



EFCOG / DOE

Human Performance Improvement (HPI) Implementation Tools Project

Rev. 0

Approved by:

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ENERGY FACILITY CONTRACTORS GROUP / DOE HQ HPI IMPLEMENTATION TOOLS PROJECT

1.0 INTRODUCTION

This project was developed as a mutually beneficial initiative between the Department of Energy (DOE) and Energy Facility Contractors Group (EFCOG) to assist DOE contractors in making available a suite of tools recommended for the implementation of Human Performance Improvement (HPI). It reflects a significant commitment by DOE contractors through the EFCOG to take an active role in providing tools to implement HPI.

This project plan was developed jointly between EFCOG and DOE to provide a suite of tools which can be used to implement HPI within the DOE complex. The Project Plan documents a formal approach for managing the scope of the EFCOG/DOE HPI Implementation Tools Project. The plan builds on successful HPI programs already in place at various DOE Sites and within the nuclear industry. This Plan will be updated as needed to reflect ongoing progress by the Project Team.

The project will provide necessary guidance to contractors who wish to implement partial or comprehensive HPI program elements. The guidance documents will represent the best available information to implement HPI based on experienced contractor and DOE inputs. The project will align with stated EFCOG functions to: exchange successful programs, practices, procedures, and lessons learned among DOE contractors; and allow for effective interface with external organizations such as INPO and the DNFSB. The project will also benefit limited DOE HPI resources by providing one source of guidance documents to implement HPI supported by EFCOG members with DOE input and oversight.

EFCOG recently implemented a successful joint project team with DOE on Electrical Safety implementation of the new 10CFR851 Worker Health and Safety Rule. The project team approach worked well and will be used for this activity. Spring 2007 is targeted as the time frame for kickoff of this team.

On November 1, 2006, the DOE issued DOE M 450.4-1, Integrated Safety Management System Manual. Among the changes was a new section on supplemental safety culture elements which included HPI attributes. These elements are based on experience and learning over the past ten years since ISM was first introduced. These elements are to be used as guidance with existing ISM guiding principles, to develop the appropriate environment for effective implementation of ISM systems within the DOE and its sites and facilities.

The DOE has sponsored an HPI pilot for Environmental Management at the Hanford site. Many lessons learned were generated that will be used as a framework for implementing this plan.

2.0 SCOPE

The scope of this Project is to develop and issue DOE and Contractor HPI guidance documents under the EFCOG umbrella in order to foster lessons learned, consistency, and efficiency in achieving continuous improvement using HPI. The Plan's scope includes the major HPI components identified by the initial project team, reviewed and agreed upon during the spring 2007 EFCOG ISM Working Group meeting. Any additional project activities may also be added to the scope of this Plan upon approval by the Project Manager.

3.0 PROJECT ORGANIZATION

Mr. John McDonald of CH2M HILL Hanford Group Inc will lead the overall EFCOG effort to implement this project. DOE leadership for the Project Team will be Earl Carnes as the DOE Subject Matter Expert (SME) for HPI. Joe Yanek, Chair, EFCOG's ISM Working Group, will serve as the senior EFCOG sponsor for the Project.

The EFCOG HPI task group will be organized around each project activity defined in Attachment I. The HPI task group co-chairs will lead each project activity and include other designated EFCOG participants. These individuals are expected to interface and coordinate completion of project milestones and ensure acceptance across the DOE complex. Participants will define and implement the strategy for accomplishing the project area milestones. As this Project Plan is carried forward, representatives will work in partnership with the DOE-HSS SME to maintain alignment with DOE's performance objectives.

4.0 KEY PERSONNEL ROLES AND RESPONSIBILITIES

The Project Manager is responsible to:

- Lead the overall Project Coordination effort and maintain the Project Plan and associated schedules.
- Work with EFCOG's ISM Working Group Chair and the DOE-HSS SME to identify project participants.
- Regularly monitor Project milestone completion progress and provide guidance and direction to Project participants as needed.
- On a semi-annual basis, report Project progress to the EFCOG Board of Directors, and ISM Working Group Chair.

Project Participants are responsible to:

- Identify and obtain participants to support completion of project area milestones.
- Lead efforts to successfully complete assigned milestones.
- Coordinate project area activities with a designated DOE-HSS SME.
- Define project area completion approach and coordinate assigned project activities.

- Participate in project status meetings and teleconferences.
- On a monthly basis, report progress to the overall Project Manager.

5.0 PROJECT EXECUTION AND PERFORMANCE MANAGEMENT

The project will be executed using project management techniques. All key decisions will be coordinated among the project participants, and periodic project reviews will be held between the project leadership, project participants, and senior EFCOG management.

Formal project reviews/status reporting will be held with the EFCOG Board of Directors on a semi-annual basis during the duration of the project.

Management of specific project milestones, task activity scheduling, and task completions is the direct responsibility of the assigned project member. In order to declare a Milestone complete, the assigned responsible individual must issue the necessary supporting documentation to the overall Project Manger for acceptance.

Any changes to designated Project Scope, Milestones, or overall Target Completion Dates must be approved by the Project Manager.

6.0 COMMUNICATIONS

The Project Manager will conduct monthly teleconferences to status project progress. Semi-annual meetings of the entire Project Team will be conducted in conjunction with the EFCOG ISM Working Group's semi-annual meetings. Additional conference calls or meetings will be scheduled if needed. Email and video-conferencing will be used, to the maximum extent possible, to communicate status among project participants and the Project Manager. Individual project participants will participate in statusing assigned project activities.

7.0 PROJECT COMPLETION

The Project will be maintained in an active state until the project scope has been successfully completed with results presented to the EFCOG Board of Directors and DOE management.

Figure 1. Project Organization

Name	Position	Organization
John McDonald	Project Manager	CH2M HILL
Charles Lewis	DOE HSS Sponsor	DOE-HQ
Joe Yanek	EFCOG Sponsor	Fluor Corp.
Earl Carnes	DOE-HSS SME	DOE-HQ
George Mortensen	Advisor	INPO
Gary Grant	HPI Task Group Chair	CH2M HILL
William Rigot	Participant	WSRS
Kimbel Leffew	Participant	BWXT Pantex
Susan Kimmerly	Participant	Bechtel Jacobs
Sharon Clark	Participant	BWXT
Todd Conklin	Participant	Los Alamos National Laboratory
David Jackson	Participant	Fluor Hanford
Susan Donnelly	Participant	Bechtel SAIC
Greg Weatherby	Participant	Idaho Closure Project
Tony Jennings	EFCOG Work Management Chair	CH2M Hill
Rex Beach	EFCOG Feedback & Improvement Chair	Lawrence Livermore National Laboratory

Attachment 1**PROJECT ACTIVITIES****Project Target Completion Date: 9/08****Scope**

Develop guidance documents and topical guides which can be used to implement various elements of an effective HPI initiative. The HPI task group would be structured into teams to address each of the key project deliverables identified below. In addition, the task teams would work with other EFCOG subgroups and working groups to ensure that the project deliverables can be used to integrate HPI concepts into ongoing activities (*e.g.*; cause analysis with the ORPS and Feed Back and Improvement, and procedures with the QA subgroup on programs).

Preliminary Project Milestones

- 4/07 Complete draft project plan and identify project participants
- 5/07 Project Review/Approval by DOE and EFCOG
- 6/07 Project Initiation
- 10/07 Project Status Review with DOE/EFCOG
- 7/08 Project Completion.
- 9/08 Final Project Review with EFCOG/DOE Leadership

Key Project Deliverables

The following key project deliverables are arranged to provide a recommendations for a site, facility, or program to develop a strategy, train personnel, and implement HPI concepts into work processes. Each of the deliverables will provide, as appropriate, recommendations, example plans, and other supporting information to show how HPI concepts can be integrated into the core functions and guiding principles of ISMS (complement the recently issued DOE M 450.4-1, Integrated Safety Management System Manual). For example; how error precursors could be used to improve hazard analysis process. Each deliverable would also complement safe work environment (just culture) and voluntary protection program attributes. Each of these deliverables will use the Lessons Learned from the Hanford HPI Pilot as a reference and starting point.

HPI Implementation Strategy-Develop a guidance document that outlines key activities for implementing human performance concepts at a facility, project or site. The document would identify key actions, resources, lessons learned, and expectations relative to how to initially startup an HPI program. The plan would include an example charter for an HPI Steering Committee and information on how to conduct a GAP analysis of procedures, processes, and

organizational behaviors relative to the Institute of Nuclear Power Operations (INPO) principles and practices. In addition, an example implementation plan would be provided to outline the activities and resources that an organization might expect to commit to implement HPI. The document would address what “success” looks like, including organization behavior, and relevant performance indicators.

HPI Training- Develop a guidance document that provides recommendations and important considerations for training personnel on HPI concepts. The document will include how to conduct a training needs analysis to identify how to deploy human performance improvement tools and techniques into an organization. It would include different strategies for (1) developing a core group of subject matter experts on human performance, (2) managers, (3) the work force in general, and (4) engineers and knowledge workers, (5) work planners, (6) event investigators and cause analysts, and as appropriate continuing training and reinforcement. The document would include example lesson plans and other supporting information.

HPI Potential Applications- Develop a topical guide that provides recommendations and important considerations for integrating HPI concepts into work activities. The topical guide would consist of checklists, practices, possible metrics, and recommendations for improving processes such as:

- Procedures development
- Work Planning
- Job Walk downs
- Design/engineering activities
- Pre-Job briefings/Post-Job briefings
- Lessons Learned
- Performance-based Management / Self-assessments
- Cause Analysis & Event Investigation
- Observation & coaching include Culpability Matrix
- Just “culture” and Culpability Matrix
- Emergency preparedness and response
- Problem identification & resolution
- Application of HPI with simulation and training (theory to practice)