

Research Report
KTC-04-24/SPR 268-02-1F

KENTUCKY TRANSPORTATION CENTER

College of Engineering

**SAFETY AND HEALTH CONCERNS FOR
KYTC AND CONTRACTOR PERSONNEL**



UK
UNIVERSITY OF KENTUCKY

**Research Report
KTC-04-24/SPR-268-02-1F**

Safety and Health Concerns for KYTC and Contractor Personnel

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in cooperation with

**Kentucky Transportation Cabinet
Commonwealth of Kentucky**

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16. Abstract This study was initiated to provide a review of safety and health issues related to Kentucky Transportation Cabinet (KYTC) construction activities including both KYTC and contractor personnel. Work included a literature search, interviews with KYTC resident engineers, and both a survey of and subsequent meeting with district construction safety coordinators. Recommendations are provided for implementing changes to improve safety and health regulatory compliance for both KYTC and contractor personnel.					
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EXECUTIVE SUMMARY

Background

Worker safety & health (S & H) issues impact a wide range of KYTC activities. Those occur in the field, in KYTC laboratories and garages and in the plants and offices of firms conducting business with KYTC. Construction is a priority for safety improvement. One of the four goals of KYTC is to improve safety. To support that goal, KYTC officials must provide the necessary training and equipment along with policies and procedures to promote S & H for their employees. The need exists to: 1) review current KYTC worker S & H requirements; 2) evaluate KYTC policies and training impacting worker safety and health; and 3) identify needs and resource requirements to better comply with them. Included in those needs is a determination of KYTC oversight related to the safety & health of contractor personnel working on KYTC projects.

Study Objectives

The objectives of the study include:

1. Identify all safety and health requirements mandated by regulations that are applicable to KYTC construction projects. Determine current KYTC oversight/accommodations for worker S & H regulations impacting KYTC personnel. Identify any liabilities that KYTC may incur for the actions of contractor personnel working on KYTC projects [Reference www.osha.gov, multi-employer worksite, criminal/willful, etc.1920.16, etc.].
2. Determine current KYTC training, policies and guidance related to worker safety and health impacting both KYTC and contractor personnel on construction projects.
3. Identify needs for:
 - worker S & H training for KYTC and contractor personnel;
 - additional KYTC S & H documentation, guidance and recordkeeping;
 - S & H testing requirements (e.g. air monitoring, medical observations, etc.) for KYTC personnel in construction activities;
 - formulating duties, policies, and procedures for KYTC and Contractor supervisory employees for oversight of S & H issues;
 - a detailed explanation of the authority of KYTC employees over contractor employees;
 - additional KYTC S & H personnel (e.g. industrial hygienist); and
 - additional S & H equipment & facilities for KYTC personnel.
4. Identify available funding sources (e.g. Federal grants) for occupational employee and instructor safety training, video and training programs purchase, monitoring or testing equipment, training expenditures for equipment or facilities, etc.
5. Provide recommendations for a partnering program with contractors to make contractors aware of KYTC expectations for their training of employees. Evaluate making training available in a variety of technical areas for both KYTC and contractor personnel.
6. Provide recommendations for providing KYTC construction personnel with a prioritized series of S & H training courses to be taken in conjunction with other training programs or offered electronically (i.e. CD ROM or Internet).

Study Tasks

Seven tasks were identified to address the study objectives. Those were:

Task 1. Review all applicable regulatory documents related to KYTC construction-related S & H issues (e.g. OSHA 1910 and 1926). Interview KYTC officials and identify all current activities in place within KYTC to address those regulatory safety and health requirements.

Task 2. Review all KYTC training, policies and guidance for construction-related worker S & H issues. Identify whether current training satisfactorily meets the needs of KYTC employees.

Task 3. Interview KYTC personnel (officials, resident engineers, operations engineers, inspectors, safety coordinators and safety specialists) from district offices about safety issues they routinely address and their concerns. Solicit their opinions about training requirements, best methods of delivery (i.e. electronic or classroom), and when to make training available (i.e. on-demand, in the winter, etc.). Also, solicit their needs for additional S & H support.

Task 4. Collate the findings from Tasks 1-3 and provide them to the Study Advisory Committee. Jointly review those findings with the Study Advisory Committee and compile a list of specific recommendations for KYTC implementation to address Objective 3. That list will include recommended training (and identify potential sources), additional KYTC documentation needs (including field guides), a list of expanded safety and health testing requirements (if necessary), a list of recommended guidance documents, procedures and policies for oversight of contractor personnel, recommended additional safety and health personnel, and any additional equipment or facilities needed for safety and health support.

Task 5. Prepare a list of recommendations for establishing a S & H partnership with contractors including optional joint training; periodic meetings to discuss achieving improved practices, and establishing mutually acceptable S & H training standards for contractor personnel. Consider limitations of new and smaller contractors in recommending those actions.

Task 6. Prepare a proposed training program for all KYTC personnel involved in construction identifying and prioritizing needs along with recommendations for implementing the program statewide.

Task 7. Identify funding requirements/sources for S & H programs and equipment to implement Task 4.

Most of these tasks were not performed individually, but were incorporated as part of the Coordinators review process.

WORK PERFORMED ADDRESSING STUDY TASKS

Information Gathering

KTC work on this study included a literature review on worker S & H issues related to transportation agencies and attendance at several courses including a 3-day seminar on Environmental, Health & Safety Law (October 2002) and an OSHA 30-hr General Industry Voluntary Compliance Course in December 2003. Prior to the meeting of district construction safety coordinators (hereinafter referred to as “Coordinators”), KTC researchers sought to obtain background information of construction-related S & H issues/activities from the perspective of resident engineers who were charged with overseeing those activities. Mr. Richard Cusick, the Coordinators of District 5 in Louisville, arranged for KTC researchers to interview three resident engineers. The interviews were conducted in October 14, 2003.

District Construction Safety Coordinator Survey

Based upon the information gathered in the literature review, courses and the resident engineer interviews, KTC researchers prepared a survey on S & H issues that was furnished to the Coordinators prior to their meeting. KTC researchers needed those inputs to understand the duties of the Coordinators, their concerns, needs and issues that impacted their ability to perform their duties. Additionally, opinions were sought about possible initiatives that KYTC could undertake to address issues related to the study. Survey questions and a summary of responses are provided in Appendix 1.

District Construction Safety Coordinator Meeting

The District Construction Safety Coordinator Meeting was held on March 17, 2004 at the Transportation Office Building in Frankfort. KYTC attendees included 9 Coordinators from Districts 1, 2, 3, 4, 5, 6, 10, 11, 12 (several districts did not have Coordinators at that time), a construction engineer from District 6, two representatives from Central Office Division of Construction and Allen Ravenscraft, the Director of Employee Safety and Health (and SAC co-chairman). Three KTC researchers attended the meeting to act as meeting facilitators and recorders.

The subject meeting was held to obtain input on KYTC construction-related safety issues from KYTC District Construction Safety Coordinators and related KYTC Construction Central Office personnel. Throughout the meeting, KTC researchers summarized and recorded comments from the meeting participants. At the end of the meeting, the District Construction Safety Coordinators' questionnaires were collected by KTC. Appendix 2 contains a summary of: 1) listed and ranked comments to parts 1-5 of the survey obtained during the structured (facilitated) portion of the meeting and 2) ad hoc comments provided by KYTC personnel during discussions of all parts of the survey.

Final Study Tasks

In April 2004, KTC researchers developed a set of recommendations addressing proposed changes for KYTC officials to consider relative to construction S & H. The recommendations were largely based upon responses in the Coordinator survey and Coordinator comments provided at the March 2004 meeting in Frankfort. Those recommendations are provided in Appendix 3.

On May 2004, KTC researchers met with the Study Advisory Committee. They presented a summary of the Coordinators survey/March meeting comments and the study recommendations. After a group discussion, Mr. Hubbard commented that the recommendations were generally good and that they should be taken to the implementation stage. He recommended that each person on the committee be given responsibility for developing guidelines and policies. The SAC members were asked to provide comments to the recommendations.

RECOMMENDATIONS

Recommendations are provided in ten areas (Appendix 3). Those are:

1. Create a new safety program as the basis for instituting changes.
 2. Modify the current KYTC organization to accommodate changes.
 3. Modify current KYTC policies to promote changes and set agency direction.
 4. Expand roles of the Coordinators and provide them additional support.
 5. Institute meaningful change in the mindset of KYTC construction personnel.
 6. Extend the safety focus to other KYTC Divisions.
 7. Provide additional/specific training for KYTC construction personnel.
 8. Partner with contractors to achieve KYTC safety goals-additional contractor requirements.
 9. Partner with the Kentucky Department of Labor (KY OSH) to achieve significant safety enhancements.
 10. Assume a position of leadership for safety among all state highway agencies.
- Recommendations 1-5 are complementary. The best results can be obtained if most of the recommendations are adopted. As suggested by a study co-chairman, SAC committee members should be charged with developing guidelines and policies for implementing them. KYTC should provide sufficient resources to support the suggested initiatives.

INTRODUCTION

Background

Worker safety & health (S & H) issues impact a wide range of KYTC activities. Those occur in the field, in KYTC laboratories and garages and in the plants and offices of firms conducting business with KYTC. Construction is a priority for safety improvement. One of the four goals of KYTC is to improve safety. To support that goal, KYTC officials must provide necessary training and equipment along with policies and procedures to promote S & H for their employees. The need exists to: 1) review current KYTC worker S & H requirements, 2) evaluate KYTC policies and training impacting worker safety and health, and 3) identify needs and resource requirements to better comply with them. Included in those needs is a determination of KYTC oversight related to the safety & health of contractor personnel working on KYTC projects.

Most S & H regulations are mandated by the Kentucky Occupational Safety and Health Program (KOSH) enacted under a state plan approved by the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA). KYTC officials are working diligently to ensure that all regulations are satisfied and that S & H issues impacting KYTC personnel are properly addressed. To achieve those objectives, KYTC officials have done many of those things including the implementation of proactive measures such as partnering with KOSH to monitor industrial hygiene during painting operations. KYTC officials have prepared and presented worker S & H-related training on topics such as fall protection.

KYTC officials are seeking further enhancements to existing S & H efforts. Potential enhancements/needs include:

- additional KYTC and contractor S & H training;
- further S & H documentation/guidance/recordkeeping;
- formulation of new policies and procedures for how KYTC and Contractor supervisory employees should provide oversight for subordinates;
- additional KYTC S & H personnel/facilities/equipment;
- innovative delivery mechanisms for delivery of S & H training (e.g. Internet, CD ROMs);
- explanation of the authority of KYTC employees over contractor employees with regard to safety; and
- creation of a partnering program for KYTC officials and contractors to discuss KYTC S & H expectations for employees.

The work proposed under this study included the investigation of those issues, analyses of needs, identification of specific actions to address those, and documentation to support the resulting recommendations. The recommendations provided herein are intended to enable KYTC to better comply with S & H issues and consequently achieve its goal of improved worker safety.

An initial Study Advisory Committee (SAC) meeting was held on November 7, 2002. At that time, SAC members identified a variety of worker S & H issues that warranted investigation. Those issues covered a range of activities/Divisions throughout KYTC. After that meeting, KTC

researchers prepared a revised list of study objectives and proposed tasks and submitted it to SAC members for review. After those were approved, a draft work plan was developed and presented to the Study Advisory Committee in September 2003. During that meeting, Mr. Amos Hubbard, study co-chairman, recommended that the study be restricted to the area of greatest need, construction, and that other S & H issues be dealt with internally by KYTC officials. The committee concurred with that recommendation. SAC members provided comments about construction-related issues that they considered of importance for a revised work plan. Those comments addressed: 1) current KYTC emphasis on safety of its employees at construction sites, 2) safety training for KYTC employees, 3) authority of KYTC inspectors at job sites to recognize an imminent danger and stop the work, 4) KYTC provision of safety training to contractor personnel, 5) a question of whether all pertinent KYTC received safety training, 6) different levels of safety training provided by various contractors, and 7) upper management support for safety initiatives. To address those issues, SAC members recommended a meeting with all District Construction Safety Coordinators (hereinafter referred to as “Coordinators”) to discuss S & H issues. Findings related to that meeting were to serve as the basis for most recommendations arising from this study.

Study Objectives

The objectives of the study include:

1. Identify all safety and health requirements mandated by regulations that are applicable to KYTC construction projects. Determine current KYTC oversight/ accommodations for worker S & H regulations impacting KYTC personnel. Identify any liabilities that KYTC may incur for the actions of contractor personnel working on KYTC projects [Reference www.osha.gov, Multi-employer worksite, criminal/willful, etc.1920.16, etc.].
2. Determine current KYTC training, policies and guidance related to worker safety and health impacting both KYTC and contractor personnel on construction projects.
3. Identify needs for:
 - a. worker S & H training for KYTC and contractor personnel and within KYTC using training as a requirement for advancement;
 - b. additional KYTC S & H documentation, guidance and recordkeeping;
 - c. S & H testing requirements (e.g. air monitoring, medical observations, etc.) for KYTC personnel in construction activities;
 - d. formulating duties, policies, and procedures for KYTC and Contractor supervisory employees for oversight of S & H issues;
 - e. a detailed explanation of the authority of KYTC employees over contractor employees;
 - f. additional KYTC S & H personnel (e.g. industrial hygienist); and
 - g. additional S & H equipment & facilities for KYTC personnel.
4. Identify available funding sources (e.g. Federal grants) for occupational employee and instructor safety training, video and training programs purchase, monitoring or testing equipment, training expenditures for equipment or facilities, etc.
5. Provide recommendations for a partnering program with contractors to make contractors aware of KYTC expectations for their training of employees. Evaluate making training available in a variety of technical areas for both KYTC and contractor personnel.

6. Provide recommendations for providing KYTC construction personnel with a prioritized series of S & H training courses to be taken in conjunction with other training programs or offered electronically (i.e. CD ROM or Internet).

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Task 7. Identify funding requirements/sources for S & H programs and equipment to implement Task 4.

Most of these tasks were not performed individually, but were incorporated as part of the Coordinators review process.

WORK PERFORMED ADDRESSING STUDY TASKS

Information Gathering

KTC work on this study included a literature review on worker S & H issues related to transportation agencies and attendance at several courses, including a 3-day seminar on Environmental, Health & Safety Law (October 2002) and an OSHA 30-hr General Industry Voluntary Compliance Course in December 2003. The former seminar provided insight into legal aspects of worker S & H and it was determined that a facility owner has liability for a

contractor's workers. The latter course provided much of the regulatory background impacting construction. KTC researchers wished to take an OSHA 30-hr Construction Industry Course, but none was available when KTC researchers needed the background information and the General Industry course was substituted as many of the OSHA construction-related S & H regulations are similar/identical to those for general industry. The General Industry Course provided information on all aspects of worker S & H regulations and compliance.

Interview of District 5 Resident Engineers

Prior to the meeting of Coordinators, KTC researchers sought to obtain background information of construction-related S & H issues/activities from the perspective of resident engineers who were charged with overseeing those activities. Mr. Richard Cusick, the Coordinators of District 5 in Louisville, arranged for KTC researchers to interview three resident engineers. The interviews were conducted on October 14, 2003. The resident engineers described their staff, projects and construction activities, typical S & H issues, contractor S & H practices, sources of training and related training of their personnel.

KTC researchers learned that there was commonality in work-environments for the resident engineers and that all of them were addressing similar situations related to worker S & H. It appeared that one resident was more focused on worker S & H than the others, though all of them appeared to be cognizant of the need to address those issues. All of the resident engineers thought that their inspectors were able to recognize imminent danger situations and they were empowered to temporarily suspend a contractor's work until either the resident or the Coordinators could visit the worksite and evaluate the situation.

District Construction Safety Coordinator Survey

Based upon the information gathered in the literature review, courses and the resident engineer interviews, KTC researchers prepared a survey on S & H issues that was furnished to the Coordinators prior to their meeting. KTC researchers needed those inputs to understand the duties of the Coordinators, their concerns, needs and issues that impacted their ability to perform their duties. Additionally, opinions were sought about possible initiatives that KYTC could undertake to address issues related to the study. Survey questions and a summary of responses are provided in Appendix 1.

District Construction Safety Coordinator Meeting

The District Construction Safety Coordinator Meeting was held on March 17, 2004 at the Kentucky Transportation Office Building in Frankfort. KYTC attendees included 9 Coordinators from Districts 1, 2, 3, 4, 5, 6, 10, 11, 12 (several districts did not have Coordinators at that time), a construction engineer from District 6, two representatives from Central Office Division of Construction and Allen Ravenscraft the Director of Employee Safety and Health (and SAC co-chairman). Three KTC researchers attended the meeting to act as meeting facilitators and recorders.

The subject meeting was held to obtain input on KYTC construction-related safety issues from KYTC District Construction Safety Coordinators and related KYTC Construction Central Office personnel. This work addressed the objectives for KTC research study KYSPR 03-268 "Safety and Health Concerns for KYTC and Contractor Personnel". The Coordinators were asked to provide responses to parts 1-5 of the questionnaire where lists and rankings could be obtained. This was done in a "structured-go-round" format paneling each coordinator to provide items requested under the questionnaire. Thereafter, each Coordinator was given three votes to rank those items they considered most applicable or important. Their votes could be limited to one item on the list or distributed among them as each Coordinator saw fit. A tabulation of the votes was used to rank the items according to their correctness or importance. During this process, the Coordinators were allowed to provide comments and limited discussion to better define the issues. Responses to parts 6-13 of the questionnaire were obtained in an open forum basis. KYTC Central Office personnel (Mr. Bowen and Mr. Baase) also participated in the discussions and ranking processes.

Throughout the meeting, KTC researchers summarized and recorded comments from the meeting participants. At the end of the meeting, the District Construction Safety Coordinators' questionnaires were collected by KTC. Appendix 2 contains a summary of: 1) listed and ranked comments to parts 1-5 of the survey obtained during the structured (facilitated) portion of the meeting and 2) ad hoc comments provided by KYTC personnel during discussions of all parts of the survey.

Final Study Tasks

In April 2004, KTC researchers developed a set of recommendations addressing proposed changes for KYTC officials to consider relative to construction S & H. The recommendations were largely based upon responses in the Coordinator survey and Coordinator comments provided at the March 2004 meeting in Frankfort. Some of those recommendations were beyond the scope of the study objectives/tasks. However, they were consistent with the intent of the study. KTC researchers considered them vital to proper implementation of the study goals. Those recommendations are provided in Appendix 3.

On May 19, 2004, KTC researchers met with the Study Advisory Committee. They presented a summary of the Coordinators survey/March meeting comments and the study recommendations. After a group discussion, Mr. Hubbard commented that the recommendations were generally good and that they should be taken to the implementation stage. He recommended that each person on the committee be given responsibility for developing guidelines and policies. The SAC members were asked to provide comments to the recommendations and those received were incorporated into those presented in Appendix 3.

RECOMMENDATIONS

Recommendations are provided in ten areas (Appendix 3). Those are:

1. Create a new safety program as the basis for instituting changes.
2. Modify the current KYTC organization to accommodate changes.

3. Modify current KYTC policies to promote changes and set agency direction.
4. Expand roles of the Coordinators and provide them additional support.
5. Institute meaningful change in the mindset of KYTC construction personnel.
6. Extend the safety focus to other KYTC Divisions.
7. Provide additional/specific training for KYTC construction personnel.
8. Partner with contractors to achieve KYTC safety goals-additional contractor requirements.
9. Partner with the Kentucky Department of Labor (KY OSH) to achieve significant safety enhancements.
10. Assume a position of leadership for safety among all state highway agencies.

Recommendations 1-5 are complementary. The best results can be obtained if most of the recommendations are adopted. As suggested by a study co-chairman, SAC committee members should be charged with developing guidelines and policies for implementing them. KYTC should provide sufficient resources to support the suggested initiatives.

APPENDIX 1

District Construction Safety Coordinator Survey Summary

Part 1. Duties of District Construction Safety Coordinator

A. List 3-5 primary job duties and percentage of time spent

Questionnaire Responses (District Safety Coordinator Responses Provided)

Coordinator: visit const. projects (50% of time as coordinator), mediating between contractors and KYTC inspectors about safety concerns (25% of time as coordinator), inspecting/restoring safety equipment (15% of time as coordinator), and discussing safety issues with inspectors at residents' offices (10% of time as coordinator).

Coordinator: job site inspection (5% of total time), attend preconstruction meetings (5% of total time) and train construction people (5% of total time).

Coordinator: jobsite inspection (80% of time as coordinator), attend training (10 % of time as coordinator), conduct (OSHA?) 10-hr safety class (5% of time as coordinator), reviewing and updating safety equipment (5% of time as coordinator), and new employee safety training (1% of time as coordinator).

Coordinator: inspect jobsites (60% of time as coordinator), attend training (20% of time as coordinator) and train employees (20% of time as coordinator).

Coordinator: Listed other job duties (see subpart B)

Coordinator: project inspections (10% of total time), participate in preconstruction meetings (5% of total time), safety training and related material, equipment (4% of total time), and review contractor safety programs (1% of total time).

Coordinator: District is without a district construction safety coordinator at the moment. I am acting coordinator at the moment.

Coordinator: jobsite inspection (25% of time as coordinator), attend training (25% of time as coordinator), conduct training (25% of time as coordinator), research (15% of time as safety coordinator), and nuclear safety (10% of time as coordinator).

Coordinator: safety inspections (10% of total time), training district construction personnel (10% of total time) and other duties including correspondence and researching safety items (5% of total time).

B. Do you have other duties outside of District Construction Safety Coordinator? List percentage of time you spend on those other duties.

Yes (9 responses)

Coordinator: Yes. Test paint stripes (55% of time spent on other duties besides coordinator), inspecting grade & drain work (20% of time spent on other duties besides coordinator), compile data & work on project finals (15% of time spent on other duties besides coordinator) and bridge painting inspector (10% of time spent on other duties besides coordinator).

Coordinator: Yes. Checking finals (60% of total time), DBE & EEO Officer (20% of total time), Radiation Safety Officer (10% of total time), and Safety Coordinator (10% of total time).

Coordinator: Yes. Construction Engineer (80% of total time).

Coordinator: Yes. Checking final estimates (50% of total time), sending contractor estimates (20% of total time), various office duties (15% of total time), Safety Coordinator (10% of total time) and Radiation Safety Officer (5% of total time).

Coordinator: Yes. Contract administration (30% of total time), EEO/DBE/Wage Compliance Officer (25% of total time), Safety Coordinator (25% of total time), special projects incl. Site Mgr., training, Title VI, TRIMARC, etc. (15% of total time) and other duties (5% of total time).

Coordinator: Yes. EEO compliance, final estimates, change orders, subcontracts, etc. (80% of total time).

Coordinator: Yes. Construction Supervisor (99% of total time).

Coordinator: Yes. Office Manager (75% of total time).

Coordinator: Yes. District Construction Engineer (>75% of total time).

C. Should district construction safety coordinator be your sole duty?

All Coordinators answered no indicating that they should have other duties.

Part 2. Major Issues and Concerns

A. Safety & health issues commonly addressed by coordinators related to construction.

Coordinator: fall protection, trenching, contractor flaggers (traffic control), and keeping competent person on jobsite (contractor).

Coordinator: training, trenching, fall protection and people not wanting to follow regulations.

Coordinator: trenching safety, fall protection, personal protective equipment and contractor's safety and general public's safety related to traffic control safety issues.

Coordinator: fall protection, trenching, traffic control and hazardous materials.

Coordinator: trenching & excavations, fall protection, lead exposure and training.

Coordinator: fall protection, excavations, electrical, traffic control & devices and construction equipment.

Coordinator: fall protection (related to bridge construction) and trench excavation.

Coordinator: fall protection, personal protective equipment, training, heavy equipment and traffic control.

Coordinator: fall protection, trenching/shoring, equipment safety and confined spaces.

B. Problem issues or concerns about addressing duties as coordinator

Coordinator: Not having enough time to visit the job sites as frequently as I would like; the KYTC inspectors are not onboard with safety as much as I would like; after I visit a job site, when I return next week I often see the same violations; and contractor employees poorly trained & often the contractor has no safety officer.

Coordinator: Too many gray areas, not enough backing, KYTC district people disliking the safety coordinator and supervisors not setting good examples.

Coordinator: Authority, cooperation, and expectations of Central Office.

Coordinator: Professional engineers (if you aren't one, you are nothing), employee indifference, lack of authority, lack of suitable training facilities, purchasing restrictions & lack of funding for safety equipment, no assistant (often need to be at two places simultaneously), and work is being performed 24/7 but I am limited to 8-4:30. If I need to inspect anything outside 8-4:30, I must do it on my own time using my own vehicle.

Coordinator: Authority, continuance of training & resources for the position, and inadequate vehicle.

Coordinator: Unsure of coordinator's authority at the job site.

Coordinator: Support from the administration, equipment costs and time.

Coordinator: Work load for KYTC crews does not allow adequate training time.

Part 3. S & H Training for KYTC Construction Personnel

Questionnaire Responses (summarized for group)

A. What training is available to KYTC construction in your district?

OSHA 10-hour/construction (8 responses-1 no response)

KY OSHA re-training (1 response)

Non-safety training (2 responses)

When is training offered?

Winter (3 responses)

Once per year (4 responses)

August (1 response)

January 2003 last taught (1 response)

B. Training sources

1. Do KYTC construction personnel attend training in your district?

Yes (9 responses)

2. Do you provide training for KYTC construction personnel in your district?

Yes (8 responses) No (1 response)

3. When is that training typically offered?

Winter, Jan-Feb, Jan-March, Feb, Off-season (8 responses) Once per year with monthly toolbox talks (1 response)

C. Is there a minimum (safety) training requirement for resident engineers/managers in you district?

Yes (3 responses) No (3 responses)*

If no, what training do you think they should have?

**Residents only, managers need some training.*

Min. OSHA 10-hour/Construction

30-hour OSHA/Construction

10-hour OSHA/Construction plus fall protection & trenching

D. What percentage of resident engineers has that (minimum required) training?

100 percent (2 responses) 90 percent (1 response) 80 percent (1 response) (5 no responses)

E. Do all KYTC construction personnel on resident engineer crews have some S & H training?
Yes (7 responses) No (2 responses)
 If “No” what percentage of crews has that training?
No Response (2)

F. Should additional training be mandated for KYTC construction personnel?
Yes (2 responses) No (7 responses)
 If yes, what training should be mandated?
(1 response-It would be nice if we could have a 10-hour OSHA training yearly and then some small group training during the year.)

G. Rank the following training methods (1- most desirable to 3-least desirable) and indicated (Yes/No) whether you thought the method was practical.

Group Response on Several Training Methods		
<i>Classroom Instruction</i>	<i>Computer-based Training</i>	<i>Self-Paced Manuals</i>
<i>6-1 Ratings; 8 Yes</i>	<i>3-1 Ratings; 6 Yes</i>	<i>1-1 Rating; 2 Yes</i>
<i>3-2 Ratings; 1 NC</i>	<i>2-2 Ratings; 1 NC</i>	<i>2-2 Ratings; 1 NC</i>
	<i>4-3 Ratings; 3 No</i>	<i>6-3 Ratings; 6 No</i>

Part 4. Needs and Suggestions

A. List three things that you need to help address your duties as Coordinator.

Coordinator: Off-road vehicle, state cell phone (this could save a lot of driving time & better communication) and equipment for training (laptop computer).

Coordinator: Do we go by “the book” and will we get backing for doing so, Central Office putting more emphasis on safety to contractors, and residents need to put on performance reports just how safe the contractors were.

Coordinator: Time, support, and guidance.

Coordinator: The help of resident engineers, the help of construction personnel, and guidance.

Coordinator: Authority, funding, and an assistant.

Coordinator: Total commitment to S & H from the Central Office and the District Office, training and equipment needs met, and adequate transportation.

Coordinator: Clear guidance, clear policies, and clear guidelines.

Coordinator: Laptop computer, projector, and digital camera.

Coordinator: Authority, job descriptions in General Specifications for Road and Bridge Construction.

Part B. List three policies/initiatives/practices that KYTC could undertake/change/eliminate that would enhance your role as Coordinator.

Coordinator: Allow Coordinators to attend all preconstruction meetings, put out a detailed memo to all construction employees requiring all of them to receive and review the

Construction Safety Handbook and sign a document that they have received it and could be reprimanded if they violate its provisions, and allow Coordinators to have input on the contractor's performance report.*

Coordinator: More emphasis on contractor safety by the Central Office, enforce S & H regulations "by the book", and base contractor's bidding on safety.

Coordinator: Support, and guidance.

Coordinator: More involvement by the Central Office with District Offices on safety issues and guidance.

Coordinator: Establish funding and purchasing regulations so we do not have to live in fear that if we need some safety equipment, we will not be permitted to get it due to draconian regulations.

Coordinator: Make the coordinator position full-time and establish guidelines to reward employees for good S & H performance.

Coordinator: No response.

Coordinator: Authority to "write-up" employees.

Coordinator: Statewide meeting with contractors, (KAHC) to have joint training.

**One of the Coordinators responded that this document was created by the past Central Office Division of Construction Safety Coordinator and is not an official KYTC document.*

Part 5. Contractor Working Practices Impacting S & H for KYTC Personnel, Contractor Employees and the General Public

A. Overall, rate KYTC construction personnel oversight of contractor working practices related to S & H for all impacted parties (1-"Unsatisfactory" to 10-"Excellent") Explain the rating.

Coordinator: Rating 5 KYTC personnel often are reluctant to make contractors comply with safety regulations. They tell Coordinators "You are the safety person-You tell them."

Coordinator: Rating 2 Inspectors don't know how far to go with safety.

Coordinator: Rating 5 We advise and that is all. Our employees don't use it.

Coordinator: Rating 5 Most people would rather not push the standards.

Coordinator: Rating 3 They are there, they just don't do anything even if they are told. They reply, "Not my job."

Coordinator: Rating 8 Over the last couple of years employee awareness and training have increased.

Coordinator: Rating 5 Most REs and inspectors attempt to bring to light obvious unsafe practices.

Coordinator: Rating 5 No response.

Coordinator: Rating 7 No response.

B. Is there variability in S & H practices/employee oversight among contractors?

Yes (8 responses) No Response 1

Coordinator: Yes some inspectors care more than others. Contractors' S & H programs vary (union v. non-union).

Coordinator: Yes some inspectors say something to the contractor and some won't.

Coordinator: Yes no comment.
Coordinator: Yes no comment.
Coordinator: Yes no comment.
Coordinator: Yes no comment.
Coordinator: Yes no comment.
Coordinator: Yes no comment.
Coordinator: no response.

C. List three factors impacting contractor S & H practices/employee oversight

Coordinator: contractor & KYTC personnel become friends and don't want to enforce regulations as much as they should and there is no money made for being safe-the contractors say it costs money.

Coordinator: that's the way they always did it and no backing.

Coordinator: support, legal worries and training.

Coordinator: mobile operations, knowledge (or lack thereof) and past work practices.

Coordinator: money, more money and still more money.

Coordinator: relaxed commitment, training and enforcement.

Coordinator: the work force (workers) that a contractor elects to send to a job site.

Coordinator: always moving from district to district, money and time.

Coordinator: time it takes to set up safe work zones and employee resistance to personal protective equipment use.

Part 6. Your Current Involvement with Contractors Prior to the Onset of Work

A. Do you routinely participate in pre-bid and pre-construction meetings with contractors? If "Yes," what S & H issues do you address?

Yes (8 responses) No (1 response)

Coordinator: No

Coordinator: Yes I have a safety check list I go over with the contractors.

Coordinator: Yes OSHA check list for pre-construction meetings.

Coordinator: Yes we cover safety check list at pre-construction meetings.

Coordinator: Yes general S & H and any specific S & H issues that may be evident on the project.

Coordinator: Yes no comment.

Coordinator: Yes no comment.

Coordinator: Yes no comment.

Coordinator: Yes no comment.

B. Must contractors submit S & H qualifications or plans for your review prior to the onset of construction? If "Yes," explain what documents they must provide.

Yes (3 responses) No (5 responses) No Response (1)

Coordinator: No

Coordinator: No I think they should be made to.

Coordinator: No.

Coordinator: No.

Coordinator: No sometimes the proposal states these must be submitted. Usually, we receive a very generic plan, but we do not formally review it due to liability issues.

Coordinator: Yes safety and health questionnaire, company safety policy and training requirements, and project safety plan.

Coordinator: No response.

Coordinator: Yes no comment.

Coordinator: Yes no comment.

Part 7. Potential KYTC Partnering with Contractors on S& H Issues

A. Apart from formal partnering with contractors, the potential exists for KYTC to initiate a partnering effort with contractors routinely involved with highway construction projects to improve practices related to S & H. That effort could be comprised of a joint annual meeting between KYTC and contractor personnel and the establishment of a joint board to address problem issues and to develop guidelines and cooperative initiatives. Do you believe that such a partnering effort would be worthwhile? Yes No Explain:

Yes (6 responses) No (2 responses) No Response (1)

Coordinator: Yes, no comment.

Coordinator: No, it would be worthwhile if you could get all the contractors to participate.

Coordinator: Yes, only with contractors that are serious and are not just wanting to make appearances.

Coordinator: Yes, no comment.

Coordinator: No, more cooks to do not make the soup better. They delay it from getting to the table while hot.

Coordinator: Yes, if contractor follows commitment.

Coordinator: No response.

Coordinator: Yes, great idea.

Coordinator: Yes, no comment.

Part 8. Potential S & H Training/Training Requirements for Contractor Personnel

A. Should all contractor personnel working on KYTC projects have formal training? If “Yes,” what training should they have?

Yes (8 responses) No (1 responses) No Response (1)

Coordinator: Yes, at least OSHA 10-hour course.

Coordinator: Yes, OSHA 10-hr course.

Coordinator: Yes, personal protective equipment, fall protection, trench safety – whatever fits their work.

Coordinator: Yes, OSHA 10-hour course.

Coordinator: No, no comment.

Coordinator: Yes, OSHA and KY OSH Standards.

Coordinator: Yes, no comment.

Coordinator: Yes, OSHA 10-hour course.

Coordinator: Yes, at least the OSHA 10-hour course.

B. Should contractors' supervisors have more extensive training than their workers?

Yes No If "Yes," what training should they have?

Yes (8 responses) No (1 responses) No Response (1)

Coordinator: Yes, According to OSHA it is required, but often they do not have the extensive training. Supervisors should have at least the OSHA 30-hour training.

Coordinator: No

Coordinator: Yes, personal protective equipment, fall protection (competent person), trench safety (competent person) – whatever fits their work.

Coordinator: Yes, they should be trained as OSHA competent person.

Coordinator: Yes a minimum of the OSHA 10-hour training.

Coordinator: Yes, OSHA and KY OSH Standards and training techniques.

Coordinator: No, response.

Coordinator: Yes, OSHA 30-hour course.

Coordinator: Yes, no comment.

C. Should all prime contractors working on KYTC projects have designated safety officers with specific related duties, training and experience?

Yes (8 responses) No (1 responses) No Response (1)

Coordinator: Yes, No comment.

Coordinator: Yes, No comment.

Coordinator: Yes, No comment.

Coordinator: Yes, No comment.

Coordinator: No, this would be a financial burden on the prime contractors who only bid small projects and are Mom & Pop operations.

Coordinator: Yes, OSHA and KY OSH Standards.

Coordinator: No, response.

Coordinator: Yes, No comment.

Coordinator: Yes, No comment.

D. Is a special effort needed to address training and project-related S & H issues for contractor employees that do not speak English? If "Yes", explain what steps need to be taken.

Yes (8 responses) No (1 response) No Response (1)

Coordinator: Yes, If they can't speak or read English, they should not be on the job.

Coordinator: No, We haven't had any workers that couldn't speak English.

Coordinator: Yes, Training in their language.

Coordinator: Yes, No comment.

Coordinator: Yes, as the pool of available construction workers shrinks, which it is currently doing, the days of an all-English-speaking workforce will be a thing of the past. If it is addressed now, it can be phased in rather than waiting a few years and requiring emergency

action. OSHA is looking at this matter currently. We need to remember that OSHA regulations cover all workers.

Coordinator: Yes, Training in different languages.

Coordinator: No response.

Coordinator: Yes, No comment.

Coordinator: Yes, No comment.

Part 9. District Construction Safety Coordinator S & H Recordkeeping and Programs

A. What S & H records must be kept related to KYTC construction activities?

Coordinator: Training records, OSHA 300 and air monitoring

Coordinator: I don't know of any. I keep a record of all the training we have.

Coordinator: Records of inspection of equipment and training records.

Coordinator: Jobsite records-violations should be documented.

Coordinator: Actually none.

Coordinator: Accident and health records, training certifications, programs and equipment.

Coordinator: No response.

Coordinator: OIR

Coordinator: Accident reports only are being kept.

B. Are you responsible for any written safety programs?

Yes (3 responses) No (4 responses) No Response (2)

Coordinator: Yes tornado, safety procedures, fire drills, exiting plan, safety training and any notes I take on construction projects.

Coordinator: No

Coordinator: Yes we are to help each employee look at their job duties and access equipment and safety measures.

Coordinator: No

Coordinator: No (implementation and enforcement, yes, creation, no)

Coordinator: Yes implementation.

Coordinator: No response.

Coordinator: No response.

Coordinator: No

Part 10. KY OSH Oversight of KYTC District Construction Activities

A. Estimate the number of construction site inspections KY OSH performs in your district annually.

Coordinator: 2

Coordinator: No response

Coordinator: Don't know

Coordinator: Don't know

Coordinator: Don't know

Coordinator: 1
Coordinator: Don't know I am not aware of any lately.
Coordinator: Don't know
Coordinator: Don't know

B. Are you informed when KY OSH inspectors come on construction sites?
If "Yes", should you try to go to the site promptly to observe their activities?

Yes (2 responses) No (6 responses) No Response (1)
Coordinator: Yes, when they are gone.
Coordinator: Yes, we should try to go to the site promptly to observe their activities. We had one in 2002 but I was not informed until after they left. I would have liked to be there.
Coordinator: No, response to first part of question. Yes a coordinator should go to the site to observe their activities.
Coordinator: No
Coordinator: No—And we are told to avoid the site at this time because KYTC can be cited if we do something that does not comply with the regulations.
Coordinator: No
Coordinator: No
Coordinator: No
Coordinator: No

C. Do you have a good working relationship (or any relationship) with KY OSH inspectors?
Explain:

Yes (2 responses) No (7 responses)
Coordinator: No
Coordinator: Yes some of the inspectors have attended the same safety classes as I have.
Coordinator: Yes I met them during training. Some of them are our trainers.
Coordinator: No I have had some classes with officers, but have not been on jobsites with them.
Coordinator: No the Cabinet views them as the enemy as they can write citations.
Coordinator: No
Coordinator: No
Coordinator: No they never have been on one of my projects.
Coordinator: No

Part 11. Partnering with KY OSH Division of Education & Training

A. Is your district (are you) involved in partnering with this agency? If Yes, describe the partnering effort (consultative survey or training).

Yes (2 responses) No (7 responses)
Coordinator: No
Coordinator: Yes, Eileen Dare had them look at a couple of jobs we had to see if we needed to improve our safety.

Coordinator: Yes, They have come and helped with training.
Coordinator: No
Coordinator: No
Coordinator: No
Coordinator: Yes, we participated in training together.
Coordinator: No

Part 12. District Safety Record Related to Construction Activities

A. How many accidents have occurred on construction projects in your district in the past three years involving the public or KYTC construction personnel? Vehicle accidents?

Coordinator: Don't know.
Coordinator: 10
Coordinator: No comment
Coordinator: No comment
Coordinator: Cannot answer
Coordinator: No comment
Coordinator: No comment
Coordinator: 7
Coordinator: 1

B. How many man-hours were lost due to those accidents?

Coordinator: No comment.
Coordinator: Not available
Coordinator: No comment
Coordinator: No comment
Coordinator: Cannot answer
Coordinator: No comment.
Coordinator: No comment
Coordinator: Too many to list.
Coordinator: No comment

C. Were there any fatalities on KYTC construction projects

Coordinator: Not in my district.
Coordinator: Not available
Coordinator: No comment
Coordinator: No
Coordinator: Yes, Motor Vehicle Accidents
Coordinator: Yes
Coordinator: No
Coordinator: 4
Coordinator: Yes

D. Was KYTC or a contractor(s) cited by KY OSH

Coordinator: Don't know.
Coordinator: Not available
Coordinator: No comment.
Coordinator: No
Coordinator: Cannot answer
Coordinator: Yes
Coordinator: No comment
Coordinator: 1
Coordinator: Yes

E. What corrective actions were taken to correct/abate the causes of those accidents?

Questionnaire Responses

Coordinator: Don't know.
Coordinator: No comment
Coordinator: No comment
Coordinator: No comment
Coordinator: Traffic control plan reviewed
Coordinator: No comment
Coordinator: No comment
Coordinator: Yes, Through training.
Coordinator: KYTC review of blasting procedures, closer review of project security.

Part 13. Your Background as a District Construction Safety Coordinator

A. How many years have you been a District Construction Safety Coordinator?

Coordinator: 2-1/2
Coordinator: 3
Coordinator: 1/2
Coordinator: 3
Coordinator: 16
Coordinator: 3
Coordinator: No comment
Coordinator: 2
Coordinator: 2

B. How many years have you worked for KYTC or for a previous employer involved in transportation?

Coordinator: 10-1/2
Coordinator: 22
Coordinator: 17
Coordinator: 20-1/2

Coordinator: 27
Coordinator: 22
Coordinator: 16
Coordinator: 13
Coordinator: 2

C. What formal S & H training have you taken (and when)?

Coordinator: Many OSHA training courses: fall protection, trenching, hazardous material, fire safety, and OSHA 500 Construction Trainer (2003)

Coordinator: 30-hour OSHA (2001), 10-hour OSHA (2002), 30-hour fall protection (2001), 30-hour trenching (2002) I am certified to teach 10 & 30 hour OSHA classes.

Coordinator: 4-day OSHA on hazardous materials (2003)

Coordinator: hazardous materials 201A (2003), trainer course in OSHA standards (2002), fall protection 207A (2003), fall protection 311 (2002), health hazards (2002), construction standards 510 (2001) and radiation safety (2003)

Coordinator: OSHA law & Kentucky legal training (2000), confined space entry (2001), OSHA fall arrest systems 311 (2002), OSHA trainer course on occupational S & H for the construction industry OTT 500 (2002), OSHA excavation, trenching & soil mechanics 301 (2002), OSHA health hazards in construction industry for safety personnel 326 (2002), OSHA fire protection & life safety 207A (2003), and many other courses.

Coordinator: OSHA 500 (2002), OSHA R50 (2001), OSHA 301 (2002), OSHA 311 (2002), OSHA 201A (2003), OSHA 326 (2002), OSHA 510 (2001), OSHA 207A (2003), CPR/First Aid, Preventing Workplace Violence and various OSHA training.

Coordinator: No formal training

Coordinator: OSHA train the trainer

Coordinator: OSHA train the trainer, fall protection, trenching, and 10-hour classes.

D. Would you like to have additional S & H training? If “Yes,” describe the training you would like to take?

Yes (8 responses) No (1 response)

Coordinator: Yes, confined space

Coordinator: Yes, any other available safety courses.

Coordinator: Yes, a general overview of specific job duties that are required for this position.

Coordinator: Yes, various courses.

Coordinator: Yes, anything available.

Coordinator: Yes, training to be certified as a S & H professional.

Coordinator: Yes

Coordinator: Yes, anything construction related.

Coordinator: No, at a later date maybe.

APPENDIX 2

District Construction Safety Coordinator Meeting Summary & Comments

Part 1. Duties of District Construction Safety Coordinator

A. List 3-5 primary job duties and percentage of time spent

Facilitated Discussion

Primary Job Duties (listed from most significant to least based upon time spent in role as district construction safety coordinator)

1. Conduct Training (11 votes)
2. Visit Job Sites (11 votes)
3. Resolving construction safety disputes (5 votes)
4. Receiving training (5 votes)
5. Participating in preconstruction meetings (2 votes)
6. Equipment inspection and updating (1 vote)
7. Reviewing (updating) regulations (1 vote)
8. Communicating (corresponding with others) (0 votes)
9. Reviewing contractor safety programs (0 votes)

B. Do you have other duties outside of District Construction Safety Coordinator? List percentage of time you spend on those other duties.

Group Response on Percentage of Time Spent As Dist. Const. Safety Coordinator	
Percentage	Number of Responders
<10	3
10-24	4
25*	2

*** No responder indicated more than 25 percent of time spent as Coordinator.**

C. Should district construction safety coordinator be your sole duty?

All responders answered no indicating that they should have other duties.

Comments by Coordinators at Meeting

- You must determine the most important tasks on hand to accommodate your duties.
- How much work you do as coordinator depends on your supervisor. There is a variance in job responsibility as coordinator among the various districts.
- Due to my lack of experience, it is unclear what the duties of the coordinator are. It depends on the number of jobs going on at any given time. If we have more construction jobs, we do more safety inspections.
- We don't receive many calls on safety issues from the KYTC inspectors. We spend more time looking at contractor safety issues than KYTC safety issues.

-We have 12 Districts that have different issues and ways of doing safety inspections. That is left to the Districts and the Central Office does not have any say in a District's safety inspections.

Part 2. Major Issues and Concerns

A. Safety & health issues commonly addressed by Coordinators related to construction.

Facilitated Discussion

(All of these were considered important by the responders)

1. Fall protection
2. Trench & excavation
3. Traffic Safety
4. Electric lines & equipment
5. Lead exposure
6. Operation of construction equipment
7. Working in confined spaces
8. Respiratory issues/conditions
9. Personal protection equipment
10. Hazardous materials
11. Training (coordinators & KYTC field personnel) & Compliance issues

B. Problem issues or concerns about addressing duties as coordinator

Facilitated Discussion

Issues or concerns (listed from most significant to least based upon voting with each coordinator getting 3 votes)

1. Lack of guidance [incl. Policies] (10 votes)
2. Contractor's program & communication within (8 votes)
3. Knowledge of authority [imminent danger] (6 votes)
4. Supervisory examples lacking [backing of supervisors] (3 votes)
5. Employee indifference (3 votes)
6. Funding for equipment [both req'd. and for training] (2 votes)
7. Credibility of coordinator [as viewed by others] (2 votes)
8. Inadequate vehicle for job sites (1 vote)
9. Time limitations (1 vote)
10. Lack of direction
11. Lack of safety awareness [by upper management]
12. Lack of continuing education
13. Liability
14. 8-4:30 state mentality v. 24/7 of the job site

Comments by Coordinators at Meeting

-Supervisors need to understand that purchase of needed safety equipment for employees is not an option. KYTC needs to identify all problem issues.

-The coordinators do have credibility with contractors or KYTC personnel. The high work loads on KYTC crews prevent them from getting training. Coordinators wear too many hats.

-Communication's problems exist with contractors' safety coordinators.

-Coordinators are treated as 8-4:30 employees which does not meet the reality of most construction projects which may be 24/7. There is employee indifference to safety. With anticipated loss of experienced field crews, there will be a greater training need for their replacements.

Part 3. S & H Training for KYTC Construction Personnel

Facilitated Discussion

Ideas for Improved Training

- 1. Team teaching (multi-district)*
- 2. Real examples (participatory)*
- 3. Visual aides (video/PowerPoint/pictures)*
- 4. Job site training (piggyback with contractors)*

Comments by Coordinators at the Meeting

- Would like to provide the 30-hour OSHA course but don't have the facilities and KYTC construction personnel don't have the time to attend the training. Supervisors don't give importance to safety training.*
- 30-hour training needs to be provided to all KYTC inspectors. Supervisors need to get it done. The problem is not competent students-it is no students. There needs to be a commitment to this by upper management.*
- Getting a facility is easy, but the 30-hour course would need to be broken up to get it done.*
- OSHA has courses available and the district safety coordinators are available to do the training. Resident engineers and inspectors should have at least the 30-hour OSHA course.*
- Do people have special training administered for special projects?*
- Site specific training has been given on some projects.*
- During planning, opportunity has to be taken to incorporate safety issues. Sometimes these do not come to light until the preconstruction meeting and that causes problems.*
- Mentioned special training for confined spaces*
- Thought that multi-district team training could work.*
- Thought more visual aides such as photographs would be useful for training.*
- Thought that site-specific training would be helpful and it could be expanded to involve the contractor and his personnel.*

Part 4. Needs and Suggestions

A. List three things that you need to help address your duties as Coordinator.

Facilitated Discussion

- 1. Being able to follow "the book" with backing from supervisors*
- 2. Authority*
- 3. Equipment*
- 4. Guidance/direction*
- 5. Commitment from Central Office and District*
- 6. A little help (can't be in two places simultaneously)*
- 7. Job description (needs to be defined in spec. book w/ coordinator's authority defined for the contractor)*

B. List three policies/initiatives/practices that KYTC could undertake/change/eliminate that would enhance your role as Coordinator.

Facilitated Discussion

Listed as “Changes to Enhance Job”

1. Resident’s performance reports to address safety and effect contractor and subcontractor future prequalification.
2. More emphasis/reinforcement on safety by Central Office/Districts
3. Authority to “write-up” contractors for lack of compliance.
4. Deal directly with safety & health).
5. Make the safety coordinator position a “real job” with appropriate increase in time to be effective.
6. Improve coordination between district construction safety coordinator and district safety compliance officer.
7. Need to know the schedules for preconstruction meetings.
8. Some respect from professional engineers.
9. Reasonable purchasing regulations for safety equipment.
10. Joint training with contractors.

Comments by Coordinators at the Meeting

- Safety & health need to be part of the contractor prequalification process. It would help if coordinators got more respect from PE’s.
- Problems exist with equipment purchasing regulations. We need to consider joint training with contractors making them aware of our expectations. (Much like we did erosion control a few years back.)
- That type of training is already being done for paving.

Part 5. Contractor Working Practices Impacting Safety & Health for KYTC Personnel, Contractor Employees and the General Public

A. Overall, rate KYTC construction personnel oversight of contractor working practices related to safety & health for all impacted parties (1-“Unsatisfactory” to 10-“Excellent”). Explain.

Facilitated Discussion

Range of Ratings by vote: 2 (1 vote), 3 (1 vote), 4 (1 vote), 5 (6 votes), 8 (2 votes)

Comments by Coordinators at the Meeting

- Some construction personnel do this in his district.
- Construction personnel need to be able to identify hazardous wastes on site. They do not need to be industrial hygienists to do so.

B. Is there variability in S & H practices/employee oversight among contractors?

See Coordinators Survey in Appendix 1.

C. List three factors impacting contractor S & H practices/employee oversight

Facilitated Discussion

1. Routine practice
2. Luck
3. Past incidents
4. What they believe/practice
5. Union (have a person dedicated to safety & are more committed to safety –e.g. Iron Workers) vs. non-union
6. Number of employees on the job
7. Contractor size and turnover rate
8. Importance put on safety (e.g. safety is job #1)
9. Resources (time & \$) spent on safety seen as a waste
10. Work/job history (impact of one accident can change a contractor)
11. New contractor (some really good & some really bad)

Part 6. Your Current Involvement with Contractors Prior to the Onset of Work

A. Do you routinely participate in pre-bid and pre-construction meetings with contractors? If “Yes”, what S & H issues do you address?

Comments by Coordinators at the Meeting

- Coordinators need to attend pre-bid meetings to emphasize safety on the project.
- At the pre-construction meeting the coordinator needs to get the name(s) of the contractor’s competent person(s).
- At the meetings he reviews the safety & health qualifications of the contractor and tries to get a letter from a P.E. on fall protection.

B. Must contractors submit S & H qualifications or plans for your review prior to the onset of construction? If “Yes,” explain what documents they must provide.

Part 7. Potential KYTC Partnering with Contractors on S& H Issues

A. Apart from formal partnering with contractors, the potential exists for KYTC to initiate a partnering effort with contractors routinely involved with highway construction projects to improve practices related to S & H. That effort could be comprised of a joint annual meeting between KYTC and contractor personnel and establishment of a joint board to address problem issues and to develop guidelines and cooperative initiatives. Do you believe that such a partnering effort would be worthwhile? __Yes __No Explain:

Comments by Coordinators at the Meeting

- None of the contractors hear from management about S & H documents. Partnering only works as long as everything is going in the contractor’s favor.
- KY OSHA was never seen on the projects because they did not know how to evaluate construction projects.

- The Cabinet needs to force the issue of S & H on contractors.
- There may legal issues about partnering. We need to have goals and set targets through partnering.

Part 8. Potential S & H Training/Training Requirements for Contractor Personnel

A. Should all contractor personnel working on KYTC projects have formal training?
If “Yes,” what training should they have?

Comments by Coordinators at the Meeting

- It would be difficult to do because of employee turnover.
- The contractor’s employees should have an (OSHA) 10-hour card and the contractor should keep those documents on site.
- The Cabinet should be in a proactive mode and not in a small way. The contractor has to have all their employees carded for 10-hr courses.
- Employees must be proactive in doing their duty.

B. Should contractors’ supervisors have more extensive training than their workers?
_Yes _No If “Yes”, what training should they have?

Comments by Coordinators at the Meeting

- Upper management is not supportive. If contractor’s foreman says no, then upper management says they know more than we do, so we are put in the wrong for opening our mouths.

C. Should all prime contractors working on KYTC projects have designated safety officers with specific related duties, training and experience?

Comments by Coordinators at the Meeting

- Small contractors can get consultants to do the job or can have their employees act as part-time safety officers.
- The prime contractor can do the S & H for the subcontractors.

D. Is a special effort needed to address training and project-related S & H issues for contractor employees that do not speak English? If “Yes,” explain what steps need to be taken.

See Coordinators Survey in Appendix 1.

Part 9. District Construction Safety Coordinator S & H Recordkeeping and Programs

A. What S & H records must be kept related to KYTC construction activities?

Comments by Coordinators at the Meeting

- Document all of the contractor’s violations.
- OSHA regulations for painting leaded bridges require keeping medical records of employees, air monitoring and health monitoring.
- We use the form that Employee Health and Safety has to track employees.

B. Are you responsible for any written safety programs?

Part 10. KY OSH Oversight of KYTC District Construction Activities

A. Estimate the number of construction site inspections KY OSH performs in your district annually.

Comments by Coordinators at the Meeting

-There is about 150 jobs going on for every KY OSH inspector. There are not enough personnel to look at all jobs.

-Be courteous to KY OSH inspectors on KYTC projects. KY OSH will bypass KYTC to talk to the contractor.

B. Are you informed when KY OSH inspectors come on construction sites?

If “Yes,” should you try to go to the site promptly to observe their activities?

See Coordinators Survey in Appendix 1.

C. Do you have a good working relationship (or any relationship) with KY OSH inspectors?

Explain:

Comments by Coordinators at the Meeting

-KY OSH Division of Education has a good relationship with the Cabinet. With their site inspections you get a grace period to make corrections and avoid fines.

-The Cabinet should encourage courtesy visits by KY OSH. I believe contractors would be more safety compliant if the KY OSH people would show up more frequently. They have limited time to perform such inspections though.

Part 11. Partnering with KY OSH Division of Education & Training

A. Is your district (are you) involved in partnering with this agency? If “Yes,” describe the partnering effort (consultative survey or training).

Comments by Coordinators at the Meeting

-Their training is at the wrong time of the year for us.

-The Safety and Health Conference is on May 4 and 5.

Part 12. District Safety Record Related to Construction Activities

A. How many accidents have occurred on construction projects in your district in the past three years involving the public or KYTC construction personnel? Vehicle accidents?

Comments by Coordinators at the Meeting

-We are not given a breakdown in the number of fatalities or construction-related accidents.

-Districts 2 and 10 are the worst performing related to safety.

-Training and time come into play when keeping records.

-The role of accident investigations needs to be better defined. Accident reports are not dispersed.

B. How many man-hours were lost due to those accidents?

See Coordinators Survey in Appendix 1.

C. Were there any fatalities on KYTC construction projects?

See Coordinators Survey in Appendix 1.

D. Was KYTC or a contractor(s) cited by KY OSH ?

See Coordinators Survey in Appendix 1.

E. What corrective actions were taken to correct/abate the causes of those accidents?

See Coordinators Survey in Appendix 1.

Part 13. Your Background as a District Construction Safety Coordinator

A. How many years have you been a District Construction Safety Coordinator?

See Coordinators Survey in Appendix 1.

B. How many years have you worked for KYTC or for a previous employer involved in transportation?

See Coordinators Survey in Appendix 1.

C. What formal S & H training have you taken (and when)?

See Coordinators Survey in Appendix 1.

D. Would you like to have additional S & H training? If “Yes,” describe the training you would like to take?

See Coordinators Survey in Appendix 1.

APPENDIX 3

Recommendations for Enhancing Construction Worker Safety for KYTC and Contractor Personnel

The following recommendations are provided to enhance worker S & H at KYTC construction sites by instilling a safety mindset and focus for both KYTC construction personnel and contractor personnel working routinely on new construction and maintenance projects. The inclusion of both KYTC and contractor personnel is in acknowledgement of their considerable abilities to impact job site safety. The recommendations are based in a large part on interviews with KYTC construction personnel in District 5 and a March 15, 2004 meeting of KYTC district construction safety coordinators (Coordinators) at the Kentucky Transportation Building in Frankfort.

The current effort to achieve desired construction safety is not as successful as it could or should be. If the opinions of the Coordinators gleaned in the recent March 15th meeting are an accurate indicator, there are significant performance and culture (attitude) issues held by KYTC inspection crews and contractors that sometimes subordinate safety to work progress or neglect complying with safe practices. On the contractors' end, ignorance of safe practices may sometimes cause this. More commonly the reasons for contractors ignoring safe practices relate to facilitation of work or to avoid costs. KYTC inspection crews may enforce some imminent danger situations, but the Coordinators provide a picture of inconsistent enforcement of safety regulations. In part, that is due to high workloads on KYTC field inspectors who "cannot be everywhere at once" and whose primary duties and training are not safety enforcement. Also, there is pressure on the inspectors and residents to get the work done in a timely manner. Inspection personnel sometimes establish a rapport with contractors and do not want to endanger a good working relationship by harping about safety issues.

The Coordinators have observed these factors, but do not feel suitably empowered to address them. While they spend some time assisting KYTC inspection personnel to resolve safety issues with contractors, they do not have sufficient time to conduct site audits on much more than a random basis. They do not believe that they have sufficient authority to police projects, especially when their findings would create conflicts with contractors. In talking with the Coordinators, one gets the impression that getting the work done on time is the most important focus of KYTC construction personnel (not safety). This emphasis seems to be pervasive at the district level and Central Office policies have not changed it. The Coordinators have other problems that limit their effectiveness. They encounter difficulties in:

- Obtaining training equipment,
- Purchasing safety equipment for KYTC construction personnel
- Getting assistance to address schedule conflicts,
- Obtaining vehicles that can travel to all job sites, and
- Having work scheduling flexibility that would allow them to visit job sites after normal working hours.

This is not to say that KYTC construction actions do not support safety. In recent years, the position/duty of District Construction Safety Coordinator was created. The Division of Construction Central Office has a safety coordinator to work with the district Coordinators. Some districts do not have Coordinators. The others have conscientious employees in those positions. They are working to improve safety within the current constraints of their jobs. These personnel devote only a portion of their time (10-25 percent) to safety work with their main focus being providing safety training to district construction personnel and acting as a technical resource for them when problems arise. As a result of these initiatives, most KYTC construction personnel in the districts have had some level of safety training and the capability of addressing many potential construction-related S & H issues.

The situation regarding safety presented by the Coordinators is one of inconsistency, lack of agency emphasis, misplaced cultural focus, reactive posture to field issues, and incomplete/ineffective KYTC actions supporting safety. The best way to resolve the current situation is to give safety the highest priority on construction projects and make it the centerpiece of a new KYTC initiative.

Recommendations are in ten areas along with reasons/justifications. Those are:

1. Create a new safety program as the basis for instituting changes.
2. Modify current KYTC organization to accommodate changes.
3. Modify current KYTC policies to promote changes and set agency direction.
4. Expand roles of the Coordinators and provide them additional support.
5. Institute meaningful change in the mindset of KYTC construction personnel.
6. Extend the safety focus to other KYTC Divisions.
7. Provide additional/specific training for KYTC construction personnel.
8. Partner with contractors to achieve KYTC safety goals-additional contractor requirements.
9. Partner with the Kentucky Department of Labor (KY OSH) to achieve significant safety enhancements.
10. Assume a position of leadership for safety among all state highway agencies.

Where possible, the proposed recommendations are intended to accommodate changing conditions that are expected in both the KYTC and contractor work forces. The recommended program is designed to place KYTC in an aggressive proactive stance on construction safety and to assume a position of national leadership compared to other state highway agencies. Some of these recommendations may appear to be extreme, but they are not without precedent in the KYTC. The resulting program is designed to succeed and place safety as the Number One Priority in conducting work at KYTC job sites. It is intended to be self-auditing and self-correcting to accommodate shortcomings and shifts in the construction landscape that may occur over time (continuous improvement).

- 1. Create a new safety program as the basis for instituting changes.*

As proposed, the changes are sweeping and effect many Divisions within KYTC and fundamental relations with contractors and resource agencies (primarily the Kentucky Labor Cabinet). Partnering among those entities will be required to coordinate the implementation of

the necessary changes. There are organizational culture issues (attitudes and practices) that need to be revised and that will require broad, coordinated actions and initiatives. The proposed changes will take a number of years to implement. The organizational structure within KYTC will need to be modified and new policies formulated. To better address safety, KYTC and contracting managers will need to modify their organizational structure. Their employees will need to transform their mindset (which will probably be more difficult to achieve than the structural changes).

Improved construction safety is a stated goal of KYTC management. The commitment to change must be accompanied by the reality that added resources must be channeled to institute the necessary changes. Policy change is needed to promote organizational alignment promoting safety. Training (KYTC and contractor personnel) is needed to improve safety. Additional KYTC management actions are necessary. The institutionalization of the culture of safety will require a significant commitment of manpower and material. The issue of safety will be on-going as long as highway projects continue to be built, modernized or maintained. Appropriate safety metrics need to be identified and measured. Based upon those metrics, performance can be tracked and appropriate follow-up actions can be implemented to achieve S & H performance goals. **Only a well-supported permanent program can effectively achieve the desired level of change necessary to create and maintain a constant high emphasis on worker S & H.**

2. Modify current KYTC organization to accommodate changes.

Some organizational changes are recommended to accommodate the proposed increased emphasis on construction-related S & H. The following options should be considered to achieve greater safety effectiveness: 1) move the construction safety program (in its entirety) into the Division of Employee Safety & Health, 2) remove the district safety coordinators from district oversight by moving their management to the Central Office Division of Construction or 3) move them into a newly created KYTC agency that deals with construction S & H issues and related contractor partnering initiatives. The Coordinators would remain physically located in the Districts, but would be managed centrally removing them from local influences and making it easier for them to inspect construction projects (see recommendation No. 4). **For the greater emphasis on safety, oversight must be permitted free from pressures “to get the job done” either internally within KYTC or externally. Other objectives must be subordinated to safety and it must remain a primary agency point of emphasis. A SAC co-chairman recommended that the Coordinators remain in Districts and be accountable to the District Engineers.**

3. Modify current KYTC policies to promote changes and set agency direction.

For safety to assume a more prominent role and to modify KYTC culture there must be a significant buy-in from the top down beginning with upper management. That commitment must be reflected in policy statements/memoranda noting this emphasis. A range of policies must be enacted to promote the primacy of safety at KYTC job sites. The initial policy would elaborate the steps KYTC management would be taking in the ensuing several months to increase the focus of safety at jobsites and institutionalize it in the KYTC culture. Coordinators would be

given specific authority in dealing with KYTC district construction personnel and contractors. That authority would permit them to inspect projects and require elimination of unsafe practices/conditions. Other significant safety actions need to be instituted with KYTC policy statements to emphasize their importance. KYTC management needs to “do the right thing” and not be driven by liability concerns.

4. Expand roles of the Coordinators and provide them additional support.

The Coordinators would be in the front line of the new safety program. As noted in recommendation No. 2, the Coordinators would be removed from district oversight, but not physically from the districts. They would be given full-time positions as zone or region safety coordinators and assigned oversight of 2-3 districts. Their roles would be expanded to include safety inspections/audits of on-going projects and the correction of safety violations. The coordinators would schedule and conduct training and cooperate with each other to conduct/present classes. They would meet at least quarterly with their Central Office supervisors in a group meeting. They would review the past quarter’s activities, identifying problem issues and discussing potential solutions. They would identify and track metrics such as accidents, lost-time injuries, and the findings of KY OSH inspections. Their authority would be clearly defined in KYTC policies.

Additional support would occur in eight areas:

- The Coordinators would be assigned 4-wheel drive vehicles to access construction sites.
- The Coordinator’s work hours would be adjusted to allow them to work during any time that construction was occurring including travel time to the project.
- The Coordinators would be given digital video/picture cameras to document site activities.
- The Coordinators would be given authorization to purchase required personal protection equipment for themselves and KYTC construction personnel in the districts that they oversee. They should be given some latitude in selecting that equipment. They could work together to purchase such equipment and obtain the best discounts.
- The Coordinators would be notified of all preconstruction meetings. They would have one designated assistant in each district that could represent them if scheduling conflicts arose.
- The Coordinators would have a laptop computer to take with them from district to district and a cell phone with sufficient air time to conduct all necessary business. Each district would provide office space for their coordinator.
- Coordinators would be provided with video projectors to conduct training classes and uniform training kits would be furnished including sample personal protection equipment and, perhaps, training videos.
- KYTC personnel in planning and design would be asked to identify special safety concerns of projects prior to PS&E and allow Coordinators to comment on accommodations necessary to address those concerns.

Coordinators would be expected to have uniform training with minimum requirements determined by their supervisor. They would be expected to obtain at least 40 hours of classroom safety training per year. They could obtain additional training if necessary to bring them up to

the established minimum standard. **A SAC member recommended that if position of Coordinator is made a full-time position, it should be reclassified to be career-enhancing.**

5. Institute meaningful change in the mindset of KYTC construction personnel.

Change in the mindset of KYTC construction personnel can be achieved in time by several actions:

- A clear commitment from KYTC upper management concerning the primacy of safety over all other considerations at project sites. That is noted in recommendation 3.
- KYTC policies set by Central Office upper management must be reinforced by district management.
- No variance may be permitted from the “Safety First” approach.
- Give the Coordinators (or regional coordinators) specific authority in terms of job oversight, imminent danger, write-ups and mandatory corrective action. If all else fails, give them the authority to call in KY OSH compliance to inspect and rule on a situation.
- Provide new training that stresses the importance of safety to KYTC and reinforces the “new culture.”
- Allow the Coordinators to provide feedback on KYTC employees that are observed committing unsafe actions or permitting contractors to perform unsafe acts. Require appropriate remedial action (focused training) to prevent further such occurrences.

6. Extend the safety focus to other KYTC Divisions.

To become more proactive about safety, the Divisions of Planning, Design, Bridges, Maintenance, and Materials would be asked to identify safety issues on forthcoming projects that would require special attention by Coordinators (or regional coordinators). Personnel from those divisions that are involved in job sites would be provided with the necessary safety training (e.g. personal protective equipment) to enable them to work safely.

7. Provide additional/specific safety training for KYTC construction personnel.

Safety training requirements would be instituted for all district construction personnel. They would be required to take a minimum number of hours of training annually. They would be given the option of taking general or specific training. Time would be allotted by the Districts for this purpose. At given intervals, construction inspector would be required to retake the 10-hr OSHA construction course. Resident engineers would be required to take the 30-hr OSHA construction course and retake it a specified intervals. When projects pose specific hazards (excavation/trenching, fall protection, etc.) the KYTC construction personnel designated to work at those sites would have some minimum training performed by the Coordinators (or regional coordinators). Regardless of past training, construction personnel would receive that training for each project. Resident engineers would be trained to add safety performance to contractor evaluations. Refresher courses would be required at intervals for general (10-hr & 30-hr) OSHA training.

8. Partner with contractors to achieve KYTC safety goals-additional contractor requirements.

The following partnering actions would be taken to reinforce safe working practices by contractors:

- Mandatory participation in annual safety meetings with regional kick-off meetings similar to those held for context-sensitive construction.
- Joint KYTC/contractor review of training needs for new or small contractors.
- Establishment of joint KYTC/contractor safety review board to resolve problem issues properly and fairly (not an appeals board).
- KYTC assistance in delivery of training for contractor personnel to small or new businesses (including training in Spanish).
- Joint KYTC/contractor training for project-specific hazards.

The following proposed KYTC actions would also impact contractors:

- Minimum training requirements for construction personnel; 10-hr OSHA Construction course for workers; 30-hr OSHA Construction course for supervisors (plus project-specific hazards on each project).
- Requirement for contractors to have a qualified safety person at a job site with authority to shutdown the job. A general contractor can have such a person to oversee all of the subcontractors.
- Safety would be incorporated into the contractor evaluation process. Contractors with severe or repeat violations on the same project would have reductions in their bidding capacity. Contractors with multiple severe violations on the same project or a history of violations would be declared ineligible for bidding on KYTC projects until they show substantial progress preventing future occurrences.

9. Partner with the Kentucky Department of Labor (KY OSH) to achieve significant safety enhancements.

KYTC would fund (partially fund) one full-time position with KY OSH Division of Education and Training. That person would be assigned 100 percent (a negotiated percentage) of their time to provide KYTC certain training and conduct courtesy inspections (under the current KY OSH guidelines). The KY OSH representative would conduct at least one inspection on every on-going KYTC project (a percentage of on-going projects) and mandate necessary safety enhancements. If those are not promptly made, KY OSH would proceed with compliance inspections and penalties. **Other state highway agencies are funding positions with resources agencies to facilitate permitting of transportation projects. It is our understanding that KYTC currently funds a position in the Kentucky Heritage Council. A SAC member recommended that KYTC employ a industrial hygienist rather than fund a position in another agency.**

10. Assume a position of leadership for safety among all state highway agencies.

In implementing the proposed safety program, KYTC would take a major step toward national leadership in promoting highway construction safety nationwide. KYTC personnel connected with this effort would promote agency actions and progress in all pertinent national forums (e.g. AASHTO). KYTC would interact with other progressive state highway agencies to further improve safety in technology interchange and cooperative research. KYTC would benchmark with progressive state highway agencies and adopt measures they have shown to be

effective. KYTC would set as a goal to have one of the 5 best construction S & H programs and construction S & H records of all state highway agencies.