

**ROLE DELINEATION STUDY  
FOR  
Safety Trained Supervisor<sup>®</sup> in Construction  
Examinations**

**CCHEST Technical Report 2002-1  
September 2002**



**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 Safety Trained Supervisor<sup>®</sup> in Construction (STS-Construction) 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 STS-Construction examination. CCHEST uses this examination to evaluate the safety- and health-related knowledge and skills of construction supervisors prior to awarding them the STS-Construction 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.

CCHEST started the STS-Construction 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 construction supervisors. The results from this previous validity study provided the basis for the former STS-Construction examination blueprint.

CCHEST commissioned the current study in 2001, and it was completed in 2002. The CCHEST Board of Directors evaluated the results of this study and approved the final examination blueprint in September 2002. Once approved, item banks were updated to prepare for deploying the new editions of the STS-Construction examination.

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. Like the previous study, 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 safety practitioners and current STS-Construction certificate holders who volunteered their time to serve on the panel of experts and to complete validation surveys.

## **METHODOLOGY OVERVIEW**

The role delineation study involved three phases. The first phase involved developing and validating the roles performed by STS-Construction certificate holders and the knowledge and skills necessary for certificate holders 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 supervision. 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 Appendix A.

### ***Phase 1. Initial Development and Validation***

CCHEST selected a panel of eight experts in safety practice (Appendix B) to participate in a two-day workshop conducted by teleconference in November 2001. The panel represented a variety of practices and geographic regions. Psychometricians from CASTLE Worldwide led the workshop. The group defined the major roles (tasks) necessary for competence as an STS-Construction certificate holder.

The group then developed the knowledge certificate holders 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. 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 practitioners.

### ***Phase 2. Validation Study***

To conduct this phase, CASTLE Worldwide and CCHEST developed a survey instrument (Appendix C) to validate the work of the eight 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 practice was obtained. The survey then asked the respondents to evaluate the task statements proposed by the eight 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 over 100 useable responses were returned. The data from the surveys were then used to develop the test specification in Phase 3.

### ***Phase 3. Development of Test Specifications***

The final phase of the role delineation study is 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.

**Table 1. STS-Construction Blueprint and Examination Specification**

<p style="text-align: center;"><b>Task Area 1: 9.5%</b></p> <p><b>Conduct new employee safety and health orientation</b></p> <p><i>Knowledge Areas</i></p> <ol style="list-style-type: none"> <li>1. OSHA regulations</li> <li>2. Company safety rules and procedures</li> <li>3. Communication at all organizational levels</li> <li>4. Industry safety requirements</li> <li>5. Potential hazards</li> </ol>	<p style="text-align: center;"><b>Task Area 2: 10.6%</b></p> <p><b>Perform pre-task safety and health hazard analysis</b></p> <p><i>Knowledge Areas</i></p> <ol style="list-style-type: none"> <li>1. OSHA regulations</li> <li>2. Company safety rules and procedures</li> <li>3. Job, craft, and phases of construction</li> <li>4. Industry safety requirements</li> <li>5. Potential hazards</li> <li>6. Observation techniques</li> </ol>
<p style="text-align: center;"><b>Task Area 3: 10.7%</b></p> <p><b>Perform basic safety and health hazard recognition</b></p> <p><i>Knowledge Areas</i></p> <ol style="list-style-type: none"> <li>1. OSHA regulations</li> <li>2. Industry safety requirements</li> <li>3. Company safety rules and procedures</li> <li>4. Potential hazards</li> <li>5. Job, craft, and phases of construction</li> <li>6. Observation techniques</li> <li>7. Communication at all organizational levels</li> </ol>	<p style="text-align: center;"><b>Task Area 4: 9.6%</b></p> <p><b>Issue and monitor the use of personal protective equipment</b></p> <p><i>Knowledge Areas</i></p> <ol style="list-style-type: none"> <li>1. OSHA regulations</li> <li>2. Industry safety requirements</li> <li>3. Company safety rules and procedures</li> <li>4. Potential hazards</li> <li>5. Job, craft, and phases of construction</li> <li>6. Observation techniques</li> <li>7. Communication at all organizational levels</li> </ol>
<p style="text-align: center;"><b>Task Area 5: 9.3%</b></p> <p><b>Conduct safety and health meetings</b></p> <p><i>Knowledge Areas</i></p> <ol style="list-style-type: none"> <li>1. OSHA regulations</li> <li>2. Industry safety requirements</li> <li>3. Company safety rules and procedures</li> <li>4. Potential hazards</li> <li>5. Job, craft, and phases of construction</li> <li>6. Communication at all organizational levels</li> <li>7. Training methods</li> </ol>	<p style="text-align: center;"><b>Task Area 6: 10.7%</b></p> <p><b>Plan for safety and health hazard prevention</b></p> <p><i>Knowledge Areas</i></p> <ol style="list-style-type: none"> <li>1. OSHA regulations</li> <li>2. Industry safety requirements</li> <li>3. Company safety rules and procedures</li> <li>4. Potential hazards</li> <li>5. Job, craft, and phases of construction</li> <li>6. Communication at all organizational levels</li> <li>7. Job hazard analysis</li> </ol>
<p style="text-align: center;"><b>Task Area 7: 9.7%</b></p> <p><b>Inspect tools and equipment</b></p> <p><i>Knowledge Areas</i></p> <ol style="list-style-type: none"> <li>1. OSHA regulations</li> <li>2. Industry safety requirements</li> <li>3. Company safety rules and procedures</li> <li>4. Potential hazards</li> <li>5. Job, craft, and phases of construction</li> <li>6. Observation techniques</li> <li>7. Test equipment usage</li> <li>8. Proper tool and equipment selection</li> </ol>	<p style="text-align: center;"><b>Task Area 8: 11.1%</b></p> <p><b>Apply safety and health standards on job sites</b></p> <p><i>Knowledge Areas</i></p> <ol style="list-style-type: none"> <li>1. OSHA regulations</li> <li>2. Industry safety requirements</li> <li>3. Company safety rules and procedures</li> <li>4. Potential hazards</li> <li>5. Job, craft, and phases of construction</li> <li>6. Communication at all organizational levels</li> <li>7. Enforcement techniques</li> </ol>
<p style="text-align: center;"><b>Task Area 9: 9.7%</b></p> <p><b>Participate in job safety and health inspections</b></p> <p><i>Knowledge Areas</i></p> <ol style="list-style-type: none"> <li>1. OSHA regulations</li> <li>2. Industry safety requirements</li> <li>3. Company safety rules and procedures</li> <li>4. Potential hazards</li> <li>5. Job, craft, and phases of construction</li> <li>6. Observation techniques</li> <li>7. Reporting techniques</li> <li>8. Communication at all organizational levels</li> </ol>	<p style="text-align: center;"><b>Task Area 10: 9.3%</b></p> <p><b>Investigate accidents and/or incidents</b></p> <p><i>Knowledge Areas</i></p> <ol style="list-style-type: none"> <li>1. OSHA regulations</li> <li>2. Industry safety requirements</li> <li>3. Company safety rules and procedures</li> <li>4. Potential hazards</li> <li>5. Observation techniques</li> <li>6. Communication at all organizational levels</li> <li>7. Accident/incident investigation techniques</li> <li>8. Reporting techniques</li> </ol>

## CONCLUSIONS

1. The ten task areas in this blueprint were very similar to the eleven task areas in the previous blueprint. This indicates that the roles of STS-Construction certificate holders have not changed significantly since the initial blueprint was developed in 1995, and that this blueprint is an accurate representation of the tasks and knowledge required for certificate holders to adequately perform their functions.
2. Some of the validation survey respondents had levels of education and professional experience higher than the typical STS-Construction certificate holder. The validation data were also evaluated by removing these respondents, and there was no appreciable change in the ratings. Because of this consistency in ratings, the task and knowledge areas developed by the subject matter experts is an accurate representation of the tasks and knowledge required for STS-Construction certificate holders. The blueprint therefore provides a sound basis for the examination contents.
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.

# **APPENDIX A**

## **CASTLE WORLDWIDE ROLE DELINEATION STUDY**

(The appendices from the CASTLE Worldwide report have been omitted from this Appendix.)





**Council on Certification of Health, Environmental  
and Safety Technologists (CCHHEST)**

**Role Delineation Study  
Of  
Certified Safety Trained Supervisor in Construction (STS)**

**May 2002**

*Prepared by:*  
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## Introduction

On November 15, 2001 and November 29, 2001, a panel of eight experts assembled by the Council on Certification of Health, Environmental and Safety Technologists (CCHEST) held teleconferences with representatives from CASTLE Worldwide, Inc., to delineate the field of Certified Safety Trained Supervisor in Construction (STS-Construction).

The major function of the CCHEST credentialing program is to ensure competency and professionalism in the field of safety trained construction supervision. It provides assurance that the STS-Construction certificate holder has met specific criteria designed to ensure that he or she is competent in the provision of services.

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 adheres to these standards in developing examinations for credentialing programs, including the CCHEST STS-Construction certification program.

Before a content-valid examination is developed, the knowledge needed to be a competent practitioner 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 required to function as a competent practitioner in the field. A content-valid examination contains a representative sample of items that measure the knowledge contained in the practice being tested.

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

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

- I. Initial Development and Validation. The eight-member role delineation panel identified the tasks and knowledge essential to the performance of an STS-Construction.
- II. Validation Study. A representative sample of practitioners in the field of safety trained construction supervision 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 practitioners, the test specifications for the certification examination were developed.

## **PHASE I: INITIAL DEVELOPMENT AND EVALUATION**

The first step in analyzing the practice of the STS-Construction was the identification of the major content areas or tasks. This was followed by the identification of the knowledge associated with each task.

In 2001, CCHESST assembled an eight-member panel of subject matter experts in the safety trained construction supervision field to discuss the role of the STS-Construction. The panel members represented a variety of practice settings and geographic regions. The following steps were undertaken to complete Phase I:

- A. The panel determined that the practice could be divided into 10 major tasks. These tasks are:
  - 1. Conduct new employee safety and health orientation.
  - 2. Perform pre-task safety and health hazard analysis.
  - 3. Perform basic safety and health hazard recognition.
  - 4. Issue and monitor the use of personal protective equipment.
  - 5. Conduct safety and health meetings.
  - 6. Plan for safety and health hazard prevention.
  - 7. Inspect tools and equipment.
  - 8. Apply safety and health standards on job sites.
  - 9. Participate in job site safety and health inspections.
  - 10. Investigate accidents and/or incidents.
  
- B. Next, the panel subsequently generated a list of knowledge required to perform each task.
  
- C. The panel members then evaluated each performance task, rating each on importance and criticality to the STS-Construction and the frequency with which the activities associated with each task are performed.

Based on the work of the role delineation panel, an 8-page survey (see Appendix A) was developed and sent to practitioners in the field of safety trained construction supervision. The results of the survey are the focus of Phase II.

## PHASE II: VALIDATION STUDY

### Questionnaire Design and Distribution

Using the tasks identified by the role delineation panel, CASTLE developed an eight-page questionnaire to be completed by a nationwide sample of practitioners in the field of safety trained construction supervision. CASTLE distributed the questionnaire to 300 practitioners to evaluate, validate, and provide feedback on the role delineation panel's task list. The questionnaire also solicited biographical information from the respondents in order to ensure a representative response and completion by appropriately qualified individuals. Of the 300 questionnaires distributed, 106 (35.3%) usable responses were returned to CASTLE.

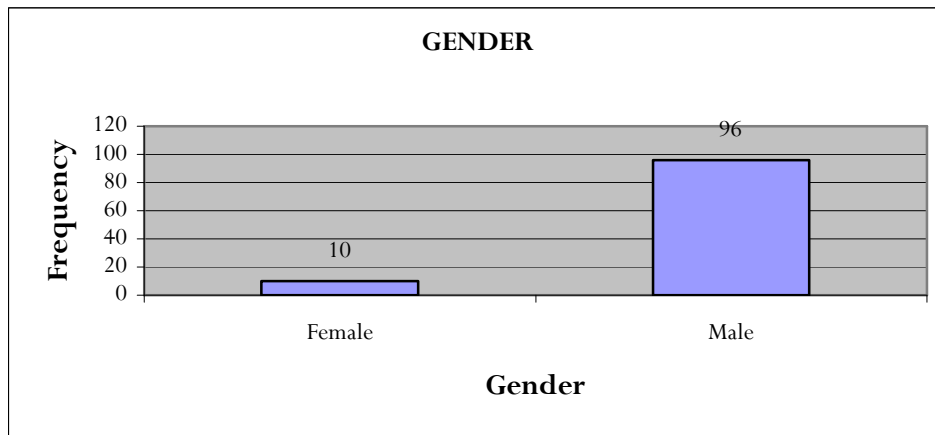
### Who Responded to the Survey?

As shown in the chart below, the majority of respondents (96, or 90.6%) are male, with 10 (9.4%) female. Most of the respondents (82 or 77.4%) were over the age of 40. Many (52 or 49.1%) have worked in the construction field for over 20 years. The majority of respondents (96 or 90.6%) had at least 50 hours of formal safety and health-related training. Because not all survey respondents answered every survey question, the total number of responses for each survey item may not equal the total number of surveys returned.

As reflected in the demographic data and graphs on the following pages, the survey respondents represent a diverse population from across the country.

### Figure 1. Breakdown of Respondents' Gender

The vast majority of the respondents were male with only 10 individuals, or 9.4% of the sample, reporting their gender as female.



## Figure 2. Breakdown of Respondents' Age

Three-fourths of the respondents were between 40 and 60 years old (75.5%). No individuals reported their age as less than 20 years old.

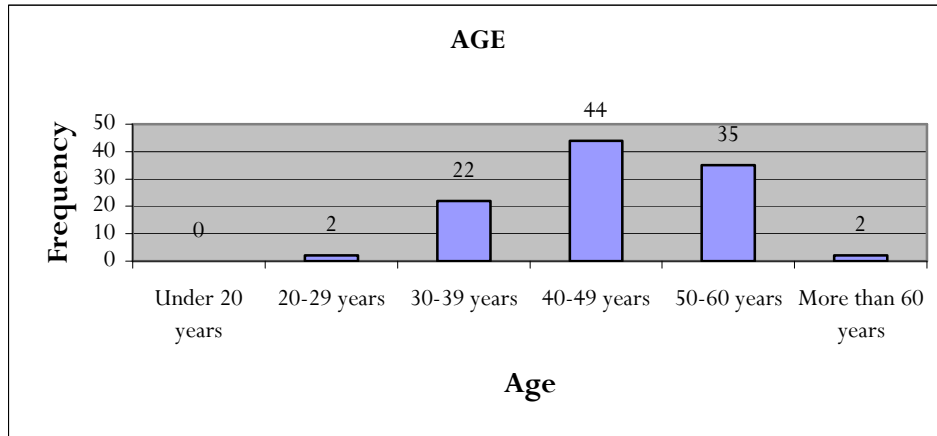
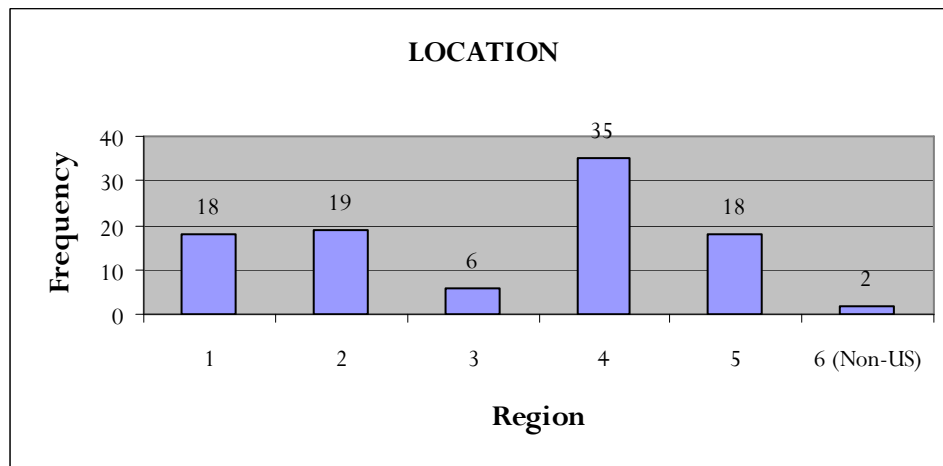
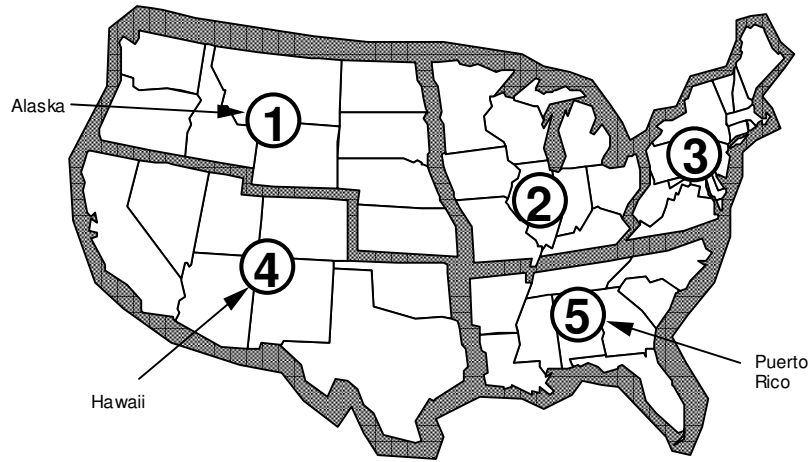
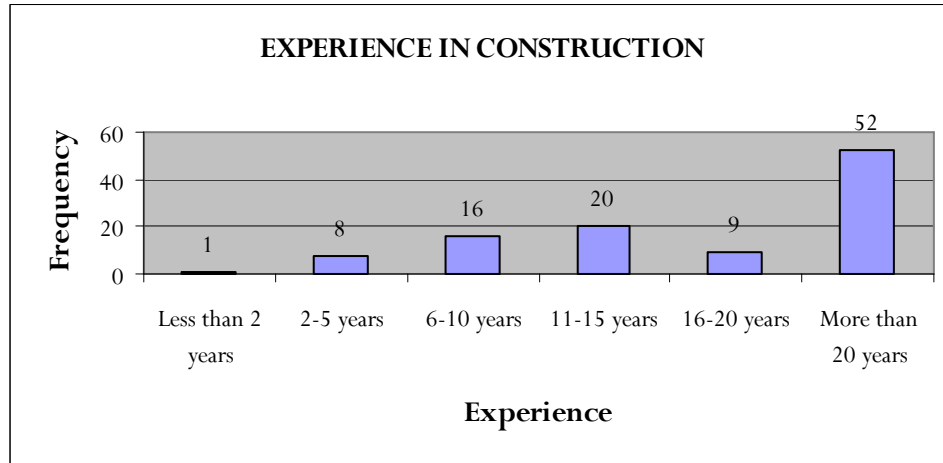


Figure 3. Breakdown of Respondents' Location



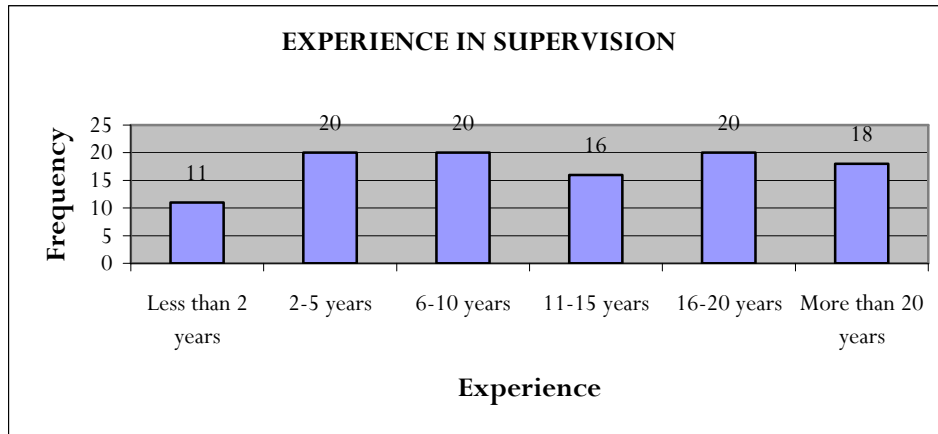
**Figure 4. How many years have you worked in construction?**

The largest percentage of respondents reported that they have worked in construction for more than 20 years. Only one respondent had less than two years of experience in construction.



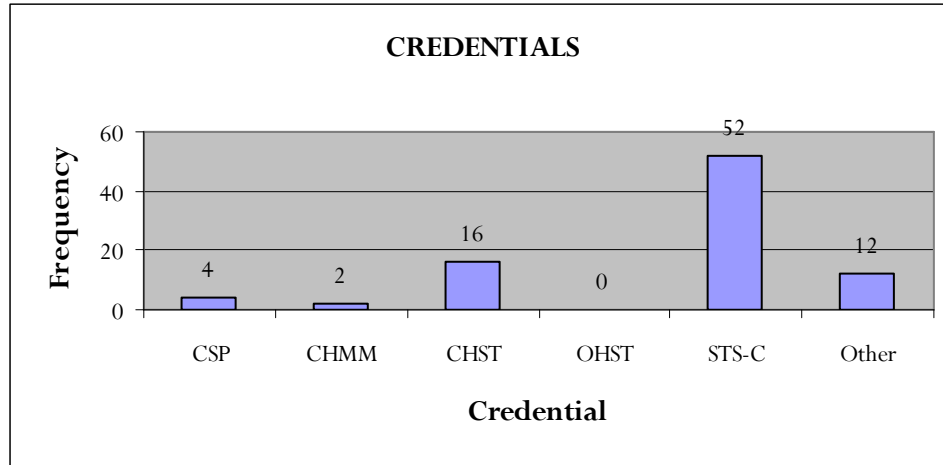
**Figure 5. How many years have you worked as a construction foreman, supervisor, superintendent, or crew chief?**

The respondents were varied in their level of experience as a construction foreman, supervisor, superintendent, or crew chief. One individual did not respond to this question.



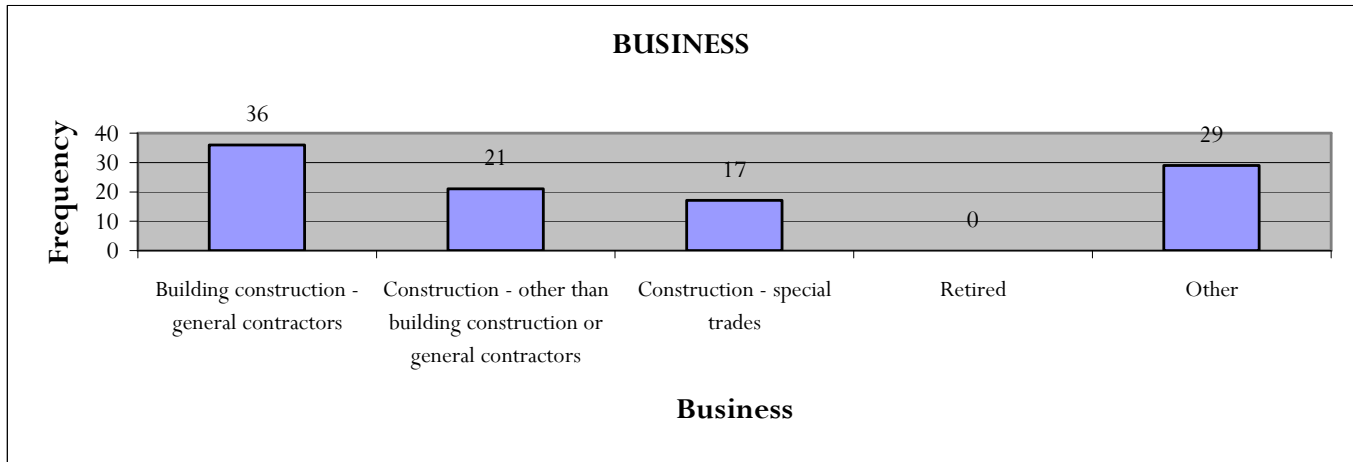
**Figure 6. Which of the following credentials do you hold?**

In this question, respondents were allowed to choose all credentials on the list that they held as well as write in any other credentials they had which were not on the list. Of the 64 individuals who checked the “Other” box, 41 wrote in that the credential they held was the STS (including one individual who responded “CCHEST STS” and one “STS CCHEST”). An additional eleven individuals wrote in STS-Construction or STS-C. Four individuals reported holding the PE credential. Examples of additional responses included in the “Other” category include: “ASP,” “CHSP,” “CSHM,” “OSHA #10,” “PG,” “SST,” “WSO-CSS.”



**Figure 7. Please select the *best* description for your employer’s business from the list below.**

A majority of the respondents indicated their employer’s business fell in the “Building construction- general contractors” category. No respondents indicated they were retired. Examples of responses in the “Other” category include: “all construction areas and environmental,” “engineering & construction” (mentioned three times), “environmental characterization & remediation,” “oil field,” “petro chemical,” and “safety and health services.”



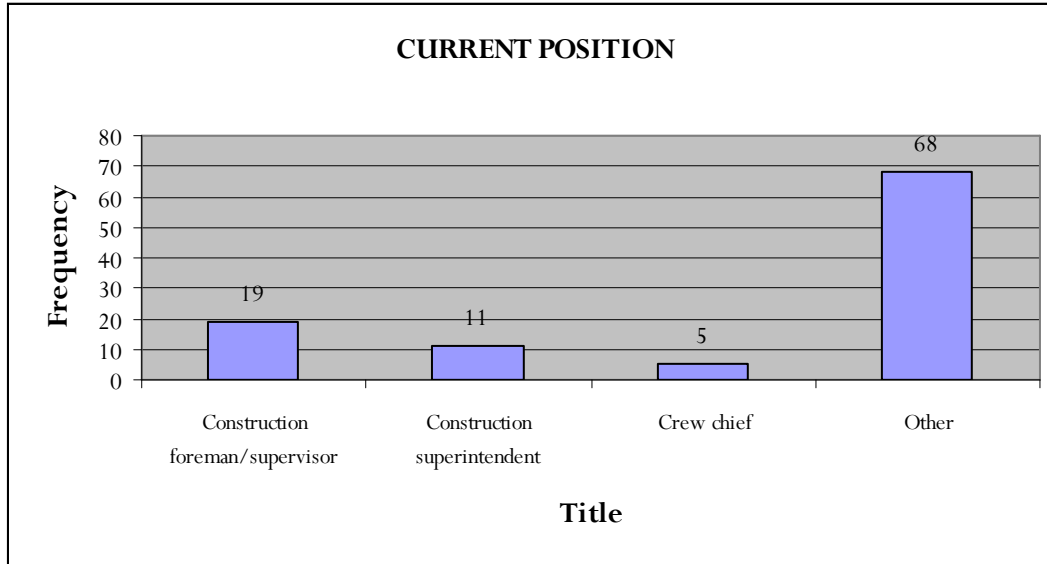
**Figure 8. How many employees are at your current job site?**

The majority (77.1%) of respondents indicated that there were more than 25 employees at their current job site. Only 5.7% of respondents indicated that there were five or fewer employees at their current job site.



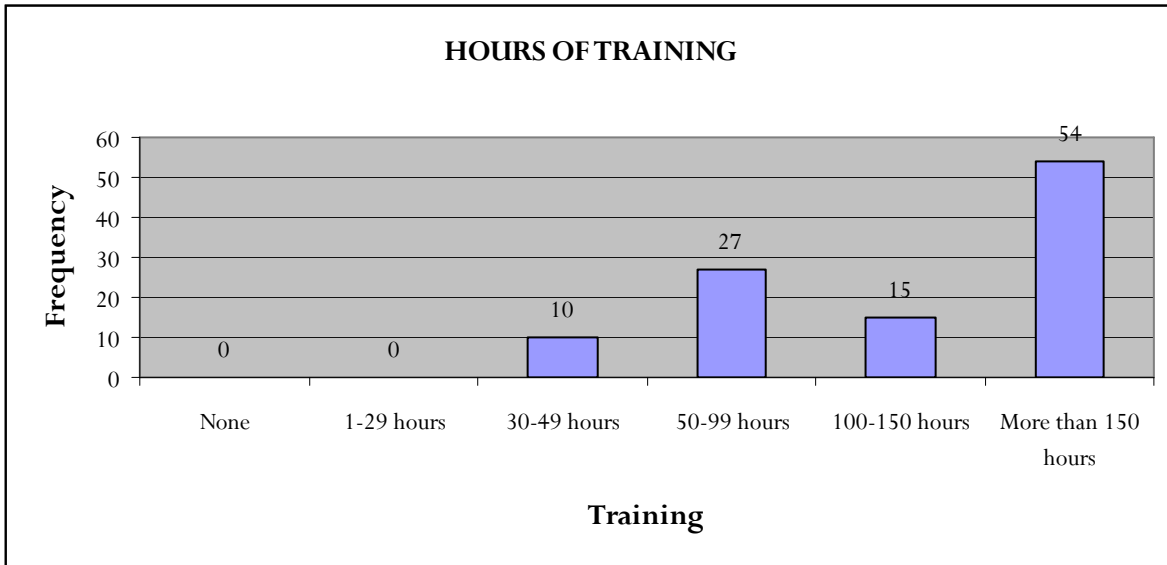
**Figure 9. How would you describe your position?**

Of the response options provided, “Construction foreman/supervisor” was the most frequently chosen. Nineteen individuals who chose “Other” provided their job description as “Project manager.” Other responses that were provided multiple times were: “Construction manager,” “Engineer,” “Environmental safety & health manager,” “Field engineer,” “Safety,” “Safety manager,” “Safety officer,” and “Safety supervisor.” Examples of additional responses in the “Other” category include: “Estimation,” “Lead electrician,” “Manager,” “project geologist/supervisor,” “safety advisor,” and “Waste management specialist.”



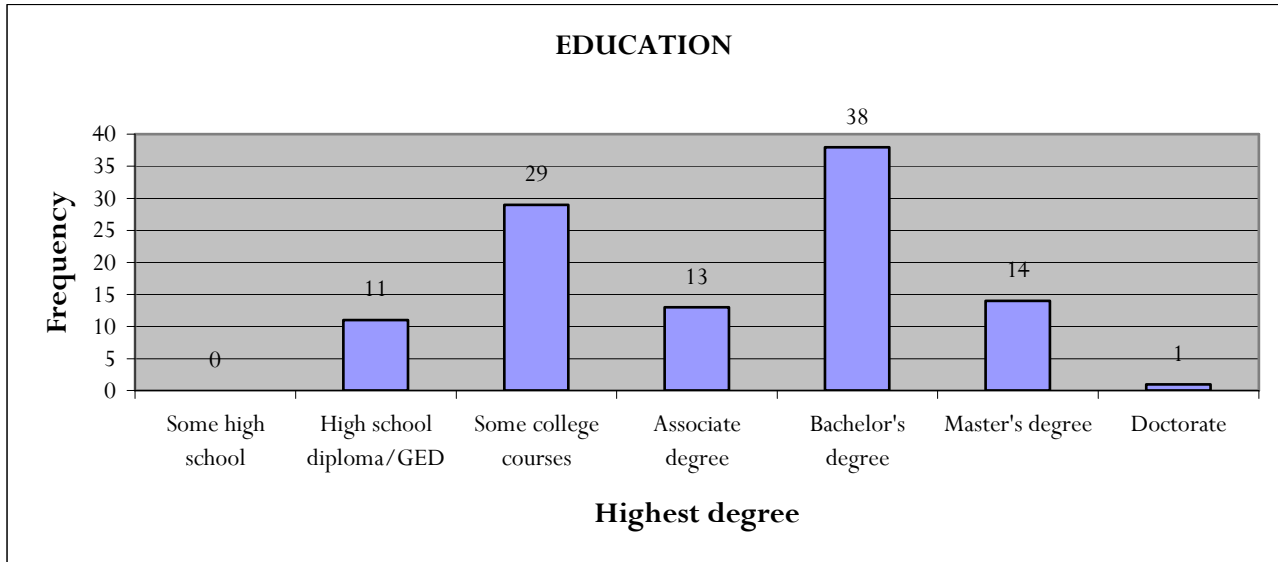
**Figure 10. How many hours of formal safety and health-related training have you received, excluding formal academic coursework?**

Just over half of the respondents indicated that they had more than 150 hours of formal safety and health-related training outside of academic coursework. No survey respondent indicated having fewer than 30 hours of formal training.



**Figure 11. What is your *highest* level of education?**

A bachelor's degree was the most frequently chosen response to this question. All respondents had at least a high school diploma/GED or higher.



## EVALUATION OF TASKS

The tasks to be evaluated include:

1. Conduct new employee safety and health orientation.
2. Perform pre-task safety and health hazard analysis.
3. Perform basic safety and health hazard recognition.
4. Issue and monitor the use of personal protective equipment.
5. Conduct safety and health meetings.
6. Plan for safety and health hazard prevention.
7. Inspect tools and equipment.
8. Apply safety and health standards on job sites.
9. Participate in job site safety and health inspections.
10. Investigate accidents and/or incidents.

**Survey Respondents' Evaluations.** The survey respondents were asked to evaluate each performance task, rating each on importance, criticality, and frequency. A 5-point scale was used for each of the ratings, with a "5" representing the highest rating. The scale anchors for importance, criticality, and frequency are listed below as a reference.

### *Importance Ratings*

- 1 = ***Not Important.*** Performance of this task is not essential to the job of the minimally competent STS-Construction.
- 2 = ***Somewhat Important.*** Performance of this task is minimally essential to the job of the minimally competent STS-Construction.
- 3 = ***Important.*** Performance of this task is moderately essential to the job of the minimally competent STS-Construction.
- 4 = ***Very Important.*** Performance of this task is clearly essential to the job of the minimally competent STS-Construction.
- 5 = ***Extremely Important.*** Performance of this task is absolutely essential to the job of the minimally STS-Construction.

As depicted in the following charts, survey respondents indicated that Task 8 was the most important of the ten tasks. Task 2 was considered the second-most important, followed by Task 6.

Task	IMPORTANCE			
	Sample Size (N)	Mean	Standard Error of Mean	Standard Deviation
Task 1	106	4.08	.0982	1.011
Task 2	106	4.45	.0685	.706
Task 3	105	4.27	.0769	.788
Task 4	105	3.84	.0919	.942
Task 5	105	3.80	.0860	.881
Task 6	105	4.41	.0686	.703
Task 7	105	3.78	.0985	1.009
Task 8	105	4.51	.0622	.637
Task 9	105	4.06	.0906	.928
Task 10	105	4.04	.0994	1.018

*Criticality Ratings*

1. **No Harm.** Inability to perform this task would have no adverse consequences.
2. **Minimal Harm.** Inability to perform this task would lead to error with minimal adverse consequences.
3. **Moderate Harm.** Inability to perform this task would lead to error with moderate adverse consequences.
4. **Significant Harm.** Inability to perform this task would lead to error with major adverse consequences.
5. **Extreme Harm.** Inability to perform this task would definitely lead to error with severe consequences.

The respondents considered Task 8 to be the most critical of the ten tasks, followed by Task 2 and Task 6.

Task	CRITICALITY			
	Sample Size (N)	Mean	Standard Error of Mean	Standard Deviation
Task 1	106	3.89	.0902	.929
Task 2	106	4.25	.0707	.728
Task 3	106	4.17	.0787	.810
Task 4	106	3.94	.0814	.838
Task 5	106	3.47	.0931	.958
Task 6	106	4.24	.0799	.823
Task 7	106	3.97	.0873	.899
Task 8	106	4.31	.0648	.667
Task 9	106	3.70	.0817	.841
Task 10	106	3.61	.1052	1.083

*Frequency Ratings*

- 1 = *Never*. Performance of this task occurs in 0% of the sessions.
- 2 = *Rarely*. Performance of this task occurs in 1-25% of the sessions.
- 3 = *Infrequently*. Performance of this task occurs in 26-50% of the sessions.
- 4 = *Frequently*. Performance of this task occurs in 51-75% of the sessions.
- 5 = *Repetitively*. Performance of this task occurs in 76-100% of the sessions.

The respondents felt task 8 was performed the most often. Task 3 was rated as the second most frequently performed task, followed by Task 6. No task was rated as being performed rarely or never.

Task	FREQUENCY			
	Sample Size (N)	Mean	Standard Error of Mean	Standard Deviation
Task 1	105	3.44	.1210	1.240
Task 2	105	4.06	.0965	.989
Task 3	105	4.34	.0854	.875
Task 4	105	3.67	.1113	1.141
Task 5	105	3.90	.0990	1.015
Task 6	105	4.12	.0831	.851
Task 7	105	3.82	.0983	1.007
Task 8	105	4.46	.0716	.734
Task 9	105	3.84	.0977	1.001
Task 10	105	3.48	.1327	1.359

**Panel Members’ Evaluation Vs. Respondents’ Evaluations.** The evaluations of tasks by the panel members were compared to the evaluations by the survey respondents to ensure that the results were similar. As depicted in the graph below, both groups rated the importance of the tasks similarly. While there were minor variations between the two groups, both the panel and the respondents rated every task as at least 3.33 on the 5-point rating scale.

Task	IMPORTANCE		
	Survey	Panel	Difference
Task 1	4.08	3.33	0.75
Task 2	4.45	4.00	0.45
Task 3	4.27	4.50	-0.23
Task 4	3.84	3.67	0.17
Task 5	3.80	3.50	0.30
Task 6	4.41	3.83	0.58
Task 7	3.78	3.50	0.28
Task 8	4.51	4.00	0.51
Task 9	4.06	3.50	0.56
Task 10	4.04	3.67	0.37

The criticality ratings for both the survey respondents and the panelists are provided below. The two groups differed in their criticality ratings for some tasks. However, most of the tasks are rated similarly and although Task 5 had the largest difference in ratings, both groups agreed that this task was the least critical.

Task	CRITICALITY		
	Survey	Panel	Difference
Task 1	3.89	3.17	0.72
Task 2	4.25	3.67	0.58
Task 3	4.17	4.33	-0.16
Task 4	3.94	4.00	-0.06
Task 5	3.47	2.33	1.14
Task 6	4.24	3.17	1.07
Task 7	3.97	3.50	0.47
Task 8	4.31	3.83	0.48
Task 9	3.70	2.83	0.87
Task 10	3.61	2.50	1.11

The frequency ratings for both the survey respondents and panelists are provided below. However, no firm comparisons can be made across the two groups and different scales were used to provide ratings. Panelists were asked to estimate the percent of time spent performing duties or using the principles associated with each task. The survey respondents used the scale previously described on page 18. However, one can discern similar trends in the ratings of the two groups. The tasks that were given the highest ratings by survey respondents as tasks that were performed in more of the sessions were also rated by panelists as tasks that took up the greatest percentage of their time.

Task	FREQUENCY	
	Survey	Panel
Task 1	3.44	8.92
Task 2	4.06	11.75
Task 3	4.34	17.50
Task 4	3.67	6.92
Task 5	3.90	6.58
Task 6	4.12	12.08
Task 7	3.82	7.50
Task 8	4.46	15.42
Task 9	3.84	8.25
Task 10	3.48	5.08

**Survey Respondent Subgroups’ Evaluations.** When using a survey to collect information regarding a practice, the possibility that individuals in various settings may have differing views of the practice is to be expected. Finding differences in 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, years in construction, position, formal training and education level. These comparisons found that the responses of the various subgroups do not vary significantly.

In particular, to verify that formal training and education level did not cause participants to hold differing views of the practice, individuals who held advanced degrees and/or who had completed more than 100 hours of formal training were separated from the data set and formed a new subset. The remaining individuals, who held a bachelor’s degree or below and/or who had completed less than 100 hours of formal training, also formed a new subset. The two subsets were compared with the complete data set, and no significant differences were discovered between each subset and the complete data set.

The following charts reflect the similarities in responses of the specific subgroups of respondents. Only minor variations occur between the responses. The similarity in the ratings provides support for generalizing from the survey results to the general population of safety trained construction supervisors.

**GENDER**

Task	IMPORTANCE	
	Female	Male
Task 1	4.20	4.06
Task 2	4.60	4.44
Task 3	4.60	4.23
Task 4	3.80	3.84
Task 5	4.20	3.76
Task 6	4.60	4.39
Task 7	4.10	3.75
Task 8	4.60	4.51
Task 9	4.20	4.04
Task 10	3.80	4.06

**GENDER, continued**

Task	CRITICALITY	
	Female	Male
Task 1	4.30	3.84
Task 2	4.60	4.21
Task 3	4.30	4.16
Task 4	4.40	3.90
Task 5	3.70	3.45
Task 6	4.40	4.22
Task 7	4.30	3.94
Task 8	4.40	4.30
Task 9	3.90	3.68
Task 10	3.50	3.63

Task	FREQUENCY	
	Female	Male
Task 1	3.80	3.40
Task 2	3.70	4.09
Task 3	4.60	4.32
Task 4	3.20	3.72
Task 5	3.70	3.93
Task 6	4.30	4.11
Task 7	3.90	3.81
Task 8	4.80	4.42
Task 9	4.30	3.79
Task 10	3.30	3.49

### YEARS IN CONSTRUCTION

Due to the fact that there was only one respondent who had worked in construction for less than 2 years, this category is not included in the tables below.

Task	IMPORTANCE				
	2-5 years	6-10 years	11-15 years	16-20 years	More than 20 years
Task 1	3.63	4.50	3.90	3.67	4.21
Task 2	3.88	4.38	4.65	4.44	4.50
Task 3	4.13	4.19	4.30	4.33	4.31
Task 4	3.50	3.94	4.05	3.11	3.94
Task 5	3.25	4.31	3.55	3.89	3.86
Task 6	3.88	4.50	4.35	4.44	4.49
Task 7	3.13	3.56	3.80	3.67	4.00
Task 8	4.38	4.56	4.35	4.89	4.51
Task 9	3.63	4.38	3.60	3.78	4.24
Task 10	3.75	4.31	3.70	4.00	4.20

Task	CRITICALITY				
	2-5 years	6-10 years	11-15 years	16-20 years	More than 20 years
Task 1	3.38	4.13	3.75	3.89	3.98
Task 2	4.13	4.25	4.35	4.33	4.21
Task 3	3.88	4.25	4.00	4.11	4.27
Task 4	4.00	4.06	4.10	3.56	3.92
Task 5	2.75	3.31	3.50	3.56	3.63
Task 6	3.38	4.31	4.00	4.56	4.38
Task 7	3.63	4.06	3.90	3.89	4.08
Task 8	4.25	4.19	4.25	4.44	4.35
Task 9	3.25	3.94	3.35	3.78	3.79
Task 10	3.38	3.56	3.30	3.67	3.83

**YEARS IN CONSTRUCTION, continued**

Task	FREQUENCY				
	2-5 years	6-10 years	11-15 years	16-20 years	More than 20 years
Task 1	3.50	3.56	3.00	2.78	3.71
Task 2	4.13	3.88	4.26	3.78	4.08
Task 3	4.63	4.38	4.47	4.56	4.21
Task 4	3.88	3.75	3.89	3.11	3.65
Task 5	3.75	4.00	4.00	3.44	3.98
Task 6	3.50	4.06	4.53	4.33	4.06
Task 7	3.63	3.69	3.68	4.00	3.92
Task 8	4.25	4.44	4.58	4.67	4.42
Task 9	3.75	3.88	3.84	3.78	3.85
Task 10	4.00	3.63	3.05	2.67	3.67

**POSITION**

Task	IMPORTANCE			
	Construction foreman/supervisor	Construction superintendent	Crew chief	Other
Task 1	4.21	4.00	4.40	4.00
Task 2	4.53	4.36	4.40	4.44
Task 3	4.33	4.09	4.60	4.25
Task 4	3.72	4.09	4.40	3.75
Task 5	4.00	3.73	4.20	3.71
Task 6	4.50	4.36	3.80	4.43
Task 7	3.94	3.73	3.20	3.76
Task 8	4.50	4.45	4.60	4.51
Task 9	3.94	3.82	4.40	4.06
Task 10	4.17	4.18	3.60	3.97

Task	CRITICALITY			
	Construction foreman/supervisor	Construction superintendent	Crew chief	Other
Task 1	3.95	4.09	4.20	3.79
Task 2	4.32	4.27	4.00	4.24
Task 3	4.21	4.09	4.20	4.19
Task 4	3.95	4.00	4.60	3.88
Task 5	3.58	3.64	4.20	3.35
Task 6	4.26	4.45	4.00	4.19
Task 7	4.26	3.91	4.00	3.90
Task 8	4.42	4.36	4.60	4.25
Task 9	3.68	3.82	4.00	3.65
Task 10	3.63	4.09	3.80	3.50

POSITION, continued

Task	FREQUENCY			
	Construction foreman/supervisor	Construction superintendent	Crew chief	Other
Task 1	3.21	3.80	4.60	3.29
Task 2	4.21	4.30	4.20	3.97
Task 3	4.47	4.40	4.40	4.31
Task 4	3.37	3.80	4.60	3.63
Task 5	3.63	4.00	4.40	3.91
Task 6	4.00	4.30	4.20	4.15
Task 7	4.00	3.80	4.40	3.76
Task 8	4.26	4.70	4.20	4.51
Task 9	3.84	4.20	4.00	3.75
Task 10	3.47	3.90	3.40	3.40

**FORMAL TRAINING**

Task	IMPORTANCE			
	30-49 hours	50-99 hours	100-150 hours	More than 150 hours
Task 1	4.00	4.22	4.07	4.02
Task 2	4.40	4.48	4.33	4.48
Task 3	4.20	4.22	4.20	4.32
Task 4	4.00	3.89	3.87	3.77
Task 5	3.80	3.81	3.87	3.77
Task 6	4.40	4.33	4.53	4.42
Task 7	3.70	3.81	3.60	3.83
Task 8	4.30	4.56	4.80	4.45
Task 9	4.10	4.11	3.87	4.08
Task 10	4.00	4.22	3.87	4.00

Task	CRITICALITY			
	30-49 hours	50-99 hours	100-150 hours	More than 150 hours
Task 1	3.50	4.00	3.80	3.93
Task 2	4.20	4.26	4.27	4.24
Task 3	3.90	4.11	4.13	4.26
Task 4	3.80	4.00	4.07	3.91
Task 5	3.40	3.30	3.73	3.50
Task 6	4.10	4.19	4.40	4.24
Task 7	3.60	4.04	3.80	4.06
Task 8	4.10	4.37	4.20	4.35
Task 9	3.70	3.93	3.60	3.61
Task 10	3.30	3.70	3.53	3.65

**FORMAL TRAINING, continued**

Task	FREQUENCY			
	30-49 hours	50-99 hours	100-150 hours	More than 150 hours
Task 1	4.00	3.67	3.33	3.25
Task 2	3.90	4.07	4.00	4.09
Task 3	4.30	4.30	4.53	4.32
Task 4	3.80	3.85	3.60	3.57
Task 5	4.10	3.96	3.73	3.89
Task 6	3.90	4.07	4.13	4.19
Task 7	3.40	3.96	3.53	3.91
Task 8	4.30	4.37	4.40	4.55
Task 9	3.90	3.96	3.40	3.89
Task 10	3.50	3.85	2.80	3.47

## EDUCATION LEVEL

Task	IMPORTANCE				
	High School Diploma	Some College Courses	Associate Degree	Bachelor Degree	Master's/ Doctorate Degree
Task 1	3.91	4.55	4.15	3.89	3.67
Task 2	4.73	4.55	4.46	4.34	4.33
Task 3	4.18	4.38	4.31	4.00	3.87
Task 4	4.00	4.14	3.92	3.32	3.53
Task 5	3.91	3.93	4.00	3.42	3.40
Task 6	4.45	4.48	4.46	4.00	4.33
Task 7	4.18	3.76	3.85	3.42	3.53
Task 8	4.73	4.52	4.31	4.16	4.53
Task 9	4.18	4.10	4.54	3.63	3.67
Task 10	4.36	4.38	3.92	3.50	3.73

Task	CRITICALITY				
	High School Diploma	Associate Degree	Bachelor Degree	Some Graduate School	Master's/ Doctorate Degree
Task 1	4.00	4.24	4.08	3.74	3.33
Task 2	4.55	4.17	4.46	4.24	4.00
Task 3	4.45	4.07	4.23	4.21	4.00
Task 4	4.18	4.17	3.77	3.84	3.73
Task 5	3.55	3.72	3.77	3.32	3.07
Task 6	4.64	4.24	4.46	4.08	4.13
Task 7	4.27	3.93	4.31	3.89	3.73
Task 8	4.55	4.38	4.38	4.24	4.13
Task 9	3.82	3.93	3.77	3.58	3.40
Task 10	4.00	4.07	3.62	3.13	3.67

**EDUCATION LEVEL, continued**

<b>Task</b>	<b>FREQUENCY</b>				
	<b>High School Diploma</b>	<b>Associate Degree</b>	<b>Bachelor Degree</b>	<b>Some Graduate School</b>	<b>Master's/ Doctorate Degree</b>
<b>Task 1</b>	4.09	3.86	2.46	3.16	2.87
<b>Task 2</b>	4.36	4.31	3.00	3.84	3.93
<b>Task 3</b>	4.27	4.24	3.46	4.45	4.20
<b>Task 4</b>	3.91	3.90	2.54	3.45	3.73
<b>Task 5</b>	4.09	4.10	2.54	3.87	3.80
<b>Task 6</b>	4.36	3.93	3.00	4.24	4.13
<b>Task 7</b>	3.73	3.97	3.08	3.79	3.47
<b>Task 8</b>	4.73	4.31	3.31	4.55	4.40
<b>Task 9</b>	4.00	3.79	3.31	3.79	3.53
<b>Task 10</b>	3.82	4.03	1.92	3.21	3.33

## RELIABILITY ANALYSIS

The reliability of the scales was assessed in order to determine how well the tasks consistently measured the domain 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 registered 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 task. It is important to understand the consistency of the data along these dimensions in order to draw defensible conclusions. Reliability was measured by internal consistency (Cronbach's Alpha) using the respondent's ratings of Importance, Criticality, and Frequency for each task. 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, this critical value is easily exceeded.

RELIABILITY		
Importance	Criticality	Frequency
.9387	.8495	.9650

## SUMMARY OF RESULTS

As shown in the charts on the preceding pages, the survey respondents indicated that all tasks are important. Each of the ten tasks has an average importance of at least 3.8 on the 5-point rating scale, with 3 being Important, 4 being Very Important and 5 being Extremely Important.

Similarly, the respondents considered all the tasks to be critical. Each of the ten tasks has an average criticality rating of at least 3.4 on the 5-point scale, which means that incompetent performance of tasks could result in Moderate to Extreme harm to the client, the STS-Construction, the public, etc.

The survey respondents indicated they spend a similar amount of time performing duties in most of the tasks. However, the ratings ranged from 3.4 to 4.7 with a 3 indicating a task performed infrequently, or in 26-50% of the sessions and a 5 indicating a task performed frequently, or in 76-100% of sessions.

Several of the tasks were ranked similarly in regards to importance, criticality, and frequency. For example, Task 8 was reported to be the most critical, important, and frequently performed task and Task 6 was ranked third across all dimensions. However, other tasks were not ranked similarly. For example, while respondents considered Task 5 to be the least critical and the next to least important, it ranked much higher in terms of frequency. This finding suggests that the frequency with which an STS-Construction performs a task does not necessarily correlate with that task's importance or criticality. In other words, a task that is not performed very frequently may still be considered very important and/or critical and vice versa. These outcomes affect the weight that is assigned to that task in the examination blueprint.

## CONCLUSION

The results of the survey validate the results of the role delineation panel. This conclusion means that the tasks and knowledge developed by the role delineation panel constitute an accurate definition of the work of an STS-Construction. Based on a psychometric analysis of the tasks and knowledge identified by the role delineation study, competence in safety trained construction supervision 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 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 questions related to each task that should appear on the multiple-choice format examination.

Task	TEST BLUEPRINT	
	% of Test	# of Items on Test
Task 1	9.51%	7
Task 2	10.64%	8
Task 3	10.66%	8
Task 4	9.55%	7
Task 5	9.31%	7
Task 6	10.65%	8
Task 7	9.65%	7
Task 8	11.07%	9
Task 9	9.67%	7
Task 10	9.28%	7
<b>TOTAL</b>	<b>99.99%</b>	<b>75</b>

## TASKS AND KNOWLEDGE STATEMENTS

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

### Task 1

Task 1: Conduct new employee safety and health orientation.

Evaluation and Allocation of Questions for Multiple-Choice Examination.

Task	RATINGS				
	Importance	Criticality	Frequency	% of Items on Test	# of Items on Test
1	4.08	3.89	3.44	9.51	7

*Knowledge of:*

1. OSHA regulations
2. Industry safety requirements
3. Company safety rules and procedures
4. Potential hazards
5. Communication at all organizational levels

### Task 2

Task 2: Perform pre-task safety and health hazard analysis.

Evaluation and Allocation of Questions for Multiple-Choice Examination.

Task	RATINGS				
	Importance	Criticality	Frequency	% of Items on Test	# of Items on Test
2	4.45	4.25	4.06	10.64	8

*Knowledge of:*

1. OSHA regulations
2. Industry safety requirements
3. Company safety rules and procedures
4. Potential hazards
5. Job, craft, and phases of construction
6. Observation techniques

### Task 3

Task 3: Perform basic safety and health hazard recognition.

Evaluation and Allocation of Questions for Multiple-Choice Examination.

Task	RATINGS				
	Importance	Criticality	Frequency	% of Items on Test	# of Items on Test
3	4.27	4.17	4.34	10.66%	8

Knowledge of:

1. OSHA regulations
2. Industry safety requirements
3. Company safety rules and procedures
4. Potential hazards
5. Job, craft, and phases of construction
6. Observation techniques
7. Communication at all organizational levels

### Task 4

Task 4: Issue and monitor the use of personal protective equipment.

Evaluation and Allocation of Questions for Multiple-Choice Examination.

Task	RATINGS				
	Importance	Criticality	Frequency	% of Items on Test	# of Items on Test
4	3.84	3.94	3.67	9.55%	7

Knowledge of:

1. OSHA regulations
2. Industry safety requirements
3. Company safety rules and procedures
4. Potential hazards
5. Job, craft, and phases of construction
6. Observation techniques
7. Communication at all organizational levels

### Task 5

Task 5: Conduct safety and health meetings.

Evaluation and Allocation of Questions for Multiple-Choice Examination.

Task	RATINGS				
	Importance	Criticality	Frequency	% of Items on Test	# of Items on Test
5	3.80	3.47	3.90	9.31%	7

Knowledge of:

1. OSHA regulations
2. Industry safety requirements
3. Company safety rules and procedures
4. Potential hazards
5. Job, craft, and phases of construction
6. Communication at all organizational levels
7. Training methods

### Task 6

Task 6: Plan for safety and health hazard prevention.

Evaluation and Allocation of Questions for Multiple-Choice Examination.

Task	RATINGS				
	Importance	Criticality	Frequency	% of Items on Test	# of Items on Test
6	4.41	3.97	4.12	10.65%	8

Knowledge of:

1. OSHA regulations
2. Industry safety requirements
3. Company safety rules and procedures
4. Potential hazards
5. Job, craft, and phases of construction
6. Communication at all organizational levels
7. Job hazard analysis

### Task 7

Task 7: Inspect tools and equipment.

Evaluation and Allocation of Questions for Multiple-Choice Examination.

Task	RATINGS				
	Importance	Criticality	Frequency	% of Items on Test	# of Items on Test
7	3.78	4.31	3.82	9.65%	7

Knowledge of:

1. OSHA regulations
2. Industry safety requirements
3. Company safety rules and procedures
4. Potential hazards
5. Job, craft, and phases of construction
6. Observation techniques
7. Test equipment usage
8. Proper tool and equipment selection

### Task 8

Task 8: Apply safety and health standards on job sites.

Evaluation and Allocation of Questions for Multiple-Choice Examination.

Task	RATINGS				
	Importance	Criticality	Frequency	% of Items on Test	# of Items on Test
8	4.51	4.31	4.46	11.07%	9

Knowledge of:

1. OSHA regulations
2. Industry safety requirements
3. Company safety rules and procedures
4. Potential hazards
5. Job, craft, and phases of construction
6. Observation techniques
7. Communication at all organizational levels
8. Enforcement techniques

### Task 9

Task 9: Participate in job site safety and health inspections.

Evaluation and Allocation of Questions for Multiple-Choice Examination.

Task	RATINGS				
	Importance	Criticality	Frequency	% of Items on Test	# of Items on Test
9	4.06	3.70	3.84	9.67%	7

Knowledge of:

1. OSHA regulations
2. Industry safety requirements
3. Company safety rules and procedures
4. Potential hazards
5. Job, craft, and phases of construction
6. Observation techniques
7. Reporting techniques
8. Communication at all organizational levels

### Task 10

Task 10: Investigate accidents and/or incidents.

Evaluation and Allocation of Questions for Multiple-Choice Examination.

Task	RATINGS				
	Importance	Criticality	Frequency	% of Items on Test	# of Items on Test
10	4.04	3.61	3.48	9.28%	7

Knowledge of:

1. OSHA regulations
2. Industry safety requirements
3. Company safety rules and procedures
4. Potential hazards
5. Observation techniques
6. Communication at all organizational levels
7. Accident/incident investigation techniques
8. Reporting requirement techniques

# **APPENDIX B**

## **ROLE DELINEATION STUDY PARTICIPANTS**

## ROLE DELINEATION STUDY PARTICIPANTS

Alfred Keiss  
Penns Park, PA

Odean Slaton  
Austin, TX

Delmar Tally  
Austin, TX

David Ritchie  
Bastrop, TX

Pat Conroy  
Honolulu, HI

Tom Ryan  
Auburn, ME

Phalen Frey  
Dallas, TX

Roger Brauer  
Savoy, IL

# **APPENDIX C**

## **PHASE 2 VALIDATION SURVEY**



**Instructions for Completing the  
Council on Certification of Health, Environmental,  
and Safety Technologists (CCHEST)  
Role Delineation Survey for the  
Safety Trained Supervisor in Construction (STS-Construction)**

This booklet contains the Council on Certification of Health, Environmental, and Safety Technologists (CCHEST) Safety Trained Supervisor in Construction (STS-Construction) Role Delineation Survey, 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 practitioners 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 *Task Statements* required for competent performance, and then rate each task statement 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. We will collect all of the surveys and use your responses to help determine the blueprint for the CCHEST STS-Construction Examination. Please return your completed survey by **May 8, 2002**, in the enclosed, self-addressed, stamped envelope to:

**CASTLE Worldwide, Inc.  
c/o Columbia Assessment Services, Inc.  
Post Office Box 14148  
Research Triangle Park, North Carolina 27709-4148**

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 practitioners 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. No individual person or firm, or the particular data of either, will be identifiable in any report generated using information obtained through this survey.*

Please check the appropriate boxes, or print your responses.

1. Gender: *(Check only one.)*

Female

Male

2. Age: *(Check only one.)*

Under 20 years

30-39 years

50-60 years

20-29 years

40-49 years

More than 60 years

3. In which state/province do you live?

---

4. How many years have you worked in construction? *(Check only one.)*

Less than 2 years

6-10 years

16-20 years

2-5 years

11-15 years

More than 20 years

5. How many years have you worked as a construction foreman, supervisor, superintendent, or crew chief? *(Check only one.)*

Less than 2 years

6-10 years

16-20 years

2-5 years

11-15 years

More than 20 years

6. Which of the following credentials do you hold? *(Select all that apply.)*

CSP

CHST

Other *(Please specify.)*

CHMM

OHST

\_\_\_\_\_

7. Please select the **best** description for your employer's business from the list below. (*Check only one.*)

- |   |   |
|---|---|
| <input type="checkbox"/> Building construction—general contractors                            | <input type="checkbox"/> Retired                                |
| <input type="checkbox"/> Construction—other than building construction or general contractors | <input type="checkbox"/> Other ( <i>Please specify.</i> ) _____ |
| <input type="checkbox"/> Construction—special trades  |   |

8. How many employees are at your current jobsite? (*Check only one.*)

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> 0-5 employees  | <input type="checkbox"/> 11-15 employees | <input type="checkbox"/> 21-25 employees        |
| <input type="checkbox"/> 6-10 employees | <input type="checkbox"/> 16-20 employees | <input type="checkbox"/> More than 25 employees |

9. How would you describe your position? (*Check only one.*)

- |  |   |
|--|---|
| <input type="checkbox"/> Construction foreman/supervisor | <input type="checkbox"/> Crew chief                             |
| <input type="checkbox"/> Construction superintendent     | <input type="checkbox"/> Other ( <i>Please specify.</i> ) _____ |

10. How many hours of formal safety and health-related training have you received, excluding formal academic coursework? (*Check only one.*)

- |                                     |                                      |  |
|-------------------------------------|--------------------------------------|--|
| <input type="checkbox"/> None       | <input type="checkbox"/> 30-49 hours | <input type="checkbox"/> 100-150 hours       |
| <input type="checkbox"/> 1-29 hours | <input type="checkbox"/> 50-99 hours | <input type="checkbox"/> More than 150 hours |

11. What is your **highest** level of education? (*Check only one.*)

- |  |  |
|--|--|
| <input type="checkbox"/> Some high school        | <input type="checkbox"/> Bachelor's Degree |
| <input type="checkbox"/> High school diploma/GED | <input type="checkbox"/> Master's Degree   |
| <input type="checkbox"/> Some college courses    | <input type="checkbox"/> Doctorate         |
| <input type="checkbox"/> Associate Degree        |  |

## Section B

### Definition of Terms

Below are definitions of the terms found in this Role Delineation Survey.

***Safety Trained Supervisor in Construction (STS-Construction):*** A Safety Trained Supervisor in Construction should have two years of experience in construction; one year of experience as a construction foreman, supervisor, or crew chief; and 30 hours of safety training through a single or multiple training course(s).

***Task Statement:*** The task statements are the major responsibilities or duties that define the role of the Safety Trained Supervisor in Construction. There are 10 task statements included in this survey, as identified by an expert panel. These statements are listed below.

1. Conduct new employee safety and health orientation.
2. Perform pre-task safety and health hazard analysis.
3. Perform basic safety and health hazard recognition.
4. Issue and monitor the use of personal protective equipment.
5. Conduct safety and health meetings.
6. Plan for safety and health hazard prevention.
7. Inspect tools and equipment.
8. Apply safety and health standards on job sites.
9. Participate in job-site safety and health inspections.
10. Investigate accidents and/or incidents.

# Section C

## Evaluation of Task Statements

**Instructions:** You will be rating each task identified by an expert panel on three dimensions: *Importance, Criticality, and Frequency.*

**Importance:** Importance is defined as the degree to which knowledge in the task is essential to the job performance of a minimally competent Safety Trained Supervisor in Construction. Indicate how important each task is to the performance of a minimally competent Safety Trained Supervisor. Rate each of the 10 task statements by using the scale below. Please assign each task *only one* rating. **DO NOT RANK THE TASKS.** Select the number of the description below that best exemplifies your rating for each task and write that number in the space provided next to each task.

- 1 = **Not Important.** Performance of this task is not essential to the job of the minimally competent Safety Trained Supervisor in Construction.
- 2 = **Somewhat Important.** Performance of this task is minimally essential to the job of the minimally competent Safety Trained Supervisor in Construction.
- 3 = **Important.** Performance of this task is moderately essential to the job of the minimally competent Safety Trained Supervisor in Construction.
- 4 = **Very Important.** Performance of this task is clearly essential to the job of the minimally competent Safety Trained Supervisor in Construction.
- 5 = **Extremely Important.** Performance of this task is absolutely essential to the job of the minimally competent Safety Trained Supervisor in Construction.

**Rating of**  
**Importance** \_\_\_\_\_ **Task** \_\_\_\_\_

- \_\_\_\_\_ 1. Conduct new employee safety and health orientation.
- \_\_\_\_\_ 2. Perform pre-task safety and health hazard analysis.
- \_\_\_\_\_ 3. Perform basic safety and health hazard recognition.
- \_\_\_\_\_ 4. Issue and monitor the use of personal protective equipment.
- \_\_\_\_\_ 5. Conduct safety and health meetings.
- \_\_\_\_\_ 6. Plan for safety and health hazard prevention.
- \_\_\_\_\_ 7. Inspect tools and equipment.
- \_\_\_\_\_ 8. Apply safety and health standards on job sites.
- \_\_\_\_\_ 9. Participate in job-site safety and health inspections.
- \_\_\_\_\_ 10. Investigate accidents and/or incidents.

**Criticality:** Criticality is defined as the degree to which adverse effects could result if the minimally competent Safety Trained Supervisor in Construction is not knowledgeable in the task. Indicate the degree to which the inability to perform tasks would be seen as causing harm to a client, a co-worker, the public, the environment, etc. Harm may be physical, emotional, financial, etc. Rate each of the 10 tasks by using the scale below. Please assign each task **only one** rating. **DO NOT RANK THE TASKS.** Select the number of the description that best exemplifies your rating for each task and write that number in the space provided next to each task.

- 1 = **No Harm.** Inability to perform this task would have no adverse consequences.
- 2 = **Minimal Harm.** Inability to perform this task would lead to error with minimal adverse consequences.
- 3 = **Moderate Harm.** Inability to perform this task would lead to error with moderate adverse consequences.
- 4 = **Significant Harm.** Inability to perform this task would lead to error with major adverse consequences.
- 5 = **Extreme Harm.** Inability to perform this task would definitely lead to error with catastrophic consequences.

**Rating of**  
**Criticality** \_\_\_\_\_ **Task** \_\_\_\_\_

- \_\_\_\_\_ 1. Conduct new employee safety and health orientation.
- \_\_\_\_\_ 2. Perform pre-task safety and health hazard analysis.
- \_\_\_\_\_ 3. Perform basic safety and health hazard recognition.
- \_\_\_\_\_ 4. Issue and monitor the use of personal protective equipment.
- \_\_\_\_\_ 5. Conduct safety and health meetings.
- \_\_\_\_\_ 6. Plan for safety and health hazard prevention.
- \_\_\_\_\_ 7. Inspect tools and equipment.
- \_\_\_\_\_ 8. Apply safety and health standards on job sites.
- \_\_\_\_\_ 9. Participate in job-site safety and health inspections.
- \_\_\_\_\_ 10. Investigate accidents and/or incidents.

**Frequency:** Frequency is the amount of time the minimally competent Safety Trained Supervisor in Construction spends performing duties within the task statement. Frequency should be estimated as the percentage of time spent working within the task. Rate each of the 10 tasks by using the scale below. Please assign each task only one rating. **DO NOT RANK THE TASKS.** Select the number of the description that best exemplifies your rating for each task and write that number in the space provided next to each task.

- 1 = **Never.** Performance of this task occurs in 0% of the sessions.
- 2 = **Rarely.** Performance of this task occurs in 1-25% of the sessions.
- 3 = **Infrequently.** Performance of this task occurs in 26-50% of the sessions.
- 4 = **Frequently.** Performance of this task occurs in 51-75% of the sessions.
- 5 = **Repetitively.** Performance of this task occurs in 76-100% of the sessions.

<u>Rating of Frequency</u>	<u>Task</u>
--------------------------------	-------------

- |       |  |
|-------|--|
| _____ | 1. Conduct new employee safety and health orientation.         |
| _____ | 2. Perform pre-task safety and health hazard analysis.         |
| _____ | 3. Perform basic safety and health hazard recognition.         |
| _____ | 4. Issue and monitor the use of personal protective equipment. |
| _____ | 5. Conduct safety and health meetings.                         |
| _____ | 6. Plan for safety and health hazard prevention.               |
| _____ | 7. Inspect tools and equipment.                                |
| _____ | 8. Apply safety and health standards on job sites.             |
| _____ | 9. Participate in job-site safety and health inspections.      |
| _____ | 10. Investigate accidents and/or incidents.                    |

*Please list any tasks that you think may have been overlooked.*

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**THIS CONCLUDES THE ROLE DELINEATION SURVEY.**

**THANK YOU FOR YOUR VALUABLE INPUT.**

***PLEASE RETURN THIS SURVEY BY MAY 8, 2002,***

***IN THE ENCLOSED, POSTAGE-PAID ENVELOPE.***