ROLE DELINEATION STUDY FOR

Construction Health and Safety Technician® Examinations

CCHEST Technical Report 2004-3
September 2004

Council on Certification of Health, Environmental and Safety Technologists
208 Burwash Avenue
Savoy, IL 61874

With assistance from

CASTLE Worldwide, Inc.
Research Triangle Park, North Carolina

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PURPOSE AND BACKGROUND

The purpose of this report is to summarize the procedures used to conduct the Construction Health and Safety Technician® (CHST) role delineation study and the results obtained from this study. The Council on Certification of Health, Environmental and Safety Technologists (CCHEST) commissioned this role delineation study to update the examination blueprint for the CHST examination. CCHEST uses this examination to evaluate the safety- and health-related knowledge and skills of construction safety and health practitioners prior to awarding them the use of the CHST designation.

Peer-operated certification boards set standards for the practice for which certification is awarded and evaluate candidates against those standards. Most often, certification boards set three types of standards: education or training, experience, and demonstrated knowledge and skills through examinations.

When testing candidates for a certification, the examination must cover that subject material relevant to the practice for which certification is awarded. This is called content validity. Examinations must be fair for certification candidates. Testing standards published by national peer certification accreditation bodies and the American Psychological Association require content validity to be verified periodically to ensure that certification examinations are current with practice. These standards as well as other psychometric literature also cover appropriate methods and techniques for conducting content validity studies. This validation was conducted in accordance with the federal *Uniform Guidelines on Employee Selection Procedures* and the 1999 text entitled *Standards for Educational and Psychological Testing* published by the American Educational Research Association.

CCHEST started the CHST designation in 1995. To ensure the validity of the examination leading to this certification, CCHEST relied on experienced psychometricians and a recognized firm providing psychometric services to lead the first role delineation study relating to safety and health practices for safety and health technologists. CCHEST commissioned this revalidation study in late 2003, and it was completed and approved by the CCHEST Board of Directors in 2004.

The current trend in role delineation studies is to define the roles of the certified population along with the applicable knowledge and skills necessary for carrying out the roles. This role delineation study followed procedures that resulted in a function-based examination blueprint. In conducting this study, CCHEST relied on the psychometric staff of CASTLE Worldwide to conduct most of the tasks necessary to complete the study. CCHEST is especially grateful to the construction safety and health practitioners and current CHST certificate holders who volunteered their time to serve on the panel of experts and to complete validations surveys.

METHODOLOGY OVERVIEW

The role delineation study involved three phases. The first phase involved developing and validating the roles performed by CHST certificants and the knowledge and skills necessary for certificants to perform these roles. The second phase involved validating the information from the first phase using a survey process completed by a representative sample of practitioners in the field of construction health and safety technology. The last phase of the role delineation study was the actual development of the test specification from the ratings obtained from the survey responses acquired in the second phase. Additional details on the methodology used for this study is found in the Annex.

Phase 1. Initial Development and Validation

CCHEST selected a panel of 12 experts in construction health and safety practice (Annex, Appendix A) to participate in a two-day workshop conducted in-person in February 2004. The panel represented a variety of practices, geographic regions, and industries. A senior psychometrician from CASTLE Worldwide led the workshop. The group defined the major roles (tasks) necessary for competence as a CHST certificant.

The group then developed the knowledge CHST certificants need for adequately performing the tasks. Once the knowledge was defined, the panel evaluated each task and rated each task on its importance and criticality as well as the frequency that the task is conducted by certificate holders and loss control specialists. The proposed tasks along with their respective knowledge statements were compiled and used as the basis for the validation surveys sent to the representative sample of existing CHSTs.

Phase 2. Validation Study

To conduct this phase, CASTLE Worldwide and CCHEST developed a survey instrument (Annex, Appendix F) to validate the work of the 12-member expert panel convened in Phase 1. The survey first asked several questions relating to the respondents' demographic data to verify that a representative cross-section of the construction health and safety practice was obtained. The survey then asked the respondents to evaluate the task statements proposed by the 12-member expert panel with respect to importance, criticality, and frequency of performance. Finally, the survey asked the respondents to list any tasks that were overlooked.

The survey was sent to 300 practitioners, and 132 useable responses were returned. The data from the surveys were then used to develop the test specification in Phase 3.

Phase 3. Development of Examination Specifications

The final phase of the role delineation study was to develop the specification that will be used for the actual certification examination. Based on the work conducted in Phase 1 and Phase 2, the role delineation study yielded the blueprint and examination specification in Table 1. Should individual state occupational licensing boards or state departments of insurance regulation accept the blueprint and examination specification shown in Table 1 as reflecting the roles and related knowledge and skills for entry-level loss control specialists, the CHST examination can serve as a qualification instrument.

Table 1. CHST Blueprint and Examination Specification

DOMAIN 1
Program Management • 29%

Task 1

Assess the scope of work with the construction project management team by reviewing contract documents in order to ensure the safety application is consistent with contract specifications and to support the development of the site-specific safety plan.

Knowledge	Skills
1. General contract requirements 2. Construction means and methods 3. Applicable regulations, consensus codes, best practices, and local codes 4. Site-specific safety planning 5. Construction drawings	1. Accessing applicable documents 2. Reviewing applicable documents 3. Interpreting applicable documents 4. Reading construction drawings

Task 2

Participate in the development of a site-specific safety plan by detailing hazards and corrective actions in order to ensure that foreseeable hazards are addressed.

Knowledge	Skills
1. Construction means and methods 2. Hazards associated with falls, struck by, electricity, caught between/crushing 3. Hazard recognition strategies 4. Applicable regulations, consensus codes, best practices, and local codes 5. Hazard communication 6. Components of emergency action plans 7. Crisis management 8. Medical/first aid procedures 9. Bloodborne pathogens 10. Relevant corrective actions and best practices 11. Security requirements and best practices	1. Applying regulations 2. Evaluating construction means and methods 3. Communicating effectively in speech and writing 4. Planning for emergencies 5. Documenting identified hazards

Task 3

Establish expectations for compliance with the site-specific safety plan with the contractors, employees, and other jobsite personnel using appropriate communication procedures in order to prevent accidents.

Knowledge	Skills
1. Communication practices 2. Safety priorities 3. Coordination strategies for activities 4. Construction means and methods 5. Applicable regulations, consensus codes, best practices, and local codes 6. Disciplinary procedures	1. Communicating effectively in speech and writing 2. Coordinating activities 3. Setting safety priorities 4. Applying regulations and best practices

Task 4

Verify that the job safety analyses adhere to construction safety standards in cooperation with contractors, employees, and other jobsite personnel in order to ensure that foreseeable hazards have been identified and addressed.

Knowledge	Skills
1. Hazard recognition and abatement strategies 2. Hazards associated with falls, struck by, electricity, caught between/crushing 3. Construction means and methods 4. Applicable regulations, consensus codes, best practices, and local codes 5. Engineering and administrative controls 6. Requirements and limitations of personal protective equipment	1. Recognizing hazards 2. Thinking critically 3. Developing job safety analyses 4. Eliciting information from key personnel 5. Communicating effectively in speech and writing

Table 1. CHST Blueprint and Examination Specification (cont'd)

Task 5

Provide technical guidance to jobsite personnel by maintaining a comprehensive knowledge of codes, standards, and best practices and informing jobsite personnel of regulatory changes as they develop in order to maintain a safe and healthful work environment.

Knowledge	Skills
1. Applicable regulations, consensus codes, best practices, and local codes 2. Record keeping requirements 3. Substance abuse programs 4. Requirements and limitations of personal protective equipment 5. Communication practices (e.g., vehicle to disseminate information) 6. Security requirements and best practices	1. Communicating effectively in speech and writing 2. Using email 3. Using information technology systems 4. Accessing current information (e.g., regulations)

Task 6

Identify methods for addressing unanticipated hazards (e.g., resulting from change orders, weather, and/or schedule) using professional knowledge and judgment in order to prevent loss and to modify the site-specific safety plan.

Knowledge	Skills
1. Sources of information about unanticipated hazards 2. Applicable regulations, consensus codes, best practices, and local codes 3. Hazards associated with falls, struck by, electricity, caught between/crushing 4. Hazard recognition and abatement strategies	1. Reading construction drawings and contract documents 2. Exercising sound judgment 3. Responding to unanticipated situations 4. Eliciting information from key personnel

Task 7

Activate the emergency response plan when necessary in accordance with the site-specific safety plan in order to protect jobsite personnel and mitigate loss.

Knowledge	Skills
1. Regulations and best practices applicable to emergency planning 2. Emergency notification system (e.g., whom to call) 3. Types of emergencies (e.g., fire, medical, weather, power outage, workplace violence, environmental, terrorist threats) 4. Requirements and limitations of personal protective equipment 5. Incident command system 6. Emergency equipment 7. Crisis management 8. Medical/first aid procedures 9. Bloodborne pathogens 10. Security requirements and best practices	1. Responding to emergencies professionally 2. Coordinating emergency services and systems 3. Coordinating jobsite personnel in an emergency 4. Communicating effectively in speech and writing

Task 8

Participate in accident and incident investigations using established procedures in order to recommend appropriate corrective actions.

Knowledge	Skills
1. Principles of investigation 2. Investigation techniques (e.g., direct, indirect, root cause analysis) 3. Record keeping and reporting of injuries and illnesses 4. Statistical tools for accident and claims analysis 5. Industry accident trends 6. Craft-specific accident trends 7. Sources of information about accidents 8. Interviewing techniques 9. Hazard recognition and abatement strategies	1. Communicating effectively in speech and writing 2. Using computers 3. Recommending corrective actions 4. Interacting positively with others 5. Motivating personnel to cooperate with investigations 6. Interviewing 7. Remaining objective 8. Finding facts

Table 1. CHST Blueprint and Examination Specification (cont'd)

DOMAIN 2
Worksite Auditing • 40%

Task 1

Perform worksite assessments in accordance with regulations, best practices, and the site-specific safety plan using a walkthrough in order to verify compliance and identify hazards and potential hazards in the workplace.

Knowledge	Skills
1. Applicable regulations, consensus codes, best practices, and local codes 2. Principles of ergonomics as applied to construction practices and material handling 3. Common environmental hazards on construction sites (e.g., silica, asbestos, lead, noise) 4. Fall protection principles and application 5. Electrical safety and hazardous energy control (i.e., lockout/tagout) 6. Requirements and limitations of personal protective equipment 7. Scaffolds, ladders, and mobile elevated work platforms 8. Machine guarding, hand, and power tool safety 9. Trenching and excavation 10. Confined spaces 11. Hazard communication 12. Fire prevention and protection 13. Cranes and rigging 14. Powered industrial trucks (e.g., forklifts) 15. Steel erection 16. Emergency medical equipment 17. Site-specific safety plans 18. Testing equipment (e.g., electrical testing, measuring tape, dosimeters, air monitoring)	1. Conducting worksite assessments 2. Making observations to identify existing and foreseeable unsafe conditions and behaviors 3. Using measuring equipment 4. Documenting observations and measurements

Task 2

Recommend corrective actions for the hazards and potential hazards identified in the worksite assessment using professional knowledge and judgment in order to prevent loss and ensure compliance with regulations and the site-specific safety plan.

Knowledge	Skills
1. Coaching, counseling, and education techniques 2. Hazard recognition and abatement strategies 3. Engineering and administrative controls 4. Established discipline and accountability systems 5. Requirements and limitations of personal protective equipment 6. Applicable regulations, consensus codes, best practices, and local codes 7. Audit documentation techniques 8. Management escalation processes	1. Coaching safe behaviors 2. Recognizing imminent danger and applying stop-work techniques 3. Communicating effectively in speech and writing 4. Applying regulations 5. Recommending engineering and administrative controls 6. Recommending personal protective equipment 7. Escalating unresolved issues

Task 3

Participate in regulatory safety, health, and environmental inspections in accordance with directions provided in the site-specific safety plan in order to facilitate the inspection process.

Knowledge	Skills
1. Applicable regulations, consensus codes, best practices, and local codes 2. Insurance loss control requirements 3. Site-specific safety plans 4. Location of program and certification documents and records 5. Regulatory inspection process, employer and employee rights, and expectations 6. Regulatory jurisdictions 7. Communications requirements 8. Types of consequences 9. Conflict resolution strategies	1. Using conflict resolution techniques 2. Mitigating identified hazards in a timely manner 3. Communicating effectively in speech and writing 4. Coordinating jobsite personnel 5. Using effective documentation techniques (e.g., note taking, photography, taking measurements)

Table 1. CHST Blueprint and Examination Specification (cont'd)

DOMAIN 3
Training • 27%

Task 1

Determine training needs based on job safety analyses, regulatory requirements, trends, and/or observations made in worksite audits in order to develop appropriate training.

Knowledge	Skills
1. Site-specific safety plans 2. Job safety analysis content 3. Applicable regulations, consensus codes, best practices, and local codes 4. Industry-related injury and illness trends 5. Craft-specific injury and illness trends 6. Hazards associated with falls, struck by, electricity, caught between/crushing 7. Effective training techniques 8. Characteristics of worksite personnel (e.g., education level, language proficiency, English as a foreign language) 9. Training needs assessment procedures 10. Available delivery methods and instructional materials	1. Applying regulations and consensus standards 2. Evaluating job safety analysis information, observations, and trends for relevant information 3. Matching training to the characteristics and needs of worksite personnel 4. Conducting perception surveys

Task 2

Deliver training that addresses required program elements using program management guidelines, on-the-job training and evaluation, and formal and informal resources in order to deliver appropriate training.

Knowledge	Skills
1. Site-specific safety plans 2. Job safety analysis content 3. Applicable regulations, consensus codes, best practices, and local codes 4. Industry-related injury and illness trends 5. Craft-specific injury and illness trends 6. Hazards associated with falls, struck by, electricity, caught between/crushing 7. Demographics of employees and their skill level 8. Training objectives 9. Instructional methods 10. Audiovisual and other instructional equipment 11. Communication strategies 12. Time management strategies 13. Conflict resolution strategies	1. Teaching to achieve training objectives 2. Using available multi-media training techniques to deliver the program 3. Adapting structured programs to local needs 4. Evaluating competence and employee feedback to determine if changes are needed 5. Communicating effectively in speech and writing 6. Engaging the audience 7. Resolving conflicts

Task 3

Conduct site-specific job safety orientation and training using appropriate instructional methods in order to address jobsite hazards and abatement procedures as identified in the job safety analyses.

Knowledge	Skills
1. Site-specific safety plans 2. Job safety analysis content 3. Applicable regulations, consensus codes, best practices, and local codes 4. Industry-related injury and illness trends 5. Craft-specific injury and illness trends 6. Hazards associated with falls, struck by, electricity, caught between/crushing 7. Demographics of employees and their skill level 8. Training objectives 9. Instructional methods 10. Audiovisual and other instructional equipment 11. Communication strategies 12. Time management strategies 13. Conflict resolution strategies 14. Human behavior, both safe and at-risk	1. Teaching to achieve training objectives 2. Using available multi-media training techniques to deliver the program 3. Adapting structured programs to local needs 4. Evaluating competence and employee feedback to determine if changes are needed 5. Communicating effectively in speech and writing 6. Engaging the audience 7. Resolving conflicts

Table 1. CHST Blueprint and Examination Specification (cont'd)

Task 4

Participate in jobsite safety meetings with all crafts by leading discussions, demonstrating safe practices, etc., in order to inform jobsite personnel of potential risks.

Knowledge	Skills
1. Site-specific safety plans 2. Job safety analysis content 3. Applicable regulations, consensus codes, best practices, and local codes 4. Industry-related injury and illness trends and at-risk behavior 5. Craft-specific injury and illness trends 6. Hazards associated with falls, struck by, electricity, caught between/crushing 7. Demographics of employees and their skill level 8. Training objectives 9. Scope of work for each craft on the jobsite 10. Assessment strategies to determine that jobsite supervisors are able to lead safety meetings	1. Applying regulations and consensus standards 2. Evaluating job safety analysis information, observations, and trends for relevant information 3. Using available multi-media training techniques to deliver the program 4. Communicating effectively in speech and writing 5. Understanding human behavior in the context of worksite safety 6. Interpreting job safety analyses 7. Complying with the client's safety guidelines and procedures 8. Assessing the skill levels of crafts people and supervisors 9. Facilitating discussion of topics identified by meeting participants 10. Accessing current information (e.g., regulations) 11. Resolving conflicts

DOMAIN 4
Professional Responsibility • 4%

Task 1

Maintain complete and accurate records in all aspects of the safety program in accordance with established protocol in order to document interventions, losses, and audit findings and to support future decision making.

Knowledge	Skills
1. Regulatory record keeping requirements 2. Other record keeping requirements (e.g., company protocol on accident investigation, audits, inspections) 3. Computer file management 4. Physical file management 5. Security and confidentiality requirements	1. Using information technology systems 2. Organizing information 3. Organizing documents 4. Applying regulations and standards 5. Thinking critically

Task 2

Maintain ongoing competence by participating in the Certification Maintenance program in order to ensure currency and adhere to best practices.

Task 3

Adhere to ethical standards for behavior in accordance with the CCHEST Code of Professional Conduct in order to protect the interests of stakeholders.

CONCLUSIONS

1. Based on the acceptable Cronbach's Alpha reliability within each domain obtained from the results of the validation survey (Annex, page 42), this blueprint is an accurate representation of the tasks, knowledge, and skills required for CHSTs to adequately perform their functions.

2. Performance Domain 4 (Professional Responsibility) affects all other performance domains and should be treated as a subject area, instead of a performance domain. Based on the recommendation of CASTLE Worldwide's senior psychometrician (Annex, page 43), the CCHEST Board of Directors, assigned a lower overall weighting to this performance domain to reflect conventional practice for ethics-related performance domains and to give added emphasis to the technical areas of the examination.

3. Analysis of the knowledge areas developed for each responsibility support the use of a written, multiple-choice examination format based on practical considerations, such as cost, objectivity in scoring and the types of knowledge included in the study results.

ANNEX

Role Delineation Study
Construction Health and Safety Technician®

ROLE DELINEATION STUDY
CONSTRUCTION HEALTH AND SAFETY TECHNICIAN®
AUGUST 2004

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INTRODUCTION

In February 2004, a panel of 12 experts assembled by the Council on Certification of Health, Environmental and Safety Technologists (CCHEST) met with representatives from CASTLE Worldwide, Inc., to delineate the field of Construction Health and Safety Technology.

A function of the CCHEST credentialing program is to ensure competency and professionalism in the field of Construction Health and Safety Technology. It provides assurance that the Construction Health and Safety Technician® (CHST) has met specific criteria designed to ensure that he or she is competent in the technological provision of services related to construction health and safety.

The development of a quality credentialing or licensing program must follow certain logically sound and legally defensible procedures for developing examinations. These principles and procedures are outlined in federal regulation (*Uniform Guidelines on Employee Selection Procedures*) and manuals, such as *Standards for Educational and Psychological Testing* (published by the American Educational Research Association, 1999). CASTLE Worldwide, Inc., adheres to these standards in developing examinations for credentialing programs, including the CCHEST Construction Health and Safety Technician® certification program.

Before a content-valid examination is developed for a profession or occupation, the knowledge and skills needed to be a competent professional in the field must be determined. The process for identifying these competency areas is a role delineation, or job analysis, which serves as a blueprint for examination development. The job analysis also helps to determine the type of examination, such as written or practical, to be developed in order to assess competence.

The critical reason for conducting a role delineation study is to ensure that an examination is content-valid. Content validity is the most commonly applied and accepted validation strategy utilized in establishing certification programs today. In psychometric terms, validation is the way a test developer documents that the competence to be inferred from a test score is actually measured by the examination. A content-valid examination, then, appropriately evaluates knowledge or skills required to function as a competent practitioner in the field. A content-valid examination contains a representative sample of items that measure the knowledge or skills contained in the profession being tested.

Thus, the role delineation study is an integral part of ensuring that an examination is content-valid—that the aspects of the profession covered on the examination reflect the tasks performed in practice settings. The study identified the importance, criticality, and frequency for both broad content areas and tasks. These ratings play an important role in determining the content of the examination.

The role delineation study for CCHEST consisted of the following three phases, which are the focus of this report:

I Initial Development and Validation. The 12-member role delineation panel identified the domains, tasks, knowledge, and skills essential to the performance of a Construction Health and Safety Technician®.

II. Validation Study. A representative sample of professionals in the fields of construction health and safety technology reviewed and validated the work of the role delineation panel.

III. Development of Test Specifications. Based on the ratings gathered from the representative sample of professionals, the test specifications for the certification examination were developed.

PHASE I
INITIAL DEVELOPMENT AND EVALUATION

The first steps in analyzing the role and responsibilities of the CHST were the identification of the major content areas, or domains, the listing of tasks performed under each domain, and the identification of the knowledge and skills associated with each task.

In February 2004, CCHEST assembled a 12-member panel of subject matter experts in the construction health and safety technology field to discuss the role of the CHST. The panel members represented a variety of practice settings, geographic regions, and both genders. The following steps were undertaken to complete Phase I:

A. The panel determined that the profession could be divided into four major content areas, or performance domains. These performance domains are:

    1. Program Management
    2. Worksite Auditing
    3. Training
    4. Professional Responsibility

B. Next, the panel delineated the tasks in each of the four domains. The panel subsequently generated a list of knowledge and skills required to perform each task.

C. The panel members then evaluated each performance domain and task, rating each on importance and criticality to the CHST and the frequency with which the activities associated with each domain and task are performed.

Based on the work of the role delineation panel, a nine-page paper survey (see Appendix F) and an electronic survey were developed and sent to professionals in the fields of Construction Health and Safety Technology. The results of the survey are the focus of Phase II.

PHASE II
VALIDATION STUDY

Questionnaire Design and Distribution

Using the domains and tasks identified by the role delineation panel, CASTLE Worldwide, Inc., developed a nine-page paper questionnaire to be completed by a nationwide sample of professionals in the field of Construction Health and Safety Technology. CASTLE distributed the paper questionnaire to 300 Construction Health and Safety Technology professionals to evaluate, validate, and provide feedback on the role delineation panel's domain and task lists. Of the 300 questionnaires distributed, 132 (44%) usable responses were returned to CASTLE.

Characteristics of the Sample

Survey respondents were asked to provide information on different demographic variables. The following tables provide the demographic breakdown of the survey respondents.

Figure 1. Gender

As shown in the chart below, the majority of respondents (119 or 90.8%) were male.

GENDER		
	Frequency	**Percent**
Male	119	90.8
Female	12	9.2
Total	131	100.0

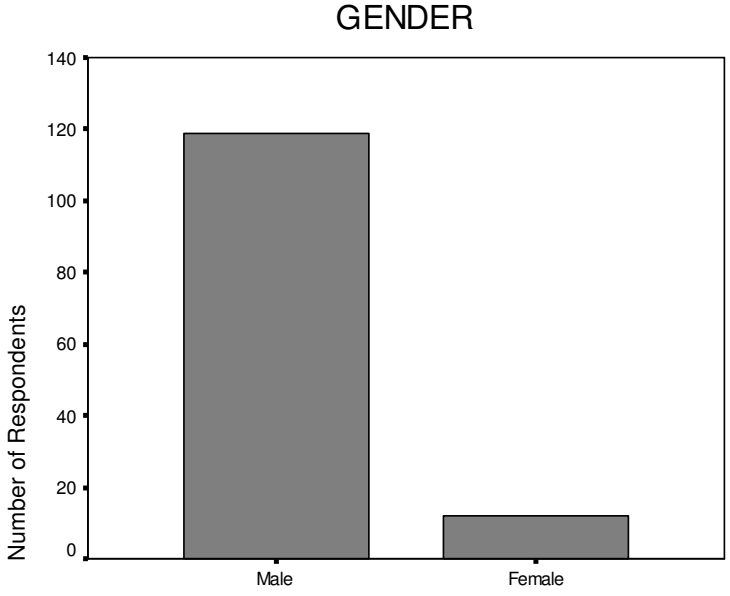


Figure 2. Age

The respondents were asked to provide their age. The responses are provided below.

AGE		
	Frequency	**Percent**
Under 30 years	10	7.6
31-40 years	35	26.7
41-50 years	46	35.1
51-60 years	34	26.0
61 years and above	6	4.6
Total	131	100.0

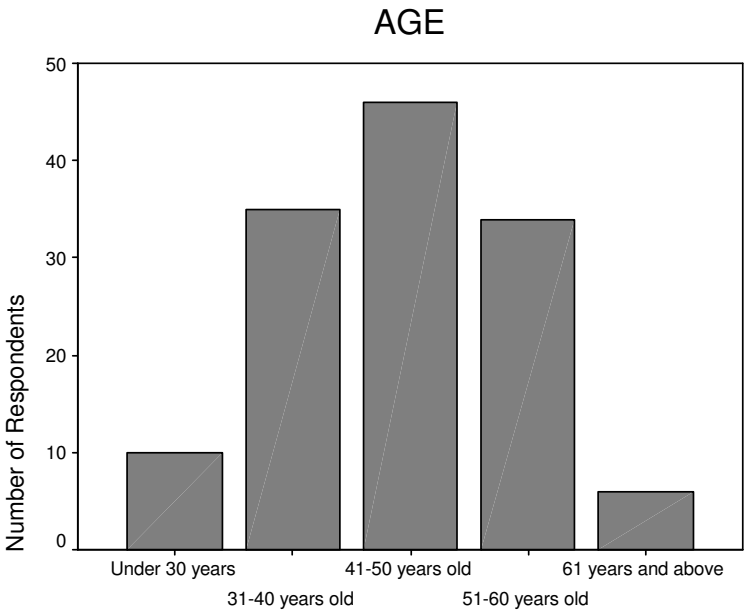
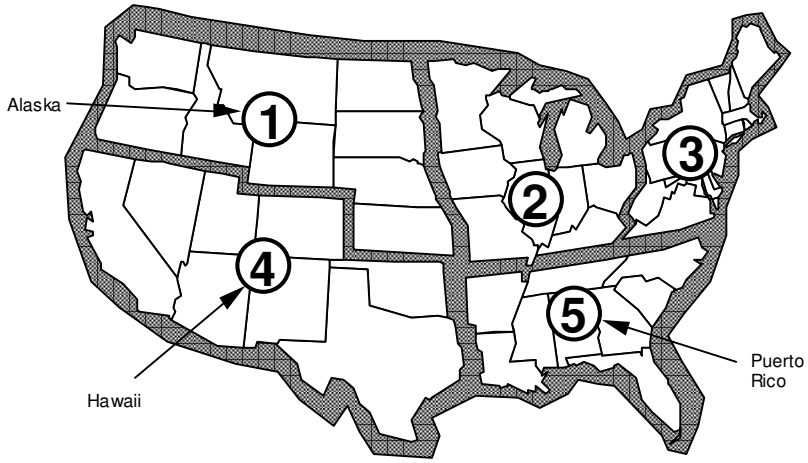


Figure 3. Location

Survey respondents were asked to provide the city, state, and zip code where they work. Five individuals listed multiple states. The responses for the respondents providing only one state were categorized as shown below. The complete responses are provided in Appendix B.



LOCATION		
	Frequency	**Percent**
1	7	6.4
2	24	21.8
3	24	21.8
4	41	37.3
5	14	12.7
Total	110	100.0

Figure 4. Do you work as a CHST on a full-time or part-time basis?

As shown in the table and graph below, the majority of the respondents (104 or 79.4%) reported working as a CHST on a full-time basis.

POSITION		
	Frequency	**Percent**
Full time	104	79.4
Part time	27	20.6
Total	131	100.0

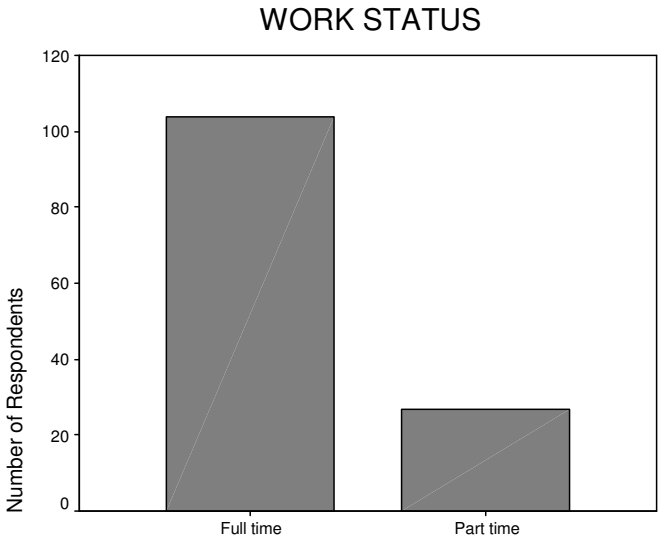


Figure 5. If you work as a CHST on a part-time basis, what percentage of time is devoted to CHST duties and responsibilities?

Of the individuals reporting working on a part-time basis, the majority (21, or 77.77%) reported that 25 or greater percent of their time is devoted to CHST duties and responsibilities.

TIME DEVOTED		
	Frequency	**Percent**
Less than 25 percent	6	22.2
25-50 percent	11	40.7
51-75 percent	5	18.5
76-99 percent	5	18.5
Total	27	100.0

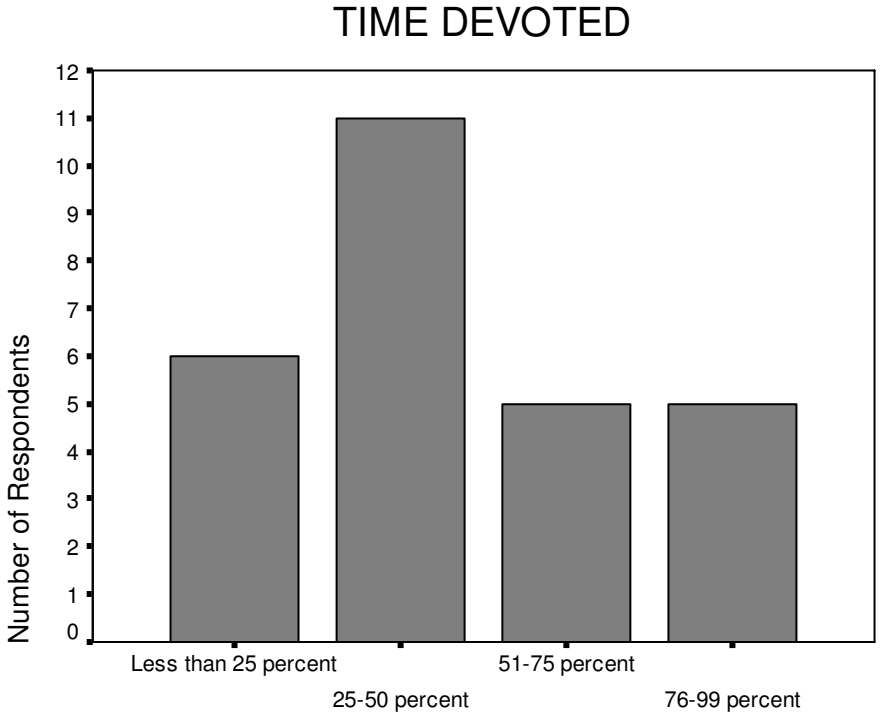


Figure 6. How much experience do you have in construction safety?

The survey respondents were very experienced in construction safety, with almost one-third of the sample (42 individuals, or 32.1%) reporting they had more than 15 years of experience.

EXPERIENCE		
	Frequency	**Percent**
Less than 1 year	1	0.8
1-5 years	15	11.5
6-10 years	39	29.8
11-15 years	34	26.0
More than 15 years	42	32.1
Total	131	100.0

Figure 7. What is your *primary* area of specialization?

The majority (75.6%) of the respondents indicated either Commercial or Industrial construction as their primary area of specialization. The responses for individuals selecting "Other" are listed in Appendix C.

SPECIALIZATION		
	Frequency	**Percent**
Commercial	49	38.6
Industrial	47	37.0
Residential	4	3.1
Other	27	21.3
Total	127	100.0

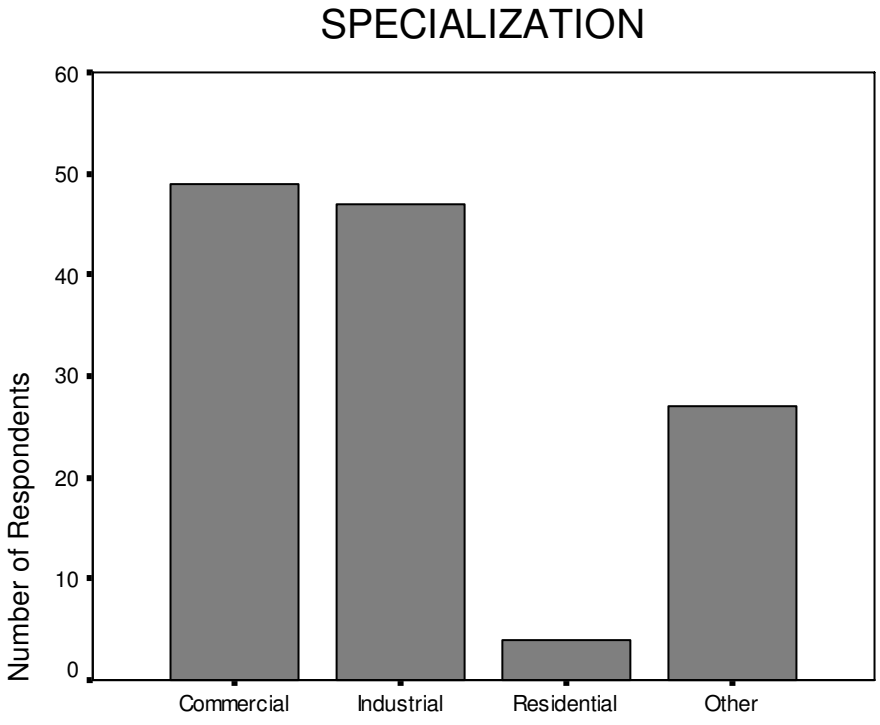


Figure 8. Which of the following *best* describes your typical projects in your current position?

The majority of the survey respondents (89, or 68.5%) reported that in their current position their typical projects were best described as civilian.

PROJECTS		
	Frequency	**Percent**
Civilian	89	68.5
Military	7	5.4
State/Federal Government	34	26.2
Total	130	100.0

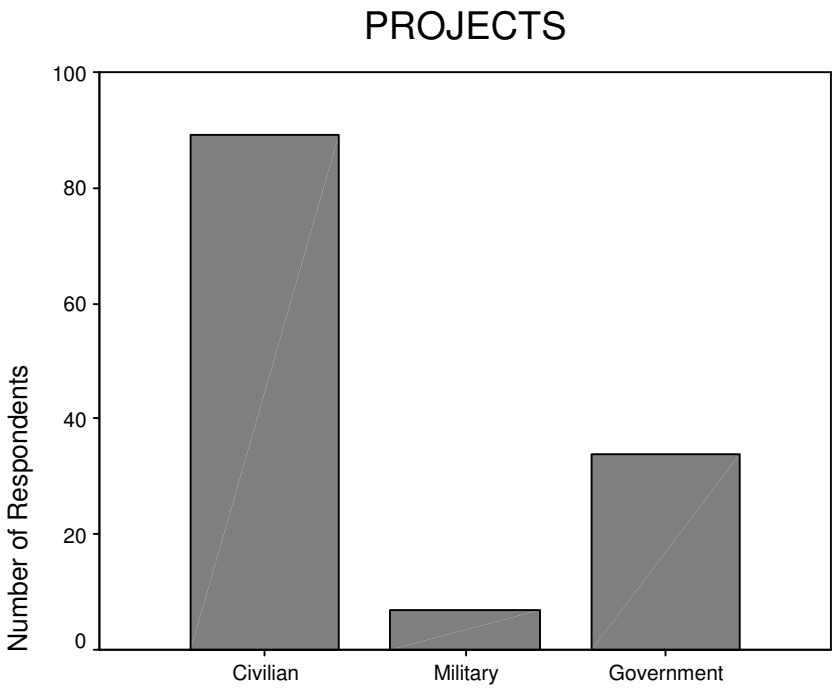


Figure 9. Where do you perform the *majority* of your CHST duties and responsibilities?

As shown below, most respondents (79.8%) reported performing the majority of their CHST duties and responsibilities in the field.

DUTIES PERFORMED		
	Frequency	**Percent**
In a corporate office	33	25.6
In the field	96	74.4
Total	129	100.0

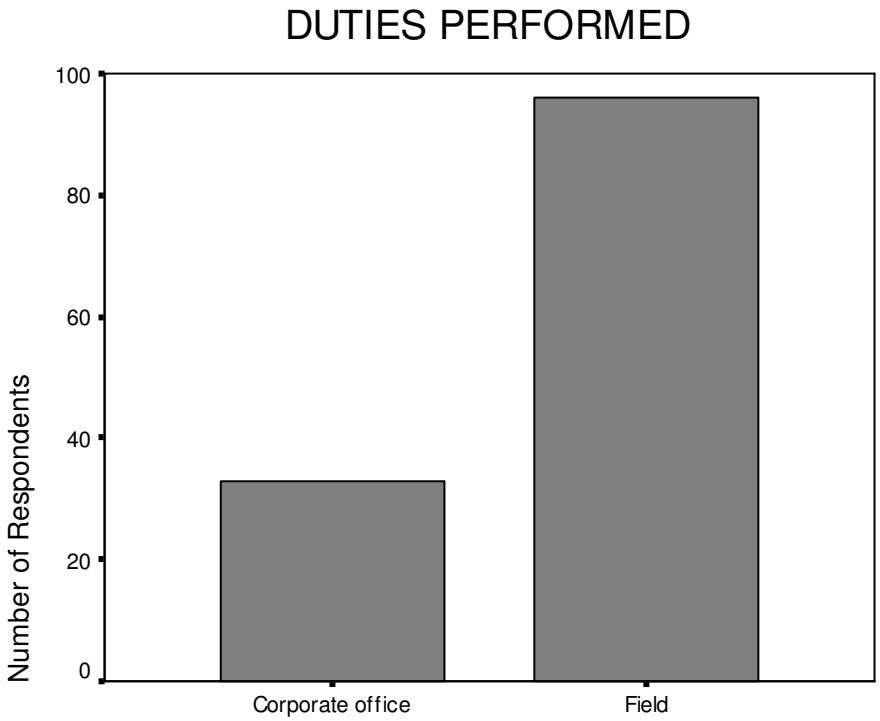


Figure 10. How many other safety and health practitioners do you supervise?

Over half of the survey respondents (70, or 53.4%) reported that they do not supervise any other practitioners.

PRACTITIONERS SUPERVISED		
	Frequency	**Percent**
I do not supervise any other practitioners	70	53.4
1-5 practitioners	49	37.4
6-10 practitioners	7	5.3
More than 10 practitioners	5	3.8
Total	131	100.0

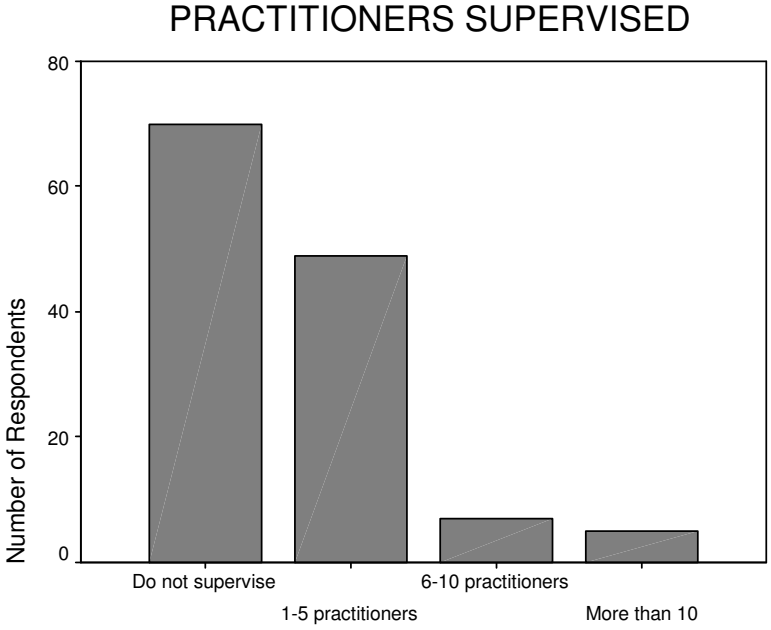


Figure 11. What is the average size of the workforce you support as a CHST?

Approximately, two-thirds (87, or 66.4%) of the survey respondents reported that they supported a workforce of more than 90 employees, on average.

WORKFORCE SIZE		
	Frequency	**Percent**
I do not support a workforce	15	11.5
1-10 employees	1	0.8
11-30 employees	9	6.9
41-60 employees	9	6.9
61-90 employees	10	7.6
More than 90 employees	87	66.4
Total	131	100.0

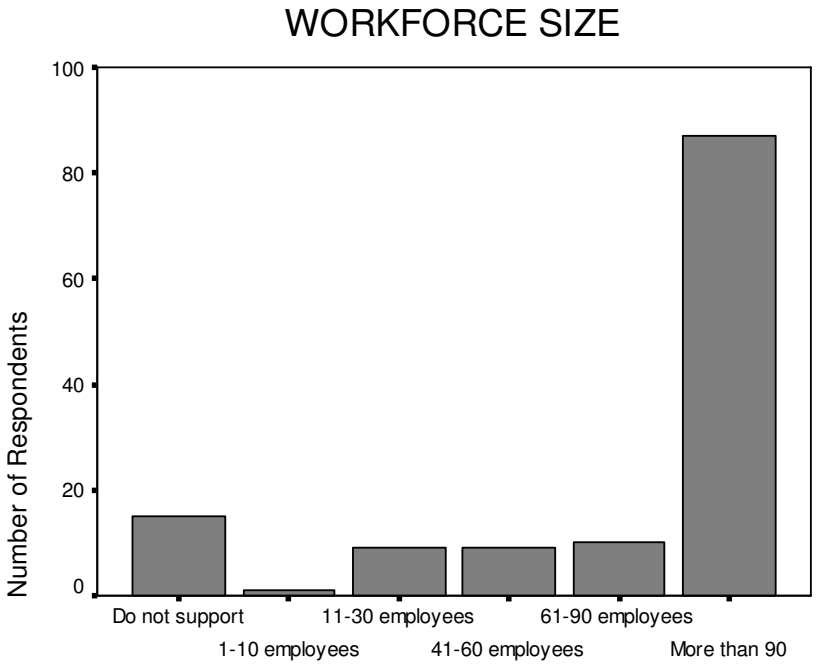


Figure 12. Are you a civil servant in federal, state, or local government?

The vast majority (120, or 91.6%) of the respondents reported that they were not civil servants in federal, state, or local government.

CIVIL SERVANT		
	Frequency	**Percent**
Yes	11	8.4
No	120	91.6
Total	131	100.0

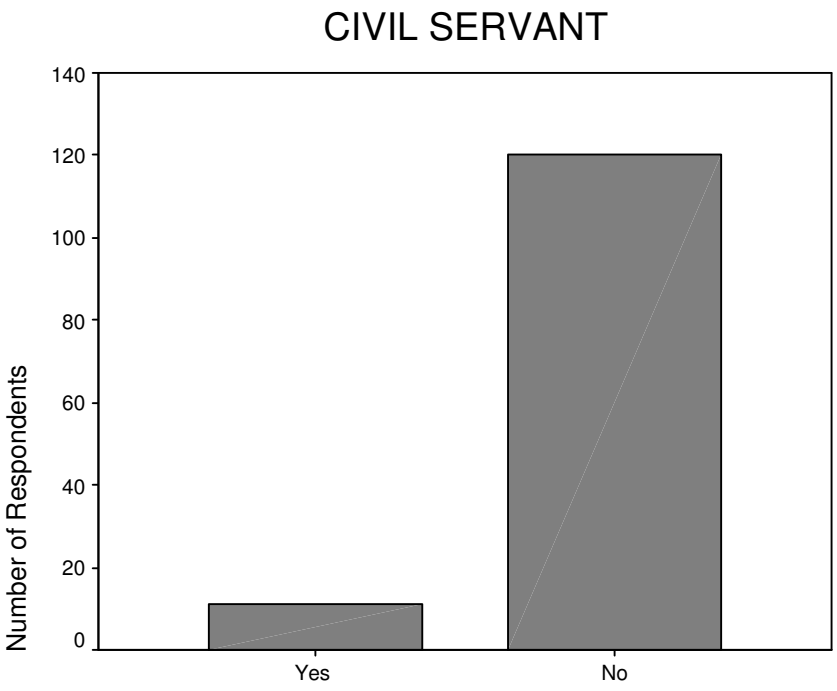


Figure 13. Do you work primarily in a Federal Plan state or a State Plan state?

As shown in the table and graph below, over half of the respondents (76, or 58.9%) reported they worked primarily in a Federal Plan state.

FEDERAL PLAN/STATE PLAN STATE		
	Frequency	**Percent**
Federal Plan	76	58.9
State Plan	53	41.1
Total	129	100.0

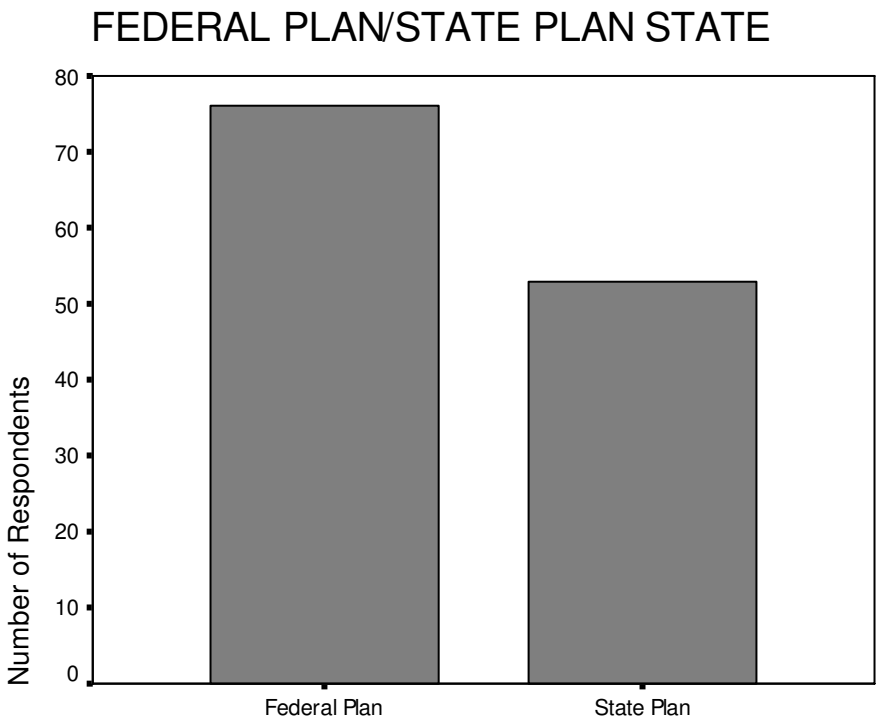


Figure 14. Do you work in a union or a non-union environment?

As shown in the table and graph below, more than two thirds of the respondents (72. or 56.7%) reported they work in a union environment.

UNION OR NON-UNION ENVIROMENT		
	Frequency	**Percent**
Union	72	56.7
Non-union	55	43.3
Total	127	100.0

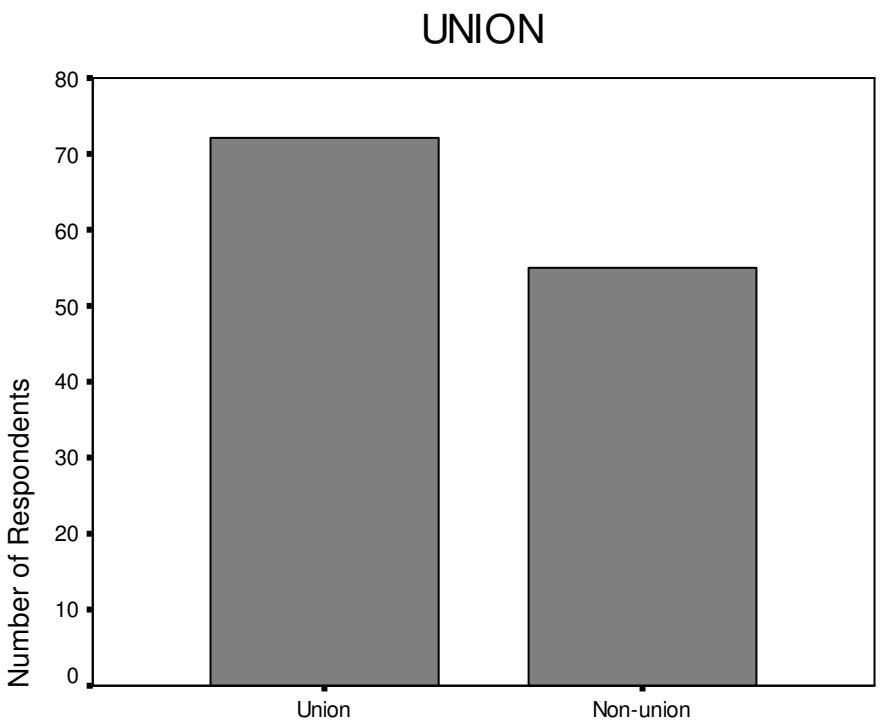


Figure 15. Are you an OSHA-authorized outreach instructor?

OUTREACH INSTRUCTOR		
	Frequency	**Percent**
Yes	85	64.9
No	46	35.1
Total	131	100.0

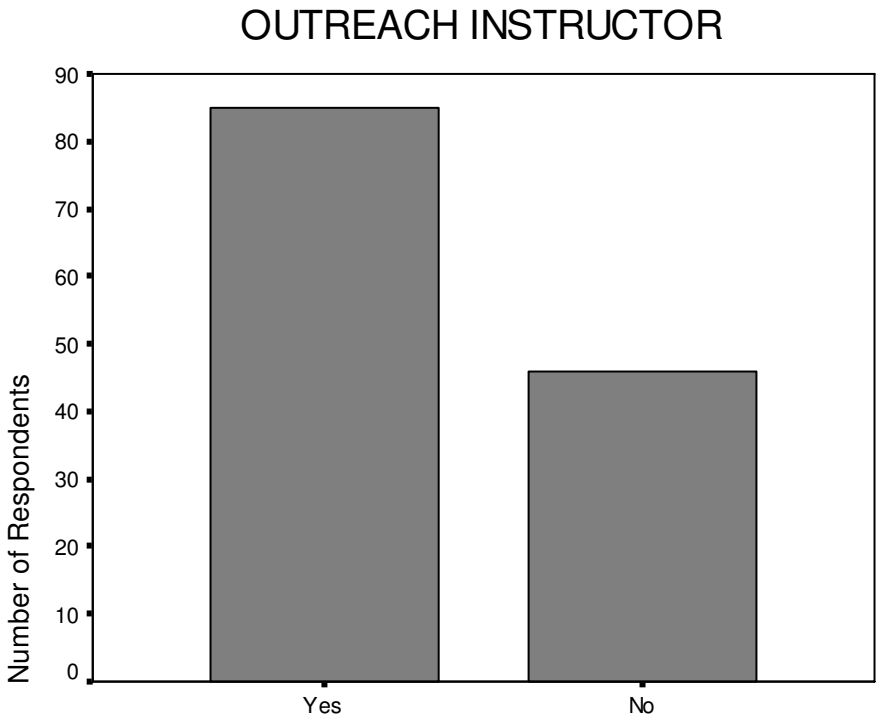


Figure 16. What certifications/licenses do you *currently* hold?

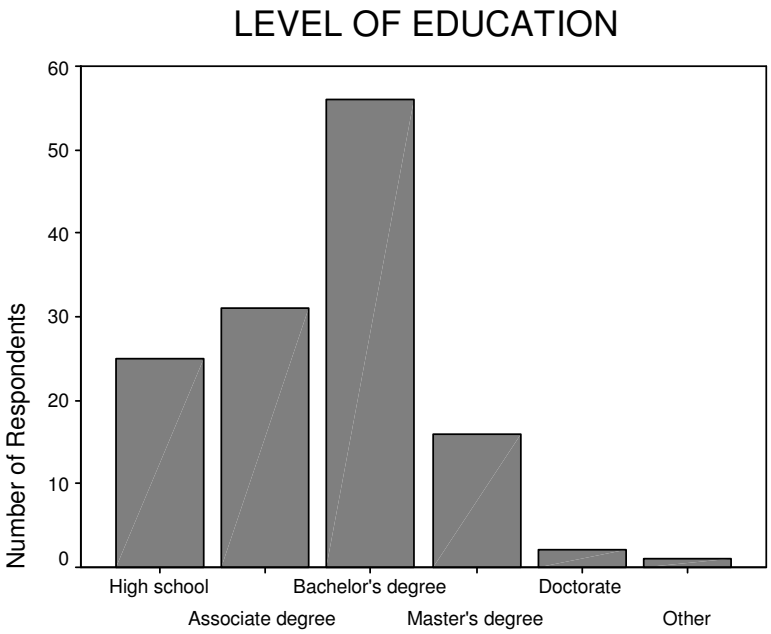
As shown below, 116 respondents reported holding the CHST credential. No respondents reported holding the CHMM or CIH certification. The responses of the respondents selecting "Other" are provided in Appendix D.

CERTIFICATIONS/LICENSES	
	Frequency
CHMM	0
CHST	116
CIH	0
CSP	21
OHST	17
STS	7
PE	3
Other	45

Figure 17. What is your *highest* level of education?

The survey respondents were asked to provide their highest level of education. The responses are shown below. The responses for the individuals reporting "Other" are provided in Appendix E.

LEVEL OF EDUCATION		
	Frequency	**Percent**
High school /Secondary school	25	19.1
Associate degree	31	23.7
Bachelor's degree	56	42.7
Master's degree	16	12.2
Doctorate	2	1.5
Other	1	.8
Total	131	100.0



Evaluation of Performance Domains

A. Survey Respondents' Evaluations. The survey respondents were asked to evaluate each performance domain and task, rating them on importance, criticality, and frequency. A four-point scale was used for the importance and criticality ratings, with a "4" representing the highest rating. The scale anchors for importance and criticality are listed below as a reference. For the frequency ratings, survey respondents were asked to estimate the percentage of time that a CHST would spend performing the activities associated with the particular domain or task being rated.

Importance Ratings

1 = ***Slightly Important.*** Performance of tasks in this domain is only slightly essential to the job performance of the CHST.
2 = ***Moderately Important.*** Performance of tasks in this domain is only moderately essential to the job performance of the CHST.
3 = ***Very Important.*** Performance of tasks in this domain is clearly essential to the job performance of the CHST.
4 = ***Extremely Important.*** Performance of tasks in this domain is absolutely essential to the job performance of the CHST.

As depicted in the following charts, survey respondents indicated that Domain IV (Professional Responsibility) is the most important of the four domains. Domain II (Worksite Auditing) was considered the second-most important, followed by Domain III (Training). Domain I (Program Management) was considered to be the least important domain.

Domain		IMPORTANCE			
		Sample Size (N)	Mean	Standard Error of Mean	Standard Deviation
I.	**Program Management**	126	2.93	.0723	.812
II.	**Worksite Auditing**	126	3.44	.0662	.743
III.	**Training**	126	3.31	.0632	.710
IV.	**Professional Responsibility**	126	3.48	.0719	.807

Criticality Ratings

1 = ***Minimal or No Harm.*** Inability to perform tasks within this performance domain would lead to error with minimal adverse consequences.

2 = ***Moderate Harm.*** Inability to perform tasks within this performance domain would lead to error with moderate adverse consequences.

3 = ***Substantial Harm.*** Inability to perform tasks within this performance domain would lead to error with substantial adverse consequences.

4 = ***Extreme Harm.*** Inability to perform tasks within this performance domain would definitely lead to error with severe adverse consequences.

The respondents considered Domain II (Worksite Auditing) as the most critical of the four domains, followed closely by Domain III (Training). Domain I (Program Management) was considered the least critical.

Domain		CRITICALITY			
		Sample Size (N)	Mean	Standard Error of Mean	Standard Deviation
I.	**Program Management**	129	2.58	.0768	.872
II.	**Worksite Auditing**	129	3.36	.0658	.748
III.	**Training**	129	3.16	.0646	.734
IV.	**Professional Responsibility**	129	3.05	.0855	.971

Frequency Ratings

Respondents were also asked to estimate the percent of time spent performing duties associated with each performance domain. The chart below depicts how the survey respondents estimated the frequency of each domain. Directions in the survey required respondents to ensure that percentages given for each domain added to 100%. However, not all of the respondents who completed this section reported percentages that added to 100%. Therefore, the sample size for all analyses of domain frequency contains only 120 respondents.

The respondents felt that just over one third (34.42%) of their time is spent performing duties associated with Domain II (Worksite Auditing). Respondents also indicated that they spend an average of almost one fourth (24.69%) of their time in Domain I (Program Management). The least amount of time reported spent (19.85%) was in Domain IV (Professional Responsibility).

Domain		FREQUENCY			
		Sample Size (N)	**Mean**	**Standard Error of Mean**	**Standard Deviation**
I.	**Program Management**	120	24.69	1.2560	13.759
II.	**Worksite Auditing**	120	34.42	1.5957	17.480
III.	**Training**	120	21.04	.9260	10.144
IV.	**Professional Responsibility**	120	19.85	1.0982	12.030

B. Panel Members' Evaluation Vs. Respondents' Evaluations. The evaluations of domains provided by the panel members were compared to the evaluations of the survey respondents to determine if the results were alike. As depicted in the graph below, both groups rated the importance of the domains similarly. The greatest difference (.84) was found in Domain IV (Professional Responsibility)

Domain		IMPORTANCE		
		Survey	Panel	Difference
I.	Program Management	2.93	3.64	-0.71
II.	Worksite Auditing	3.44	3.82	-0.38
III.	Training	3.31	3.37	-0.06
IV.	Professional Responsibility	3.48	2.64	0.84

The two groups ranked the criticality of the domains similarly as well, with Domain IV (Professional Responsibility) again having the greatest difference (1.23).

Domain		CRITICALITY		
		Survey	Panel	Difference
I.	Program Management	2.58	3.64	-1.06
II.	Worksite Auditing	3.36	3.64	-0.28
III.	Training	3.16	3.27	-0.11
IV.	Professional Responsibility	3.05	1.82	1.23

The largest difference for frequency was found in Domain I (Program Management) with panel members reporting spending an average of over fifteen percent more time in that domain.

Domain		FREQUENCY		
		Survey	Panel	Difference
I.	Program Management	24.69	40.00	-15.31
II.	Worksite Auditing	34.42	30.00	4.42
III.	Training	21.04	19.01	2.03
IV.	Professional Responsibility	19.85	10.90	8.95

C. Survey Respondent Subgroups' Evaluations. When using a survey to collect information regarding a profession or occupation, the possibility that individuals in various settings may have differing views of their role and responsibilities is to be expected. Finding differences in domain or task ratings among the various subgroups would indicate that one should not generalize the survey results from one subgroup to another. With this in mind, the responses of specific subgroups were compared. Subgroups were defined by gender, age, work status, level of experience, specialization, typical projects, location where duties are performed, supervisory status, workforce size supported, civil servant status, union status, instructor status, and level of education. These comparisons found that the responses of the various subgroups do not contain practical differences.

The following charts reflect the similarity in responses of the specific subgroups of respondents. Only minor variations occurred between the responses. The greatest differences occurred in the frequency ratings for the subgroups of age and location where duties are performed. The similarity in the ratings provides support for generalizing from the survey results to the general population of CHSTs.

GENDER

Domain		IMPORTANCE	
		Male	Female
I.	Program Management	2.93	2.92
II.	Worksite Auditing	3.43	3.50
III.	Training	3.28	3.58
IV.	Professional Responsibility	3.48	3.50

Domain		CRITICALITY	
		Male	Female
I.	Program Management	2.57	2.67
II.	Worksite Auditing	3.36	3.33
III.	Training	3.15	3.25
IV.	Professional Responsibility	3.03	3.33

Domain		FREQUENCY	
		Male	Female
I.	Program Management	25.44	16.50
II.	Worksite Auditing	34.27	36.00
III.	Training	20.45	27.50
IV.	Professional Responsibility	19.84	20.00

AGE

Domain		IMPORTANCE				
		Under 30 years	31-40 years	41-50 years	51-60 years	61 years and above
I.	Program Management	2.70	2.91	3.00	2.97	**
II.	Worksite Auditing	3.40	3.52	3.36	3.47	**
III.	Training	3.70	3.12	3.24	3.44	**
IV.	Professional Responsibility	3.30	3.52	3.56	3.34	**

Domain		CRITICALITY				
		Under 30 years	31-40 years	41-50 years	51-60 years	61 years and above
I.	Program Management	2.50	2.71	2.67	2.42	**
II.	Worksite Auditing	3.20	3.44	3.26	3.42	**
III.	Training	3.00	3.09	3.07	3.39	**
IV.	Professional Responsibility	3.10	2.91	3.07	3.12	**

Domain		FREQUENCY				
		Under 30 years	31-40 years	41-50 years	51-60 years	61 years and above
I.	Program Management	15.50*	27.36*	25.60	23.79	**
II.	Worksite Auditing	35.00	35.00	35.00	32.76	**
III.	Training	30.50*	20.15*	18.33	22.07	**
IV.	Professional Responsibility	19.00	17.48	21.07	21.38	**

*Differences greater than 10 percentage points exist.
** Sample size insufficient to draw conclusions.

WORK STATUS

Domain		IMPORTANCE	
		Full time	Part time
I.	Program Management	3.03	2.52
II.	Worksite Auditing	3.39	3.64
III.	Training	3.42	2.88
IV.	Professional Responsibility	3.50	3.44

Domain		CRITICALITY	
		Full time	Part time
I.	Program Management	2.69	2.19
II.	Worksite Auditing	3.33	3.44
III.	Training	3.19	3.04
IV.	Professional Responsibility	3.09	2.93

Domain		FREQUENCY	
		Full time	Part time
I.	Program Management	24.82	24.20
II.	Worksite Auditing	34.37	34.60
III.	Training	21.21	20.40
IV.	Professional Responsibility	19.60	20.80

LEVEL OF EXPERIENCE

Domain		IMPORTANCE				
		Less than 1 year	1-5 years	6-10 years	11-15 years	More than 15 years
I.	Program Management	**	2.57	3.05	2.76	3.10
II.	Worksite Auditing	**	3.29	3.45	3.44	3.46
III.	Training	**	3.07	3.39	3.24	3.38
IV.	Professional Responsibility	**	3.43	3.63	3.35	3.54

Domain		CRITICALITY				
		Less than 1 year	1-5 years	6-10 years	11-15 years	More than 15 years
I.	Program Management	**	2.67	2.72	2.15	2.80
II.	Worksite Auditing	**	3.27	3.51	3.24	3.33
III.	Training	**	2.93	3.23	3.03	3.28
IV.	Professional Responsibility	**	2.87	3.18	2.85	3.23

Domain		FREQUENCY				
		Less than 1 year	1-5 years	6-10 years	11-15 years	More than 15 years
I.	Program Management	**	27.86	26.79	21.61	24.17
II.	Worksite Auditing	**	26.79	32.50	37.90	35.97
III.	Training	**	22.14	21.18	20.97	20.42
IV.	Professional Responsibility	**	23.21	19.53	19.52	19.44

** Sample size insufficient to draw conclusions.

SPECIALIZATION

Domain		IMPORTANCE			
		Commercial	Industrial	Residential	Other
I.	Program Management	3.09	2.91	**	2.67
II.	Worksite Auditing	3.38	3.53	**	3.30
III.	Training	3.53	3.11	**	3.22
IV.	Professional Responsibility	3.68	3.60	**	3.00

Domain		CRITICALITY			
		Commercial	Industrial	Residential	Other
I.	Program Management	2.73	2.37	**	2.67
II.	Worksite Auditing	3.42	3.26	**	3.30
III.	Training	3.33	3.07	**	3.04
IV.	Professional Responsibility	3.15	3.30	**	2.70

Domain		FREQUENCY			
		Commercial	Industrial	Residential	Other
I.	Program Management	24.55	25.00	**	23.54
II.	Worksite Auditing	35.00	33.52	**	35.21
III.	Training	22.39	18.86	**	21.46
IV.	Professional Responsibility	18.07	22.61	**	19.79

** Sample size insufficient to draw conclusions.

TYPICAL PROJECTS

Domain		IMPORTANCE		
		Civilian	Military	State/Federal Government
I.	Program Management	2.97	**	2.91
II.	Worksite Auditing	3.45	**	3.38
III.	Training	3.37	**	3.22
IV.	Professional Responsibility	3.51	**	3.47

Domain		CRITICALITY		
		Civilian	Military	State/Federal Government
I.	Program Management	2.49	**	2.79
II.	Worksite Auditing	3.37	**	3.32
III.	Training	3.17	**	3.18
IV.	Professional Responsibility	3.07	**	3.12

Domain		FREQUENCY		
		Civilian	Military	State/Federal Government
I.	Program Management	23.68	**	26.45
II.	Worksite Auditing	34.63	**	33.55
III.	Training	22.41	**	18.23
IV.	Professional Responsibility	19.28	**	21.77

** Sample size insufficient to draw conclusions.

DUTIES PERFORMED

Domain		IMPORTANCE	
		In a corporate office	In the field
I.	Program Management	3.09	2.85
II.	Worksite Auditing	3.28	3.49
III.	Training	3.13	3.36
IV.	Professional Responsibility	3.72	3.39

Domain		CRITICALITY	
		In a corporate office	In the field
I.	Program Management	2.56	2.57
II.	Worksite Auditing	3.50	3.31
III.	Training	3.06	3.18
IV.	Professional Responsibility	3.13	3.02

Domain		FREQUENCY	
		In a corporate office	In the field
I.	Program Management	34.22*	21.18*
II.	Worksite Auditing	22.81*	38.74*
III.	Training	21.72	20.69
IV.	Professional Responsibility	21.25	19.39

*Differences greater than 10 percentage points exist.

SUPERVISION

Domain		IMPORTANCE			
		Do not supervise	1-5 practitioners	6-10 practitioners	More than 10 practitioners
I.	Program Management	2.78	3.04	**	**
II.	Worksite Auditing	3.32	3.65	**	**
III.	Training	3.28	3.39	**	**
IV.	Professional Responsibility	3.45	3.46	**	**

Domain		CRITICALITY			
		Do not supervise	1-5 practitioners	6-10 practitioners	More than 10 practitioners
I.	Program Management	2.49	2.73	**	**
II.	Worksite Auditing	3.21	3.54	**	**
III.	Training	3.13	3.19	**	**
IV.	Professional Responsibility	2.97	3.02	**	**

Domain		FREQUENCY			
		Do not supervise	1-5 practitioners	6-10 practitioners	More than 10 practitioners
I.	Program Management	22.78	26.02	**	**
II.	Worksite Auditing	35.63	34.32	**	**
III.	Training	22.27	20.34	**	**
IV.	Professional Responsibility	19.33	19.32	**	**

** Sample size insufficient to draw conclusions.

WORKFORCE SIZE SUPPORTED

Domain		IMPORTANCE					
		I do not support a workforce	1-10 employees	11-30 employees	41-60 employees	61-90 employees	More than 90 employees
I.	Program Management	2.73	**	**	**	**	3.06
II.	Worksite Auditing	3.27	**	**	**	**	3.49
III.	Training	3.27	**	**	**	**	3.40
IV.	Professional Responsibility	3.27	**	**	**	**	3.52

Domain		CRITICALITY					
		I do not support a workforce	1-10 employees	11-30 employees	41-60 employees	61-90 employees	More than 90 employees
I.	Program Management	2.27	**	**	**	**	2.65
II.	Worksite Auditing	3.20	**	**	**	**	3.33
III.	Training	3.00	**	**	**	**	3.16
IV.	Professional Responsibility	3.20	**	**	**	**	3.09

Domain		FREQUENCY					
		I do not support a workforce	1-10 employees	11-30 employees	41-60 employees	61-90 employees	More than 90 employees
I.	Program Management	20.87	**	**	**	**	24.75
II.	Worksite Auditing	33.00	**	**	**	**	34.19
III.	Training	26.33	**	**	**	**	20.50
IV.	Professional Responsibility	19.80	**	**	**	**	20.56

** Sample size insufficient to draw conclusions.

CIVIL SERVANT

Domain		IMPORTANCE	
		Yes	No
I.	Program Management	2.82	2.94
II.	Worksite Auditing	3.09	3.47
III.	Training	2.73	3.37
IV.	Professional Responsibility	3.64	3.47

Domain		CRITICALITY	
		Yes	No
I.	Program Management	2.09	2.63
II.	Worksite Auditing	3.18	3.37
III.	Training	2.82	3.19
IV.	Professional Responsibility	3.36	3.03

Domain		FREQUENCY	
		Yes	No
I.	Program Management	23.50	24.80
II.	Worksite Auditing	32.00	34.64
III.	Training	22.50	20.91
IV.	Professional Responsibility	22.00	19.65

FEDERAL PLAN STATE OR STATE PLAN STATE

Domain		IMPORTANCE	
		Federal Plan	State Plan
I.	Program Management	2.92	2.94
II.	Worksite Auditing	3.47	3.36
III.	Training	3.28	3.34
IV.	Professional Responsibility	3.43	3.54

Domain		CRITICALITY	
		Federal Plan	State Plan
I.	Program Management	2.59	2.58
II.	Worksite Auditing	3.39	3.33
III.	Training	3.11	3.25
IV.	Professional Responsibility	2.97	3.17

Domain		FREQUENCY	
		Federal Plan	State Plan
I.	Program Management	24.97	23.88
II.	Worksite Auditing	33.04	36.73
III.	Training	21.30	20.31
IV.	Professional Responsibility	20.68	19.08

UNION OR NON UNION

Domain		IMPORTANCE	
		Union	Non Union
I.	Program Management	2.91	2.91
II.	Worksite Auditing	3.38	3.49
III.	Training	3.25	3.36
IV.	Professional Responsibility	3.49	3.45

Domain		CRITICALITY	
		Union	Non Union
I.	Program Management	2.52	2.63
II.	Worksite Auditing	3.39	3.28
III.	Training	3.15	3.13
IV.	Professional Responsibility	3.04	3.06

Domain		FREQUENCY	
		Union	Non Union
I.	Program Management	23.76	25.50
II.	Worksite Auditing	36.52	32.20
III.	Training	21.06	20.20
IV.	Professional Responsibility	18.67	22.10

OSHA AUTHORIZED OUTREACH INSTRUCTOR

Domain		IMPORTANCE	
		Yes	No
I.	Program Management	3.00	2.79
II.	Worksite Auditing	3.42	3.47
III.	Training	3.41	3.12
IV.	Professional Responsibility	3.47	3.51

Domain		CRITICALITY	
		Yes	No
I.	Program Management	2.64	2.48
II.	Worksite Auditing	3.29	3.48
III.	Training	3.16	3.15
IV.	Professional Responsibility	3.05	3.07

Domain		FREQUENCY	
		Yes	No
I.	Program Management	24.33	25.36
II.	Worksite Auditing	34.94	33.45
III.	Training	21.47	20.24
IV.	Professional Responsibility	19.26	20.95

EDUCATION

1=High school/secondary school
2= Associate degree
3= Bachelor's degree
4=Master's degree
5=Doctorate degree
6=Other

Domain		IMPORTANCE					
		1	2	3	4	5	6
I.	Program Management	2.96	2.97	2.85	3.00	**	**
II.	Worksite Auditing	3.60	3.37	3.44	3.29	**	**
III.	Training	3.48	3.23	3.28	3.36	**	**
IV.	Professional Responsibility	3.52	3.70	3.39	3.36	**	**

Domain		CRITICALITY					
		1	2	3	4	5	6
I.	Program Management	2.68	2.50	2.56	2.56	**	**
II.	Worksite Auditing	3.24	3.40	3.44	3.19	**	**
III.	Training	3.12	3.20	3.18	3.13	**	**
IV.	Professional Responsibility	3.16	3.10	3.02	2.94	**	**

Domain		FREQUENCY					
		1	2	3	4	5	6
I.	Program Management	23.33	24.14	23.78	27.81	**	**
II.	Worksite Auditing	32.86	34.83	37.16	28.75	**	**
III.	Training	20.95	19.83	20.69	24.38	**	**
IV.	Professional Responsibility	22.86	21.21	18.37	19.06	**	**

** Sample size insufficient to draw conclusions.

RELIABILITY ANALYSIS OF DOMAIN SCALES

The reliability of the scales was assessed in order to determine how consistently the tasks measured the domains of interest. Reliability refers to the degree to which tests or surveys are free from measurement error. Imagine a scale measuring an individual's weight that registers a substantially different weight with each use for the same person. With this inconsistency (i.e., unreliability), it would be impossible to determine an accurate weight. This analogy can be extended to the Importance, Criticality, and Frequency ratings of each domain. It is important to understand the consistency of the data along these dimensions in order to draw defensible conclusions.

Reliability was estimated as internal consistency (Cronbach's Alpha) using the respondents' ratings of Importance, Criticality, and Frequency for each domain. This calculates the extent to which the task ratings within each domain consistently measures what other tasks in that domain measure. Reliability coefficients range from 0 to 1 and should be above .7 to be judged as adequate. Reliability values below .7 indicate an unacceptable amount of measurement error. As shown below, all but two of the scales easily exceed this critical value. The low reliability in Domain IV is not unexpected due to the limited number of tasks in this domain.

	RELIABILITY		
Domain	**Importance**	**Criticality**	**Frequency**
I	.8072	.8072	.8087
II	.8087	.8232	.7617
III	.7584	.8435	.7526
IV	.6342	.8307	.4810

SUMMARY OF RESULTS

As shown in the charts on the preceding pages, the survey respondents indicated that all domains are important. Each of the four domains has an average importance of at least 2.93 on the four-point rating scale, with 2 being Moderately Important, 3 being Very Important, and 4 representing Extremely Important.

Similarly, the respondents considered all of the domains to be critical. Each of the four domains has an average criticality rating of at least 2.58 on the four-point scale, which means that incompetent performance of tasks in each domain could result in Moderate to Substantial harm to the client, the CHST, the public, etc.

The survey respondents indicated they spend differing amounts of time performing duties in the four domains. They indicated they spend most time (34.42%) performing duties in Domain II (Worksite Auditing), followed by Domain I (Program Management) at 24.69%. The least (19.85%) amount of time was spent in Domain IV (Professional Responsibility).

The order in which the domains were ranked by importance and criticality is somewhat different from the order in which the domains were ranked for frequency. For example, Domain I (Program Management) was found to be the second-most frequently performed domain, yet it was the least important and the least critical. This finding suggests that the frequency with which a CHST performs a domain does not necessarily correlate with that domain's importance or criticality. In other words, a responsibility that is carried out very frequently may not be considered very important and/or critical. This outcome affects the weight that is assigned to that domain in the examination blueprint.

CONCLUSION

The results of the survey validate the results of the role delineation panel. This conclusion means that the domains, tasks, knowledge, and skills developed by the role delineation panel constitute an accurate definition of the work of a CHST. Based on a psychometric analysis of the tasks, knowledge, and skills identified by the role delineation study, competence in the role of the CHST can be assessed using a multiple-choice examination format.

PHASE III
TEST SPECIFICATIONS

The final phase of a role delineation study is the development of test specifications that identify the proportion of questions from each domain and task that will appear on the certification examination. Test specifications are developed by combining the overall evaluations of importance, criticality, and frequency and converting the results into percentages. These percentages are used to determine the number of scored questions related to each domain and task that should appear on the multiple-choice format examination. The following specifications are computed directly from the survey responses.

The test blueprint was adjusted so that four percent of the test was distributed to Domain IV (Professional Responsibility). The recommendation to make this change was based on the following:

- The ethical, disciplinary, and continuing competence requirements for certification and certification renewal provide the meaningful assurance to stakeholders.
- Other CCHEST test blueprints account for Professional Responsibility in similar manners.
- The change permits CCHEST to give greater emphasis to technical domains on the examination.

Therefore, the recommended test blueprint is shown below.

Domain		TEST BLUEPRINT	
		% of Test	# of Items on Test
I.	**Program Management**	29.31%	44
II.	**Worksite Auditing**	39.99%	60
III.	**Training**	26.70%	40
IV.	**Professional Responsibility**	4.00%	6

DOMAINS, TASKS, AND KNOWLEDGE AND SKILL STATEMENTS

This section of the report contains the domains, tasks, and knowledge and skill statements as delineated by the role delineation panel.

Domain I. Program Management

Domain II. Worksite Auditing

Domain III. Training

Domain IV. Professional Responsibility

Performance Domain I
Program Management

Evaluation and Allocation of Questions for Domain I.

Task	RATINGS				
	Importance	Criticality	Frequency	% of Items on Test	# of Items on Test
1	3.14	2.72	3.20	3.34%	**5**
2	3.56	3.31	3.53	3.84%	**6**
3	3.47	3.18	4.00	3.93%	**6**
4	3.32	3.08	4.24	3.93%	**6**
5	3.29	3.03	4.44	3.97%	**6**
6	3.21	3.05	3.92	3.76%	**5**
7	3.15	3.13	2.33	3.18%	**5**
8	3.37	2.74	3.04	3.37%	**5**
			TOTAL	29.31%	**44**

Tasks and Knowledge and Skill Statements for Domain I

Task 1: Assess the scope of work with the construction project management team by reviewing contract documents in order to ensure the safety application is consistent with contract specifications and to support the development of the site-specific safety plan.

Knowledge of:

6. General contract requirements
7. Construction means and methods
8. Applicable regulations, consensus codes, best practices, and local codes
9. Site-specific safety planning
10. Construction drawings

Skill in:

5. Accessing applicable documents
6. Reviewing applicable documents
7. Interpreting applicable documents
8. Reading construction drawings

Task 2: Participate in the development of a site-specific safety plan by detailing hazards and corrective actions in order to ensure that foreseeable hazards are addressed.

Knowledge of:

12. Construction means and methods
13. Hazards associated with falls, struck by, electricity, caught between/crushing
14. Hazard recognition strategies
15. Applicable regulations, consensus codes, best practices, and local codes
16. Hazard communication
17. Components of emergency action plans
18. Crisis management
19. Medical/first aid procedures
20. Bloodborne pathogens
21. Relevant corrective actions and best practices
22. Security requirements and best practices

Skill in:

1. Applying regulations
2. Evaluating construction means and methods
3. Communicating effectively in speech and writing
4. Planning for emergencies
5. Documenting identified hazards

Task 3: Establish expectations for compliance with the site-specific safety plan with the contractors, employees, and other jobsite personnel using appropriate communication procedures in order to prevent accidents.

Knowledge of:

7. Communication practices
8. Safety priorities
9. Coordination strategies for activities
10. Construction means and methods
11. Applicable regulations, consensus codes, best practices, and local codes
12. Disciplinary procedures

Skill in:

5. Communicating effectively in speech and writing
6. Coordinating activities
7. Setting safety priorities
8. Applying regulations and best practices

Task 4: Verify that the job safety analyses adhere to construction safety standards in cooperation with contractors, employees, and other jobsite personnel in order to ensure that foreseeable hazards have been identified and addressed.

Knowledge of:

7. Hazard recognition and abatement strategies
8. Hazards associated with falls, struck by, electricity, caught between/crushing
9. Construction means and methods
10. Applicable regulations, consensus codes, best practices, and local codes
11. Engineering and administrative controls
12. Requirements and limitations of personal protective equipment

Skill in:

6. Recognizing hazards
7. Thinking critically
8. Developing job safety analyses
9. Eliciting information from key personnel
10. Communicating effectively in speech and writing

Task 5: Provide technical guidance to jobsite personnel by maintaining a comprehensive knowledge of codes, standards, and best practices and informing jobsite personnel of regulatory changes as they develop in order to maintain a safe and healthful work environment.

Knowledge of:

7. Applicable regulations, consensus codes, best practices, and local codes
8. Record keeping requirements
9. Substance abuse programs
10. Requirements and limitations of personal protective equipment
11. Communication practices (e.g., vehicle to disseminate information)
12. Security requirements and best practices

Skill in:

1. Communicating effectively in speech and writing
2. Using email
3. Using information technology systems
4. Accessing current information (e.g., regulations)

Task 6: Identify methods for addressing unanticipated hazards (e.g., resulting from change orders, weather, and/or schedule) using professional knowledge and judgment in order to prevent loss and to modify the site-specific safety plan.

Knowledge of:

5. Sources of information about unanticipated hazards
6. Applicable regulations, consensus codes, best practices, and local codes
7. Hazards associated with falls, struck by, electricity, caught between/crushing
8. Hazard recognition and abatement strategies

Skill in:

5. Reading construction drawings and contract documents
6. Exercising sound judgment
7. Responding to unanticipated situations
8. Eliciting information from key personnel

Task 7: Activate the emergency response plan when necessary in accordance with the site-specific safety plan in order to protect jobsite personnel and mitigate loss.

Knowledge of:

11. Regulations and best practices applicable to emergency planning
12. Emergency notification system (e.g., whom to call)
13. Types of emergencies (e.g., fire, medical, weather, power outage, workplace violence, environmental, terrorist threats)
14. Requirements and limitations of personal protective equipment
15. Incident command system
16. Emergency equipment
17. Crisis management
18. Medical/first aid procedures
19. Bloodborne pathogens
20. Security requirements and best practices

Skill in:

5. Responding to emergencies professionally
6. Coordinating emergency services and systems
7. Coordinating jobsite personnel in an emergency
8. Communicating effectively in speech and writing

Task 8: Participate in accident and incident investigations using established procedures in order to recommend appropriate corrective actions.

Knowledge of:

10. Principles of investigation
11. Investigation techniques (e.g., direct, indirect, root cause analysis)
12. Record keeping and reporting of injuries and illnesses
13. Statistical tools for accident and claims analysis
14. Industry accident trends
15. Craft-specific accident trends
16. Sources of information about accidents
17. Interviewing techniques
18. Hazard recognition and abatement strategies

Skill in:

9. Communicating effectively in speech and writing
10. Using computers
11. Recommending corrective actions
12. Interacting positively with others
13. Motivating personnel to cooperate with investigations
14. Interviewing
15. Remaining objective
16. Finding facts

Performance Domain II
Worksite Auditing

RATINGS					
Task	**Importance**	**Criticality**	**Frequency**	**% of Items on Test**	**# of Items on Test**
1	3.52	3.22	4.74	13.75%	**21**
2	3.59	3.32	4.76	13.98%	**21**
3	3.34	2.95	3.95	12.27%	**18**
			TOTAL	39.99%	**60**

Task 1: Perform worksite assessments in accordance with regulations, best practices, and the site-specific safety plan using a walkthrough in order to verify compliance and identify hazards and potential hazards in the workplace.

Knowledge of:
19. Applicable regulations, consensus codes, best practices, and local codes
20. Principles of ergonomics as applied to construction practices and material handling
21. Common environmental hazards on construction sites (e.g., silica, asbestos, lead, noise)
22. Fall protection principles and application
23. Electrical safety and hazardous energy control (i.e., lockout/tagout)
24. Requirements and limitations of personal protective equipment
25. Scaffolds, ladders, and mobile elevated work platforms
26. Machine guarding, hand, and power tool safety
27. Trenching and excavation
28. Confined spaces
29. Hazard communication
30. Fire prevention and protection
31. Cranes and rigging
32. Powered industrial trucks (e.g., forklifts)
33. Steel erection
34. Emergency medical equipment
35. Site-specific safety plans
36. Testing equipment (e.g., electrical testing, measuring tape, dosimeters, air monitoring)

Skill in:
5. Conducting worksite assessments
6. Making observations to identify existing and foreseeable unsafe conditions and behaviors
7. Using measuring equipment
8. Documenting observations and measurements

Task 2: Recommend corrective actions for the hazards and potential hazards identified in the worksite assessment using professional knowledge and judgment in order to prevent loss and ensure compliance with regulations and the site-specific safety plan.

Knowledge of:

9. Coaching, counseling, and education techniques
10. Hazard recognition and abatement strategies
11. Engineering and administrative controls
12. Established discipline and accountability systems
13. Requirements and limitations of personal protective equipment
14. Applicable regulations, consensus codes, best practices, and local codes
15. Audit documentation techniques
16. Escalation process

Skill in:

8. Coaching safe behaviors
9. Recognizing imminent danger and applying stop-work techniques
10. Communicating effectively in speech and writing
11. Applying regulations
12. Recommending engineering and administrative controls
13. Recommending personal protective equipment
14. Escalating unresolved issues

Task 3: Participate in regulatory safety, health, and environmental inspections in accordance with directions provided in the site-specific safety plan in order to facilitate the inspection process.

Knowledge of:

10. Applicable regulations, consensus codes, best practices, and local codes
11. Insurance loss control requirements
12. Site-specific safety plans
13. Location of program and certification documents and records
14. Regulatory inspection process, employer and employee rights, and expectations
15. Regulatory jurisdictions
16. Communications requirements
17. Types of consequences
18. Conflict resolution strategies

Skill in:

6. Using conflict resolution techniques
7. Mitigating identified hazards in a timely manner
8. Communicating effectively in speech and writing
9. Coordinating jobsite personnel
10. Using effective documentation techniques (e.g., note taking, photography, taking measurements)

Performance Domain III
Training

RATINGS					
Task	**Importance**	**Criticality**	**Frequency**	**% of Items on Test**	**# of Items on Test**
1	3.29	3.03	3.45	9.88	**10**
2	3.25	2.97	3.49	9.82	**10**
3	3.43	3.15	3.60	10.29	**10**
4	3.26	3.01	3.62	10.00	**10**
			TOTAL	26.70%	**40**

Task 1: Determine training needs based on job safety analyses, regulatory requirements, trends, and/or observations made in worksite audits in order to develop appropriate training.

Knowledge of:
11. Site-specific safety plans
12. Job safety analysis content
13. Applicable regulations, consensus codes, best practices, and local codes
14. Industry-related injury and illness trends
15. Craft-specific injury and illness trends
16. Hazards associated with falls, struck by, electricity, caught between/crushing
17. Effective training techniques
18. Characteristics of worksite personnel (e.g., education level, language proficiency, English as a foreign language)
19. Training needs assessment procedures
20. Available delivery methods and instructional materials

Skill in:
5. Applying regulations and consensus standards
6. Evaluating job safety analysis information, observations, and trends for relevant information
7. Matching training to the characteristics and needs of worksite personnel
8. Conducting perception surveys

Task 2: Deliver training that addresses required program elements using program management guidelines, on-the-job training and evaluation, and formal and informal resources in order to deliver appropriate training.

Knowledge of:
14. Site-specific safety plans
15. Job safety analysis content
16. Applicable regulations, consensus codes, best practices, and local codes
17. Industry-related injury and illness trends
18. Craft-specific injury and illness trends
19. Hazards associated with falls, struck by, electricity, caught between/crushing
20. Demographics of employees and their skill level
21. Training objective
22. Instructional methods

23. Audiovisual and other instructional equipment
24. Communication strategies
25. Time management strategies
26. Conflict resolution strategies

Skill in:

8. Teaching to achieve training objectives
9. Using available multi-media training techniques to deliver the program
10. Adapting structured programs to local needs
11. Evaluating competence and employee feedback to determine if changes are needed
12. Communicating effectively in speech and writing
13. Engaging the audience
14. Resolving conflicts

Task 3: Conduct site-specific job safety orientation and training using appropriate instructional methods in order to address jobsite hazards and abatement procedures as identified in the job safety analyses.

Knowledge of:

15. Site-specific safety plans
16. Job safety analysis content
17. Applicable regulations, consensus codes, best practices, and local codes
18. Industry-related injury and illness trends
19. Craft-specific injury and illness trends
20. Hazards associated with falls, struck by, electricity, caught between/crushing
21. Demographics of employees and their skill level
22. Training objectives
23. Instructional methods
24. Audiovisual and other instructional equipment
25. Communication strategies
26. Time management strategies
27. Conflict resolution strategies
28. Human behavior, both safe and at-risk

Skill in:

8. Teaching to achieve training objectives
9. Using available multi-media training techniques to deliver the program
10. Adapting structured programs to local needs
11. Evaluating competence and employee feedback to determine if changes are needed
12. Communicating effectively in speech and writing
13. Engaging the audience
14. Resolving conflicts

Task 4: Participate in jobsite safety meetings with all crafts by leading discussions, demonstrating safe practices, etc., in order to inform jobsite personnel of potential risks.

Knowledge of:

11. Site-specific safety plans
12. Job safety analysis content
13. Applicable regulations, consensus codes, best practices, and local codes
14. Industry-related injury and illness trends and at-risk behavior
15. Craft-specific injury and illness trends
16. Hazards associated with falls, struck by, electricity, caught between/crushing
17. Demographics of employees and their skill level
18. Training objectives
19. Scope of work for each craft on the jobsite
20. Assessment strategies to determine that jobsite supervisors are able to lead safety meetings

Skill in:

1. Applying regulations and consensus standards
2. Evaluating job safety analysis information, observations, and trends for relevant information
3. Using available multi-media training techniques to deliver the program
4. Communicating effectively in speech and writing
5. Understanding human behavior in the context of worksite safety
6. Interpreting job safety analyses
7. Complying with the client's safety guidelines and procedures
8. Assessing the skill levels of crafts people and supervisors
9. Facilitating discussion of topics identified by meeting participants
10. Accessing current information (e.g., regulations)
11. Resolving conflicts

Performance Domain IV
Professional Responsibility

RATINGS					
Task	**Importance**	**Criticality**	**Frequency**	**% of Items on Test**	**# of Items on Test**
1	3.16	2.53	4.09	1.30%	**2**
2	3.17	2.47	2.75	1.11%	**2**
3	3.63	2.95	5.39	1.59%	**2**
			TOTAL	4.00%	**6**

Task 1: Maintain complete and accurate records in all aspects of the safety program in accordance with established protocol in order to document interventions, losses, and audit findings and to support future decision making.

Knowledge of:
6. Regulatory record keeping requirements
7. Other record keeping requirements (e.g., company protocol on accident investigation, audits, inspections)
8. Computer file management
9. Physical file management
10. Security and confidentiality requirements

Skill in:
1. Using information technology systems
2. Organizing information
3. Organizing documents
4. Applying regulations and standards
5. Thinking critically

Task 2: Maintain ongoing competence by participating in the Certification Maintenance program in order to ensure currency and adhere to best practices.

Task 3: Adhere to ethical standards for behavior in accordance with the CCHEST Code of Professional Conduct in order to protect the interests of stakeholders.

APPENDIX A: ROLE DELINEATION PANEL PARTICIPANTS

Mirth A. Deshler
Englewood, CO

John Berryman
Leighton, AL

Jeffrey Lind
Annapolis, MD

Ralph M. Topete
Munster, IN

Katherine J. Flores
Phoenix, AZ

Kevin Moorhead
Highland, IL

Tim Witten
Bowling Green, KY

Thomas Slattery
Hartland, ME

Patrick J. Couroy
Warahu, HI

Steven Finkey
Omaha, NE

Frank C. Radio, Jr.
Franklinville, NJ

Steven Schoolcraft
Savoy, IL

APPENDIX B: CITY, STATE, AND ZIP CODE OF RESPONDENTS

Aberdeen Proving Ground, Gunpowder, MD 21010
Albuquerque, NM 87124
Alden, NY
Anchorage, AK 99502
Augusta, GA 30901
Austin, TX 78703
Baltimore, MD 21040
Bangor, ME 04401
Bastrop, TX 78602
Baton Rouge, LA 70734
Bethesda, MD
Biloxi, MS 39534
Boalsburg, PA
Bossier City, LA 71111
Boston, MA area
Bourbon, IN 46504
Braintree, MA
Brewer, ME 04412
Broadway, VA 22815
Brooklyn Heights, OH 44131
Carmel, IN 46032
Chicago, IL
Chicago, IL 60610
Cincinnati, OH
Cincinnati, OH 45215
Cincinnati, OH 45231
Cleveland, OH 44087
Colorado Springs, CO
Columbus, OH 43017 - Phoenix, AZ 85009
Columbus, OH 43215
Conyers, GA
Dallas, TX
Dallas, TX 75201
Dallas/Ft. Worth, TX
Denver, CO 80403
Dublin, CA
Dublin, CA 94568
Erlanger, KY 41018
Evansville, IN 47715
Fairbanks, AK
Fairfield, NJ 07004
Fairmont, WV 26554
Fort Worth, TX 76104
Freeport, TX 77541
Golden, CO 80403
Grand Prairie, Tx 75051
Green Bay, WI 54313
Honolulu, HI 96816
Honolulu, HI 96819
Honolulu, HI 96701
Honolulu, HI 96734
Honolulu, HI 96797
Honolulu, HI 96819
Huntingdon Valley, PA 19006
IN, IL, WI
Indianapolis, IN
Indianapolis, IN 46204
Indianapolis, IN 46227
Jersey City, NJ
Kansas City, MO 64106
Kyle, TX 78640
Lake Charles, LA 70605
Lansing, MI
Las Vegas, NV 89109
Lenexa, KS 66215
Los Angeles, CA 91750
Madison, WI 53716
Maurevas, LA 70449
Memphis, TN 38127
Memphis, TN 38117
Merritt Island, FL 32952
Mescalero, NM 88340
Midland, TX 79701
Milledgeville, GA
Monroe, OH 45050
Muscatine, IA 52761
Newport Beach, CA 92658
NJ
Northern CA
NY 11361
NYC, New Jersey - many zip codes
Oak Harbor, WA 98277
Old Ocean, TX 77480
Orlando, FL 32771 & Salisbury, NC 28146
out of country -overseas
Phoenix, AZ
Pittsburgh, PA 15212
Portland, ME 04104
Portland, ME 04105
Portland, OR & Vancouver, WA
Prudhoe Bay, AK 99734
Redlands, CA 92373
Richland, WA 99352
Richmond, VA 23233
Rolling Meadows, Il 60008
Round Rock, TX 78664
Sacramento, CA
Sacramento, CA 95826
San Diego, CA 92660, 92128
San Francisco, CA 94111
San Jose, CA 95126
Santa Ana, CA 92704
St. Louis, MO 63139

St. Paul, MN
Sunray, TX 79086
Syracuse, NY 13202
Tampa/Brandon, FL 33511
Toledo, OH 43619
Valdez, AK 99686
Vallejo, CA 94590
Various cities, FL 32750
Villa Rica, GA 30180
Washington, WV 26181
Wildwood, MO 63038
York Springs, PA 17372

APPENDIX C: OTHER AREAS OF SPECIALIZATION

all areas
all of the above plus highway & bridge
bridge-roadway
chemical demilitarization
compliance assistance, specialist DOL OSHA
construction (3)
cranes, equipment
deep foundations, earth retention, marine work
demolition
electrical power T&D&UG trench shoring.
environmental remediation electrical power plants
federal gov't construction
government
government agency employees city, county state
heavy civil tunnel
heavy civil, demolition
heavy construction-transportation
heavy construction
heavy construction, mass grading, concrete structures, strom drain
heavy industrial
higher education
marine construction
petro/chemical
pipeline construction
precast & steel erection
transportation infrastructure
tunnels
utility/paving

APPENDIX D: OTHER CERTIFICATIONS/LICENSES

AHERA
ARM (2)
ASP (3)
ASP, CUSA, CPEA
ASP, EMT-PS
ASP/CPEA
BCSP-ASP, State of HI-Safety Professional issued by: director of labor & industrial relations
CAIH, CFPS
CCI (certified construction inspector)
CEI, WSO-CST
Certified crane operator, all specialties (NCCCO)
CHCM (2)
CPC certified professional collector
CPEA
CPEA, CUSA
CPESC (certified prof. In erosion and sediment control)
CSHM (2)
CSHO
CSM
CSST (2)
CSST, journeyman electrician state of Texas
CUSA (3)
Electrician
EMT-A
gas testers, CA
Hazwopr supervisor shipyard confined space scaffold competent person shoring competent person
IATA
journeyman ironworker
lead supervisor
LPN
master electrician
NCCER-master trainer
NYC site safety
OSHA 500, ARC-IT W/C adjuster-ME
PLS
RSO, EMT-B
WSO/CSE

APPENDIX E: OTHER EDUCATION

2 yrs college, 5 yr plumbing (const) apprenticeship
3 yrs community college
EMT, firefighter
GED

APPENDIX F: SURVEY

COUNCIL ON CERTIFICATION OF HEALTH, ENVIRONMENTAL AND SAFETY TECHNOLOGISTS

CONSTRUCTION HEALTH AND SAFETY TECHNICIAN®

ROLE DELINEATION SURVEY
MARCH 2004

INSTRUCTIONS FOR COMPLETING THE
COUNCIL ON CERTIFICATION OF HEALTH, ENVIRONMENTAL
AND SAFETY TECHNOLOGISTS
ROLE DELINEATION SURVEY FOR THE
CONSTRUCTION HEALTH AND SAFETY TECHNICIAN®

This booklet contains the Council on Certification of Health, Environmental and Safety Technologists (CCHEST) role delineation survey for the Construction Health and Safety Technician® (CHST) along with instructional materials to aid you in completing it. Directions are provided at the beginning of each section of the survey.

In **Section A,** you are asked to complete a ***Confidential Survey,*** which provides us with the demographic information necessary to ensure that CHSTs working in various settings with differing backgrounds are represented in the data collection.

In **Section B,** we have provided you with a list of definitions and terms that are used throughout the survey. We suggest that you review the ***Definition of Terms*** before responding to any survey questions.

In **Section C,** you are asked to review the ***Performance Domains*** that define the role of the CHST. We ask that you rate the importance, criticality, and frequency of these domains as they pertain to the role of the construction health and safety technician.

In **Section D,** you are asked to review the ***Task Statements*** required for competent performance in each domain, and rate each for importance, criticality, and frequency.

Please review the entire booklet before responding to any of the questions. Your review will help you to understand our terminology and the structure of the role delineation survey.

Please mark your responses directly in this booklet. Please return your completed survey by **7 May 2004** in the enclosed, self-addressed, stamped envelope to:

CASTLE Worldwide, Inc.
Post Office Box 570
Morrisville, North Carolina 27560-0570

Thank you in advance for your help with this very important project.

SECTION A
CONFIDENTIAL SURVEY

Please fill in the following demographic information, which will be used to ensure that CHSTs working in various settings with differing backgrounds are represented in the data collection.

All responses are kept strictly confidential by CASTLE Worldwide, Inc. Computer programs are used to sort the data. Neither individual persons or companies nor their particular data will be identifiable in any report generated using information obtained through this survey.

Please check the appropriate boxes, or print your responses.

1. Gender *(Please select one.)*

- ❑ Male
- ❑ Female

2. Age *(Please select one.)*

- ❑ Under 30 years
- ❑ 31-40 years
- ❑ 41-50 years
- ❑ 51-60 years
- ❑ 61 years and above

3. In which city/state do you work? *(Please list your city, state, and zip code.)*

_____

4. Do you work as a CHST on a full-time or part-time basis? *(Please select one.)*

- ❑ Full-time *(Please skip question 5.)*
- ❑ Part-time *(Please complete question 5.)*

5. If you work as a CHST on a part-time basis, what percentage of time is devoted to CHST duties and responsibilities? *(Please select one.)*

- ❑ Less than 25 percent
- ❑ 25-50 percent
- ❑ 51-75 percent
- ❑ 76-99 percent

6. How much experience do you have in construction safety? *(Please select one.)*

- ❑ Less than 1 year
- ❑ 1-5 years
- ❑ 6-10 years
- ❑ 11-15 years
- ❑ More than 15 years

7. What is your ***primary*** area of specialization? *(Please select one.)*

- ❑ Commercial
- ❑ Industrial
- ❑ Residential
- ❑ Other *(Please specify.)*

_____

8. Which of the following ***best*** describes your typical projects in your current position? *(Please select one.)*

- ❑ Civilian
- ❑ Military
- ❑ State/Federal Government

9. Where do you perform the ***majority*** of your CHST duties and responsibilities? *(Please select one.)*

- ❑ In a corporate office
- ❑ In the field

10. How many other safety and health practitioners do you supervise? *(Please select one.)*

- ❑ I do not supervise any other practitioners.
- ❑ 1-5 practitioners
- ❑ 6-10 practitioners
- ❑ More than 10 practitioners

11. What is the average size of the workforce you support as a CHST? *(Please select one.)*

- ❑ I do not support a workforce.
- ❑ 1-10 employees
- ❑ 11-30 employees
- ❑ 41-60 employees
- ❑ 61-90 employees
- ❑ More than 90 employees

12. Are you a civil servant in federal, state, or local government? *(Please select one.)*

- ❑ Yes
- ❑ No

13. Do you work primarily in a Federal Plan state or a State Plan state? *(Please select one.)*

- ❑ Federal Plan
- ❑ State Plan

14. Do you work in a union or a non-union environment? *(Please select one.)*

- ❑ Union
- ❑ Non-union

15. Are you an OSHA-authorized outreach instructor? *(Please select one.)*

- ❑ Yes
- ❑ No

16. What certifications/licenses do you ***currently*** hold? *(Please select all that apply.)*

- ❑ CHMM
- ❑ CHST
- ❑ CIH
- ❑ CSP
- ❑ OHST
- ❑ STS
- ❑ PE
- ❑ Other *(Please specify.)* _____

17. What is your ***highest*** level of education? *(Please select one.)*

- ❑ High School/Secondary School
- ❑ Associate Degree
- ❑ Bachelor's Degree
- ❑ Master's Degree
- ❑ Doctorate Degree
- ❑ Other *(Please specify.)* _____

SECTION B
DEFINITION OF TERMS

Below are definitions of the terms found in this role delineation survey.

Construction Health and Safety Technician®: A CHST is technical advisor who monitors and integrates safety in all phases of construction. A CHST performs construction health and safety duties on a full-time basis or part-time as part of other job duties. Typical construction health and safety responsibilities include safety audits, recommendations for best practices, accident prevention, accident investigation, and training.

Stakeholders: Workers and their families, employers, owners, construction managers, regulatory agencies, insurance companies, the environment, and the general public.

Performance Domain: The performance domains are the major responsibilities or duties that define the role of the CHST. Each performance domain may be considered a major heading in an outline and may include a brief behavioral description. There are four performance domains included in this survey, as identified by an expert panel:

- Program Management
- Worksite Auditing
- Training
- Professional Responsibility

Task Statement: A task is an activity performed within a performance domain. Each performance domain consists of a series of tasks that collectively forms a comprehensive and detailed description of each performance domain. Typically, task statements answer such questions as:

- What activity did you perform?
- To whom or to what was your activity directed?
- Why did you perform that activity?
- How did you accomplish the activity?

SECTION C
EVALUATION OF PERFORMANCE DOMAINS

Instructions: You will be rating each performance domain identified by an expert panel on three dimensions: *importance, criticality, and frequency.*

Importance: Importance is defined as the degree to which knowledge in the performance domain is essential to the role of the CHST. Indicate how important each performance domain is to the CHST. Rate each of the four performance domains by using the scale below. Please assign each performance domain ***only one*** rating. ***DO NOT RANK THE DOMAINS.*** Select the number of the description below that best exemplifies your rating for each performance domain, and write that number in the space provided next to each performance domain.

1 = ***Slightly Important.*** Performance of tasks in this domain is only slightly essential to the job performance of the CHST.

2 = ***Moderately Important.*** Performance of tasks in this domain is only moderately essential to the job performance of the CHST.

3 = ***Very Important.*** Performance of tasks in this domain is clearly essential to the job performance of the CHST.

4 = ***Extremely Important.*** Performance of tasks in this domain is absolutely essential to the job performance of the CHST.

Rating of Importance	***Performance Domain***
_____	1. Program Management
_____	2. Worksite Auditing
_____	3. Training
_____	4. Professional Responsibility

Criticality: Criticality is defined as the degree to which adverse effects could result if the CHST is not knowledgeable in the performance domain. Indicate the degree to which the inability of the CHST to perform tasks within the performance domain would be seen as causing harm to employers, employees, the public, and/or other relevant stakeholders. Harm may be physical, emotional, financial, etc. Rate each of the four performance domains by using the scale below. Please assign each performance domain ***only one*** rating. ***DO NOT RANK THE DOMAINS.*** Select the number of the description that best exemplifies your rating for each performance domain, and write that number in the space provided next to each performance domain.

1 = ***Minimal or No Harm.*** Inability to perform tasks within this performance domain would lead to error with minimal adverse consequences.

2 = ***Moderate Harm.*** Inability to perform tasks within this performance domain would lead to error with moderate adverse consequences.

3 = ***Substantial Harm.*** Inability to perform tasks within this performance domain would lead to error with substantial adverse consequences.

4 = ***Extreme Harm.*** Inability to perform tasks within this performance domain would definitely lead to error with severe adverse consequences.

Rating of Criticality	***Performance Domain***
_____	1. Program Management
_____	2. Worksite Auditing
_____	3. Training
_____	4. Professional Responsibility

Frequency: What percent of time does the CHST spend **performing duties** associated with each domain? Write the percentage in the space provided next to each domain. *The total must equal 100 percent.*

Percent of Time	***Performance Domain***
_____	1. Program Management
_____	2. Worksite Auditing
_____	3. Training
_____	4. Professional Responsibility
100%	

SECTION D
EVALUATION OF TASK STATEMENTS

In this section you will rate the task statements associated with each of the four domains on three dimensions – *importance, criticality,* and *frequency* – according to the scales below:

Rating Scales

Importance	*Criticality**	*Frequency*
1 – Slightly Important	1 – Causing Minimal or No Damage	1 – Not Responsible
2 – Moderately Important	2 – Causing Moderate Damage	2 – About Once Per Year
3 – Very Important	3 – Causing Substantial Damage	3 – About Once Per Month
4 – Extremely Important	4 – Causing Extreme Damage	4 – About Once Per Week
		5 – About Once Per Day
		6 – Several Times Per Day

**The amount of harm that could be caused by performing the task incompetently.*

Circle the number corresponding to the **Importance, Criticality,** and **Frequency** rating for each task statement.

DOMAIN I: PROGRAM MANAGEMENT	***IMPORTANCE***	***CRITICALITY***	***FREQUENCY***
Task 1: Assess the scope of work with the construction project management team by reviewing contract documents in order to ensure the safety application is consistent with contract specifications and to support the development of the site-specific safety plan.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 2: Participate in the development of a site-specific safety plan by detailing hazards and corrective actions in order to ensure that foreseeable hazards are addressed.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 3: Establish expectations for compliance with the site-specific safety plan with contractors, employees, and other jobsite personnel using appropriate communication procedures in order to prevent accidents.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 4: Verify that the job safety analyses adhere to construction safety standards in cooperation with contractors, employees, and other jobsite personnel in order to ensure that foreseeable hazards have been identified and addressed.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 5: Provide technical guidance to jobsite personnel by maintaining a comprehensive knowledge of codes, standards, and best practices and informing jobsite personnel of regulatory changes as they develop in order to maintain a safe and healthful work environment.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 6: Identify methods for addressing unanticipated hazards (e.g., resulting from change orders, weather, and/or schedule) using professional knowledge and judgment in order to prevent loss and modify the site-specific safety plan.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 7: Activate the emergency response plan when necessary in accordance with the site-specific safety plan in order to protect jobsite personnel and mitigate loss.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 8: Participate in accident and incident investigations using established procedures in order to recommend appropriate corrective actions.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*

Rating Scales

Importance	*Criticality**	*Frequency*
1 – Slightly Important	1 – Causing Minimal or No Damage	1 – Not Responsible
2 – Moderately Important	2 – Causing Moderate Damage	2 – About Once Per Year
3 – Very Important	3 – Causing Substantial Damage	3 – About Once Per Month
4 – Extremely Important	4 – Causing Extreme Damage	4 – About Once Per Week
		5 – About Once Per Day
		6 – Several Times Per Day

**The amount of harm that could be caused by performing the task incompetently.*

Please list any tasks related to Domain I that you think may have been overlooked.

_____

_____

DOMAIN II: WORKSITE AUDITING	***IMPORTANCE***	***CRITICALITY***	***FREQUENCY***
Task 1: Perform worksite assessments in accordance with regulations, best practices, and the site-specific safety plan using a walkthrough in order to verify compliance and identify hazards and potential hazards in the workplace.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 2: Recommend corrective actions for the hazards and potential hazards identified in the worksite assessment using professional knowledge and judgment in order to prevent loss and ensure compliance with regulations and the site-specific safety plan.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 3: Participate in regulatory safety, health, and environmental inspections in accordance with directions provided in the site-specific safety plan in order to facilitate the inspection process.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*

Please list any tasks related to Domain II that you think may have been overlooked.

_____

_____

DOMAIN III: TRAINING	***IMPORTANCE***	***CRITICALITY***	***FREQUENCY***
Task 1: Determine training needs based on job safety analyses, regulatory requirements, trends, and/or observations made in worksite audits in order to develop appropriate training.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 2: Deliver training that addresses required program elements using program management guidelines, on-the-job training and evaluation, and formal and informal resources in order to deliver appropriate training.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 3: Conduct site-specific job safety orientation and training using appropriate instructional methods in order to address jobsite hazards and abatement procedures as identified in the job safety analyses.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 4: Participate in jobsite safety meetings with all crafts by leading discussions, demonstrating safe practices, etc., in order to inform jobsite personnel of potential risks.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*

Rating Scales

Importance	*Criticality**	*Frequency*
1 – Slightly Important	1 – Causing Minimal or No Damage	1 – Not Responsible
2 – Moderately Important	2 – Causing Moderate Damage	2 – About Once Per Year
3 – Very Important	3 – Causing Substantial Damage	3 – About Once Per Month
4 – Extremely Important	4 – Causing Extreme Damage	4 – About Once Per Week
		5 – About Once Per Day
		6 – Several Times Per Day

**The amount of harm that could be caused by performing the task incompetently.*

Please list any tasks related to Domain III that you think may have been overlooked.

_____

_____

DOMAIN IV: PROFESSIONAL RESPONSIBILITY	***IMPORTANCE***	***CRITICALITY***	***FREQUENCY***
Task 1: Maintain complete and accurate records in all aspects of the safety program in accordance with established protocol in order to document interventions, losses, and audit findings and to support future decision making.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 2: Maintain ongoing competence by participating in the Certification Maintenance program in order to ensure currency and adhere to best practices.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*
Task 3: Adhere to ethical standards for behavior in accordance with the CCHEST Code of Professional Conduct in order to protect the interests of stakeholders.	*1 2 3 4*	*1 2 3 4*	*1 2 3 4 5 6*

Please list any tasks related to Domain IV that you think may have been overlooked.

_____

_____

THIS CONCLUDES THE ROLE DELINEATION SURVEY.

THANK YOU FOR YOUR VALUABLE INPUT.

PLEASE RETURN THIS SURVEY BY 7 MAY 2004

IN THE ENCLOSED, POSTAGE-PAID ENVELOPE.

Request for one CCHEST Certification Maintenance (CM) point

Request for one BCSP Continuance of Certification (COC) point

Full Name: _____

Mailing Address: _____

_____

E-Mail Address: _____

Certification(s) you currently hold:

☐ CHST Certification Number _____
☐ OHST Certification Number _____
☐ CSP Certification Number _____

I certify that I fully completed the Construction Health and Safety Technician® Role Delineation Survey. I further authorize CCHEST and/or BCSP to change my mailing address and e-mail address (if necessary) as shown on this form.

Signature of Certificant: _____

Date: _____

CCHEST®

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