables for this task include:

- o Documentation relative to how this demonstration project is being planned and conducted (e.g. , approach to accomplishing project objectives, meeting agendas, milestone charts, etc.);

- o Reports related to baselining and the demonstration trials;

- o Progress reports as required by DOE and K-25 Waste Management personnel;

The time lines for these deliverables will be specified by the Oak Ridge K-25 Waste Management Division.

10.0 CUSTOMER SATISFACTION CRITERIA

The successful completion of these Technical Assistance activities can be objectively measured by the customer survey responses to the following criteria:

- o The enhanced work planning demonstration is conducted in a manner whcih meets mutually agreed-to objectives and approaches as defined in this Technical Support Plan;

- o Documentation of the work planning demonstration process is complete and accurate and assembled in a manner which would facilitate possible export of information to other DOE sites.

11.0 FOLLOW UP ACTIVITIES

To be determined.