

In response to the review of OMB package No. 0920-06AV on August 1, 2007, the following modifications have been made to the submission package to clarify the items discussed.

1. Revision of the length of time requested for OMB approval to 2 years. Corresponding changes were made to Section A16-1, Project Time Schedule.
- 2) Additional information was added to Section B 1.2, Respondent Universe, describing the proposed database to be used to derive the sampling frame and the coverage of this database. Further clarification is provided below:

The Associations Unlimited Database has over 125,000 National and U.S. regional, state, and local associations. Other databases of associations commercially available have more limited coverage. The largest competitor found, the Gale Group's Associations Database, has 100,000 associations but does not have a specific category for professional associations. Other similar databases include the Concept Market Group Directory of Associations with 37,000 U.S. and Canadian associations and the National Trade and Professional Associations of the United States 2007 database with only 7,500 national trade associations, professional societies, and labor unions.

- 2) Additional information was added to Section 3.0, Methods to Maximize Response Rate and Deal with Nonrespondents, describing the procedures that will be used. Further clarification is provided below:

A contractor with significant survey experience will be used to collect the data. Up to 10 attempts will be made to reach each contact to be interviewed, calling at different times of day and allowing for time zone differences. If the current time is not convenient, an appointment time will be scheduled for the interview. For those phone numbers found to be incorrect, Google searches will be conducted, along with searches of various Whitepage directories and other Web-based sources. Telephone operators will be used as appropriate.

- 3) Additional information was added to Section 3.0, Methods to Maximize Response Rate and Deal with Nonrespondents, on the analysis to be conducted comparing those respondents completing the full survey and those completing the nonresponse form. Further clarification is provided below:

The nonresponse form will allow NIOSH to assess whether the associations and unions that complete the full survey are different from those that complete the 2-question nonresponse form. It will also be possible to look for differences between the respondent and the nonrespondent associations/unions using data available in the Associations Unlimited Database such as organization size (number of employees), number of members, and geographic location.

- 5) A copy of the revised packaged is attached to this e-mail.

<<NIOSH - Revised 0920-06-06AV Final Survey Aug 15.doc>> <<Appendix B (2)_8-3-07.doc>>
<<Appendix B1 (non Response) (2)_8-3-07.doc>>

**OCCUPATIONAL SAFETY AND HEALTH INFORMATION NEEDS AND USES BY
TRADE ASSOCIATIONS AND LABOR UNIONS WITHIN
EIGHT INDUSTRIAL SECTORS**

**Request for the Office of Management and Budget Review and
Approval for Federally Sponsored Data Collection**

March 30, 2007

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A. Justification

1. Circumstances Making the Collection of Information Necessary

As mandated in the Occupational Safety and Health Act of 1970 (PL 91-596), the mission of the National Institute for Occupational Safety and Health (NIOSH) is to conduct research and investigations on work-related disease and injury and to disseminate information for preventing identified workplace hazards (Section 20 (a) (1) and (d) (Appendix A). This dual responsibility recognizes the need to translate research into workplace applications to impact worker safety and well-being. Indeed, NIOSH through its communication efforts seeks to promote greater awareness of occupational hazards and their control, shape the national occupational safety and health research priorities, change organizational practices and individual behavior, and ultimately, improve the American working life. Business-oriented trade associations, professional-oriented trade associations, and labor unions are known to be powerful resources for providing information, including occupational safety and health information, to their members whether they are companies or individuals.

Through this data collection, NIOSH will collect information addressing how business- and professional-oriented trade associations and labor unions communicate with their members, the workplace safety and health needs and concerns of these organizations, and whether these organization know of and use NIOSH or other occupational safety and health information. This information collection supports the NIOSH 2004-2009 Strategic Plan by acknowledging its intention to “promote safe and healthy workplaces through interventions, recommendations and capacity building” (Goal #2) and will also fulfill one of our Program Assessment Rating Tool (PART) goals.

NIOSH proposes to obtain information from business-oriented trade associations, professional-oriented trade associations, and labor unions that represent each of the eight NIOSH National Occupational Research Agenda (NORA) industrial sectors. These sectors include Agriculture, Forestry and Fishing; Construction; Healthcare and Social Assistance; Manufacturing; Mining; Services except Healthcare and Social Assistance; Warehousing Transportation and Utilities; and Wholesale and Retail Trade. The goal of this information collection is to determine: (a) the occupational safety and health (OSH) information presently being disseminated by these organizations to their members; (b) channels of communication within these organizations used to disseminate information, including OSH information; (c) the sources of OSH information presently used by these organizations; (d) their needs for specific types of OSH information, especially those needs not presently being serviced; (e) OSH concerns of the associations and labor unions; (f) awareness and perception of NIOSH as a source of OSH information; (g) use of NIOSH information services (Website, printed publications, 800#, etc.); (h) usefulness of NIOSH information to address their OSH concerns; and (i) credibility of NIOSH as trusted source of occupational safety and health information.

2. Purpose and Use of Information Collection

This will be the first opportunity for NIOSH to systematically obtain information about occupational safety and health information distribution and use from business- and professional-oriented trade associations and labor unions within all eight NORA industrial sectors. Specifically, the data collection is designed to answer the following questions:

- (1) Which channels of communication are currently used by business- and professional-oriented trade associations and labor unions to disseminate information, including workplace safety and health information?
- (2) What sources of workplace safety and health information are currently being used by these associations and labor unions within each of the industrial sectors?
- (3) What workplace safety and health information is presently being disseminated by these associations and labor unions to their members?
- (4) What are the needs for specific types of workplace occupational safety and health information, especially those needs not presently being serviced?
- (5) What are the workplace safety and health concerns of business- and professional-oriented trade associations and labor unions within the various industrial sectors?
- (6) What is the perception of NIOSH as a source of workplace safety and health information?
- (7) What NIOSH information services are used (Website, printed materials, 800- number, etc)?
- (8) How useful is NIOSH information in addressing their workplace safety and health concerns?
- (9) Is NIOSH considered as a credible source of workplace safety and health information?

A survey instrument addressing the above nine topic areas has been developed for the study (Appendix B). The survey is designed in three sections. The first section asks questions that provide general information about each association or union. The second section focuses on communication channels currently being used by the associations or unions and the inclusion of workplace safety and health information. The third section focuses on knowledge of NIOSH and use of NIOSH occupational safety and health information services. Data will be collected from business- and professional-oriented trade associations and labor unions within each of the eight NIOSH NORA industrial sectors. The sampling frame of business- and professional-oriented trade associations and labor unions was ascertained from the Associations Unlimited database¹. A computer-assisted telephone interview (CATI) will be utilized to collect the survey data. The survey will be conducted by trained interviewers from the Oak Ridge Institute for

Science and Education (ORISE). There are no costs to participants beyond their time. A total of eighteen hundred and twelve business-oriented trade associations, professional-oriented trade associations, and labor unions will be contacted. The individual most responsible for workplace safety and health issues (safety and health professional, executive director, or general manager) at each association or union will be requested to complete the survey instrument. The estimated time to complete the survey instrument is 15 minutes.

NIOSH has a long standing history of partnering with individual trade associations and labor unions on projects designed to prevent occupational injuries and illness. However, this will be the first opportunity for NIOSH to systematically obtain information about occupational safety and health information distribution and use from associations and labor unions within all 8 NORA industrial sectors. The process of interacting with and surveying these associations and labor unions will allow NIOSH to develop a benchmark so that future efforts in partnership and communication can be measured. The ultimate desired outcome from this project is to assure that these organizations have the occupational safety and health information needed to help prevent workplace safety and health injuries and illnesses among their members.

3. Use of Improved Information Technology and Burden Reduction

The survey will be administered by trained interviewers via a computer-assisted telephone interview (CATI). The responses will be entered onto the same computer screens that provide the questions, and the software immediately stores the replies into a database. The format used to develop the study was specifically designed to reduce participant response time, effort, and burden.

4. Efforts to Identify Duplication and Use of Similar Information

The current survey will not duplicate any existing or past NIOSH work or the work of other agencies. Significant effort was spent prior to beginning this project to look for similar studies. This included utilizing two professionally trained librarians to research the literature for any studies similar to this NIOSH proposed research. None were found.

5. Impact of Small Businesses or Other Small Entities

The participants for this study will be business-oriented trade associations, professional-oriented trade associations, and labor unions. A number of these study participants may be considered small businesses or small entities. The respondent answering for the participating organization will be workplace safety and health professionals, executive directors, managers, or other staff depending on which of these personnel manage workplace safety and health issues for their organization. Although small companies may belong to these organizations, they will not be involved in any way in the survey.

1. Associations Unlimited Database, Thomson Gale, 2006

6. Consequences of Collecting the Information Less Frequently

This is a first effort of NIOSH to systematically obtain information from business- and professional-oriented trade associations and labor unions within the eight NORA industrial sectors regarding the workplace safety and health problems of their members, communication needs, information provided to members, and knowledge of NIOSH and its products and services. This study will be a benchmark for future interactions with these important target groups which will ultimately improve the safety and health of working men, women, and teens. This initial survey will be conducted one time. A follow-up survey approximately five years in the future will measure the impact of implementing recommendations derived from this baseline survey.

There are no legal obstacles to reduce the burden.

7. Special Circumstances Relating to the Guidelines of 5 CFR 1320.5

There are no special circumstances involved in this study.

8. Comments in Response to the Federal Register Notice and Efforts to Consult Outside the Consultation Outside the Agency

8.1 Federal Registry Notice

A copy of the 60-day notice in the Federal Registrar soliciting comments on the proposed study is attached (Appendix C). Published March 1, 2006 (Volume 71 Number 40, pages 10537-10538).

One comment was received in response to the Federal Registry Notice (Appendix D). The commenter mistakenly believed that this information collection was a duplication of the compliance and consultation efforts performed by OSHA. This information collection pertains to the occupational safety and health information uses and needs of trade associations and labor unions, not individual businesses. No compliance related information is being requested. A letter response was provided to the commenter (Appendix E).

8.2 Consultations

The following consultations contributed to development of the final survey instrument:

Grace LeMasters, Ph.D.
Professor of Epidemiology and Biostatistics
Department of Environmental Health
University of Cincinnati, College of Medicine
Cincinnati, Ohio
(513) 558-0045.

Dr. LeMasters contributed to the survey instrument design format, layout, and content. Dr. LeMasters has conducted research in epidemiology designing surveys for studies for the last twenty-five years. Dr. LeMasters is the former Chair of the Division of Epidemiology and Biostatistics in the Department of Environmental Health at the University of Cincinnati, College of Medicine.

Virginia Sublet, Ph.D.
Oak Ridge Institute for Science and Education
Oak Ridge Associated Universities
P.O. Box 117
Oak Ridge, TN 37831-0117
(407) 909-4744

Dr. Sublet conducted cognitive testing of the questionnaire with 5 individuals and pilot testing of the questionnaire with eight trade associations and one labor union that will not be included in the proposed study. Through the pilot testing, the time required to complete the survey was determined. Dr. Sublet has conducted similar work as a CDC employee or for ORISE for the past 15 years.

Jennifer Tierney Lyden
Survey Implementation Specialist
Constella Group, LLC
1003 West 7th Street, Suite 1001
Frederick, MD 21701
(301) 682-5501

Ms. Tierney Lyden evaluated the survey instrument for ease of understanding of the specific questions being asked, whether the questions fully addressed the goals of the data collection, and ease of implementing the survey through a CATI system. Ms. Tierney Lyden has experience in applying survey research methods (including data collection, questionnaire design, pre-testing methods, cognitive interviewing, and quality control) to public health studies for the Research Triangle Institute and the Constella Group, LLC for the past 7 years.

9. Explanation of Any Payment or Gift to Respondents

No financial payments or incentives will be provided to the participants.

10. Assurance of Confidentiality Provided to Respondents

This submission has been reviewed by the CDC Privacy Act Officer and it has been determined that the Privacy Act is not applicable. Respondents are trade associations and labor unions. The data collection contractor, ORISE, will have access to the name of the individual responsible for occupational safety and health activities for the respondent entity, however, that individual will be speaking from their role and will not supply personal information. The data submitted to NIOSH will not include the name or phone number of the individuals who participated in the interviews on behalf of the respondent organizations. ORISE will delete the name and phone number upon

verification that the data collection for that respondent entity is complete. The data submitted to NIOSH will include the names of the respondent organizations since only by having this information can NIOSH fulfill the ultimate goal of this project to assure that these organizations have the occupational safety and health information needed to help prevent workplace safety and health injuries and illnesses among their members. The contractor will keep all information in an electronic file stored on password-protected PC's which are locked when not in use. No one but contractor employees and the NIOSH researchers will have access to the data.

Participation in the survey is completely voluntary. NIOSH is asking that the associations and unions send a current copy of their technical journal, magazine, or newsletter but the decision to provide this information is made by participants. NIOSH would supply a self-addressed stamped envelop to send these materials so that there is no cost to participants.

NIOSH has determined that this research project does not require IRB review and approval.

11. Justification for Sensitive Questions

The survey does not contain any personal questions regarding health status, lifestyle, sexual practices or other potentially sensitive issues. Race and ethnicity data will not be collected because we are querying associations and labor groups. Some questions requesting opinions could be sensitive, but are again role-based, and individuals are reminded prior to the interview that participation is voluntary.

12. Estimates of Annualized Burden Hours and Costs

Eighteen hundred and twelve business- and professional-oriented trade associations and labor unions will be contacted to obtain information. The participants for the survey will be individuals most responsible for workplace safety and health issues for members of these organizations. This individual may be a safety and health professional, the executive director, the organization's manager, or other staff who conduct these duties.

The pilot test with eight business- and professional-oriented trade associations and labor unions indicated that the full survey takes approximately 15 minutes to complete. The survey was designed so participants are able to answer the questions quickly.

12.1. Estimated Annualized Burden Hours

Type of Respondent	Form Name	No. of Respondents	No. of Responses per Respondent	Hrs/ Response	Response Burden
Health & safety personnel	Full form	1455	1	15/60	364
Health & safety personnel	Non-response form	357	1	2/60	12
Total		1,812			376

The differences in the projection of the number of respondents and the number of response burden hours provided above and the estimates provided in the 60-day Federal Register Notice are due to three factors. First, the latest estimates include professional-oriented trade associations, where these associations were not initially included. Through discussions with stakeholders, we realized that for certain industrial sectors such as health care, professional-oriented trade associations play an important role in providing health and safety information to their members. Therefore, an additional 763 associations were added as potential respondents. Second, a very short, 2 question (approximately 2 minutes), nonresponse form was developed to capture a minimum amount of data about associations and unions dissemination practices in regards to occupational safety and health. Finally, the survey instrument was shortened to reduce the amount of time it would take for a respondent to complete the data collection from 20 minutes to 15 minutes. The culmination of these three changes is that the number of respondents increased from 935 respondents as indicated in the Federal Register Notice to 1455 respondents answering the full survey instrument and 357 respondents answering the nonresponse form with an increase in burden hours from 312 hours to 376.

According to the Bureau of Labor Statistics, and based on 2004 data, the median hourly wage for general and operations managers is \$38.13 per hour. Using the above information, the total cost estimates for all 1812 participants in the survey were determined as follows:

12.2. Estimated Annualized Burden Cost

Type of Respondents	No. of Participants	Response Burden per Respondent (in hours)	Hourly Wage Rate*	Respondent Cost
Health & safety personnel	1455	.25	\$38.13	\$13,869.79
Health & safety personnel	357	.033	\$38.13	\$ 453.29
Total	1812			\$14,323.08

*2004 Median rate for general and operations managers in dollars calculated from Bureau of Labor Statistics website (<http://www.bls.gov/oes/current/oes111021.htm>)

13. Estimate of Other Total Annual Cost Burden to Respondents or Recordkeepers

The interviews have no capital, operating, or maintenance costs for the respondents or their employers.

14. Annualized Cost to the Federal Government

This baseline study will be conducted by ORISE under an Interagency Agreement with NIOSH. ORISE will participate in the development of the survey plan and survey instrument, pilot testing the survey instrument, conducting the interviews, conducting the data analysis, and developing reports of the results. The total cost of the Interagency Agreement is \$457,259.56. The estimated total cost of the project to the government is \$497, 259.56. This includes the cost for the data collection by ORISE as well as the \$40,000 cost for the federal employees involved in the survey design, oversight, data analysis, and report writing. The government employee costs are as follows: Year 1: 200 hours of a GS15 (\$12,000), 100 hours of a GS12 (\$3,500), and 20 hours of a GS05 (\$335); Year 2: 200 hours of a GS15 (\$12,000), 300 hours of a GS12 (\$10,500), and 100 hours of a GS05 (\$1665). The total time period from the beginning of the project until its completion is two years. Therefore, the annualized cost of the project to the government is \$248,629.78.

15. Explanation for Program Changes or Adjustments

This is a new data collection submission.

16. Plans for Tabulation and Publication and Project Time Schedule

16.1 Project Time Schedule

Project Activity	Time Schedule
Training of interviewers	1 month after OMB approval
Letters sent to respondents in the construction sector and interviews conducted	1-3 months after OMB approval
Letters sent to respondents in the transportation, utilities, & warehousing sector and interviews conducted	3-5 months after OMB approval
Letters sent to respondents in the wholesale and retail trade sector and interviews conducted	5-7 months after OMB approval
Letters sent to respondents in the healthcare & social assistance and sectors and interviews conducted	7-9 months after OMB approval
Letters sent to respondents in the services except health & social assistance sector and interviews conducted	9-11 months after OMB approval
Letters sent to respondents in the manufacturing sector and interviews conducted	11-13 months after OMB approval
Letters sent to respondents in the mining sector and interviews conducted	13-15 months after OMB approval
Letters sent to respondents in the agriculture, forestry, & fishing sector and interviews conducted	15-17 months after OMB approval
Data analysis for each sector and for all sectors combined	4-20 months after OMB approval
Reports of results for each sector and overall results	20-24 months after OMB approval

16.2 Analysis and Publication Plan

Analyses will be conducted separately for the business-oriented trade associations, professional-oriented trade associations, and the labor unions within each of the eight sectors as data collection for that sector is completed.

Each item in each question will be examined separately. Descriptive analysis results will be presented graphically and in tables. The most important outcomes will appear in the main body of the final reports with the results for all questions included in an appendix. Wherever appropriate, a graph or table will display information from related analyses to decrease the number of separate presentations.

Type of analytic results will vary from question to question, depending upon the nature of the data collected, although percents will be calculated whenever suitable. Because simple random sampling will be carried out within strata, the within-stratum percents will be assessed by dividing the number responding affirmatively by the total number responding. For strata in which sampling occurred, 95% confidence intervals will accompany each estimated percent. Confidence intervals are not necessary in strata where all members are invited to participate because actual population values are obtained rather than estimates of population values. After analysis is completed for each of the eight sectors, business-oriented trade association and professional association percents will be examined to determine whether it is valid to combine sector estimates for analyses of interest.

When data for all sectors have been obtained, it may also be valid to present certain combined results across several or all sectors. In particular, it will be desirable to obtain overall percents for all business-oriented trade associations combined and for all professional-oriented trade associations combined as well as all labor unions combined. To calculate results for business-oriented trade associations as a group or all professional-oriented trade associations as a group, data must be weighted to take into account the stratified sampling design. For labor union strata, the sector called Services except Healthcare & Social Assistance contains more members than all of the remaining seven sectors combined. Therefore, combined strata percents will be calculated with and without the data from Services except Healthcare & Social Assistance. No weighting is necessary since sampling will not occur in the labor union strata.

This data collection will be the first opportunity for NIOSH to systematically obtain information about occupational safety and health information distribution and use from associations and labor unions within the 8 NORA industrial sectors. The process of interacting with and surveying these associations and labor unions will allow NIOSH to develop a benchmark against which future efforts in partnership and communication can be measured. The ultimate desired outcome from this project is to assure that these organizations have the occupational safety and health information needed to help prevent workplace safety and health injuries and illnesses among their members.

Reference:

Lee, E.S., Forthofer, R.N., Lorimor, R.J., *Analyzing Complex Survey Data*, Sage University Paper # 71, Quantitative Applications in the Social Sciences Series, Sage Publications, Newbury Park, 1989.

17. Reasons(s) Display of OMB Expiration Date is Inappropriate

We are not requesting an expiration date display exemption.

18. Exceptions to Certification for Paperwork Reduction Act Submission

We are not requesting an exception to the certification statement.

B. Collection of Information Employing Statistical Methods

1. Respondent Universe and Sampling Methods

1.1 Background

The objective of this study is to develop a baseline of response percentages associated with health and safety information for business-oriented trade associations, professional-oriented trade associations, and labor unions. Percents are required separately for each of eight NIOSH NORA industrial sectors. Percents of interest are also to be obtained for three classes of organizations as a group: (1) business-oriented trade associations, (2) professional-oriented trade associations, and (3) labor unions. In addition, percentages are to be determined for each the three classes of organizations within the eight sectors of business. Examples of desired results are the percentage of organizations within a class or sector that use NIOSH occupational safety and health publications, cite these publications, and agree that these publications are useful and credible.

1.2 Respondent Universe

The sampling frame will be selected from the *Associations Unlimited* database. This database is a leading source for information on associations and professional societies. *Associations Unlimited* provides the following coverage:

U.S. national associations - 22,000
International associations - 23,000
U.S. regional, state, and local associations - 106,000
IRS data on nonprofit organizations - 300,000

Currently in the *Associations Unlimited* database there are 8342 organizations in the categories of interest, including 3234 business-oriented trade associations, 4819 professional-oriented trade associations, and 289 labor unions. The number of organizations within each class/sector varies greatly, ranging from as few as 10 to

as many as 2773. Data will be collected one business or industrial sector at a time beginning with the construction sector, and the data collection will be carried out over a period of two years. Because the three classes of organizations have distinct orientations and types of members, organizations within the same sector are likely to differ in their practices of providing health and safety information to members depending upon class.

1.3 Sampling Methods

Because the business-oriented trade associations, professional-oriented trade associations, and labor unions in the 8 industrial sectors form distinct groups that may differ in results, the entire population will be divided into sub-populations, and simple random sampling will be carried out in each of these strata. Stratification will be done by sector (8) and by the type of organizations within the sector (3) for a total of 24 strata. The numbers of organizations in each of the 24 strata will vary greatly, and estimates within each stratum require sufficient precision to make them useful. Therefore, the approach of disproportionate stratified sampling will be carried out to ensure that there are enough cases included in smaller strata for meaningful results. By this approach the percent of members sampled can differ from one stratum to another. To calculate results for business-oriented trade associations as a group, professional-oriented trade associations as a group, and labor unions as a group, data must be weighted to take into account this sampling design.

1.4 Assumptions for Sample Size Calculations

Sample size calculations were carried out with the commonly used significance level of $\alpha = 0.05$, for which there is a 5% chance of rejecting the null hypothesis when it is true [false positive]. The precision of an estimate (i.e., how close the estimate is likely to be to the actual population value) is also important when selecting sample size. The sample percent is used as the best estimate of the population percent, and a confidence interval placed around this estimate shows its precision. A wider confidence interval indicates more uncertainty associated with the estimate, making it less useful. Precision is inversely proportional to error (a statistical term, not an indication that a mistake has occurred). For a one-sided confidence interval error is measured as the distance from the estimate to the lower limit of a confidence interval and, for a two-sided confidence interval, as the distance from the upper limit to the lower limit.

Power and precision are two alternative ways of inputting information into sample size calculations for percents. It is desirable to have a power of at least 80%, which means that there is an 80% chance of rejecting null hypothesis when it is false [true positive]. For some of the smallest strata, obtaining 80% power may not be possible with sampling. A power approach begins with null and alternative hypothesized percents and determines the power of various sample sizes for these particular values. The hypothesized percent is an a priori guess about the actual percent in the population, not the sample. A precision approach, as described above, starts with a hypothesized percent and provides the width of two-sided confidence intervals (or half the width for one-sided confidence intervals) for various sample sizes.

The goal of this study is estimation, and the precision approach will be used. Because the focus of the study is to determine a lower bound on the proportion positive in each stratum, a “greater than” comparison is appropriate. Therefore, sample size calculations were based on one-sided confidence intervals rather than the usual two-sided.

Sample sizes depend in part upon the anticipated percents in the population that is being sampled. These hypothesized percents should be based on previous information. Because this study is an initial investigation, no information is available on anticipated percents. For a given sample size, confidence intervals tend to be wider the closer the population percent is to 50% rather than either larger or smaller than 50%. Therefore, the most conservative value of 50% will be used in calculating sample sizes.

1.5 Error Considerations

Table 1 presents the error obtainable from samples of various sizes with a significance level of 0.05, which corresponds to 95% confidence intervals using the normal approximation. Error is presented for a population value of 50% and also for population values of either 90% or 10% for comparison purposes. It was decided that 95 participants should be obtained from each sampled stratum, providing an error of 8.3%. For a sample size of 95 with a hypothesized population value of 50%, on average the lower bound on a confidence interval is 41.7%. Table 1 provides lower bounds of one-sided confidence intervals for sample sizes ranging from 10 to 200 in steps of five.

Table 1: Error (%) of Estimates Obtainable by Samples of a Range of Sizes

Sample Size	Hypothesis: 90% or 10%	Hypothesis: 50%
200	4.0	5.8
190	4.2	5.9
180	4.3	6.1
170	4.4	6.3
160	4.6	6.4
150	4.8	6.7
140	5.0	6.9
130	5.2	7.1
120	5.4	7.4
110	5.7	7.7
100	6.0	8.1
95	6.2	8.3
90	6.4	8.4

1.6 Adjusting Sample Sizes for Response Rate

Because it is likely that not all contacted unions and business- and professional-oriented trade associations will agree to participate in the survey, the sample size of 95 should be adjusted upward to allow for non-response. Based on past ORISE experience conducting CATI surveys, an approximate 80% response rate is expected. The adjustment is done using the following equation:

$$\begin{aligned}\text{Number to contact} &= (\text{Calculated sample size}) / (\text{Estimated response rate}) \\ &= (95) / (0.8) = 119\end{aligned}$$

To achieve better than 8.3% error, 120 organizations will be contacted to participate in the study for all strata having 120 or more members. For strata having fewer than 120 members, sampling will not take place. Instead the entire population will be invited to participate in the survey.

Table 2 shows the number of associations and unions to be contacted from each stratum and the number of anticipated survey participants. Extensive efforts will be made to obtain 100% responses for those strata containing fewer than 25 members.

Table 3 shows the precision that can be obtained from each anticipated stratum size by presenting the error corresponding to each sample size, assuming that the sample percent is 50%. If sample percents are higher or lower than 50%, the confidence intervals will be tighter for a given sample size. Because an attempt will be made to contact the entire group in strata of size smaller than 120, the obtained percents could be considered as population values rather than estimates. Alternatively, the associations and labor unions in a sector at the time when the data are collected can be viewed as a sample of such groups over time. New organizations arise and existing ones merge or terminate. Therefore, concept of the precision can be meaningful in this context as well.

Table 2: Sample and Population Sizes by Stratum

Sector	Number of organizations to be contacted			Number of organizations surveyed based on 80% response rate		
	Business Trade Assoc.	Professional Trade Associations	Labor Unions	Business Trade Assoc.	Professional Trade Associations	Labor Unions
Agriculture, Forestry, & Fishing	120	56*	14*	96	45	12
Construction	107*	95*	18*	86	76	15
Healthcare & Social Assistance	23*	120	10*	19	96	8
Manufacturing	120	120	42*	96	96	34
Mining	67*	12*	11*	54	10	9
Services except Health & Social Assistance	120	120	120	96	96	96
Transportation, Utilities, & Warehousing	120	120	23*	96	96	19
Trade: Wholesale and Retail	120	120	14*	96	96	12
Total	797	763	252	639	611	205
	1812			1455		

*Estimated population size

Table 3: Error (%) of Estimates for Anticipated Strata Sizes

Sector	Error (%) of estimates for sample sizes in Table 2		
	Business Trade Association	Professional Trade Association	Labor Union
Agriculture, Forestry, & Fishing	8.3	12.0	21.7
Construction	8.8	9.3	19.5
Healthcare & Social Assistance	19	8.3	25.0
Manufacturing	8.3	8.3	13.6
Mining	10.8	23.0	24.0
Services except Health & Social Assistance	8.3	8.3	8.3
Transportation, Utilities & Warehousing	8.3	8.3	17.7
Trade - Wholesale & Retail	8.3	8.3	21.7

1.7 References

Kalton, Graham, Introduction to Survey Sampling, Sage University Paper # 35, Quantitative Applications in the Social Sciences Series, Sage Publications, Newbury Park, 1983.

Lee, E.S., Forthofer, R.N., Lorimor, R.J., Analyzing Complex Survey Data, Sage University Paper # 71, Quantitative Applications in the Social Sciences Series, Sage Publications, Newbury Park, 1989.

SamplePower, Release 1.20, SPSS, September 24, 1997.

2. Procedures for the Collection of Information

The survey will be conducted using a computer-assisted telephone interview conducted by trained interviewers. The interviewer will call the business-oriented trade association, professional-oriented trade association, or labor union and ask to speak with the individual handling workplace safety and health issues. Once the appropriate person has been reached the interviewer will ask if the person would participate in the survey. If the person agrees the interviewer will explain the survey and time required. If a different time is required the interviewer will ask to reschedule the interview and call back at the appropriate time.

As the interview proceeds the interviewer will enter information provided by the participant into the computer. When the interview is completed the interviewer will ask if there are any other comments the participant would like to mention.

The items in the survey are the product of an initial assessment of business-oriented trade associations, professional-oriented trade associations, and labor unions, development by NIOSH and ORISE personnel, reviews internal and external to NIOSH, pilot tests of eight trade associations, and a questionnaire design expert. The pilot tests also allowed for the determination of the 15 minute estimate of participation time.

3. Methods to Maximize Response Rates and Deal with Nonresponses

Letters (Appendix F) will be sent to the business-oriented trade associations, professional-oriented trade associations, and labor unions to introduce the survey and maximize participation rate. A CATI system will be used for the data collection reducing participant response time, effort, and burden, thereby increasing the potential for respondents to complete the full interview. A contractor with significant survey experience will be used to collect the data. Up to 10 attempts will be made to reach the contact to be interviewed, calling at different times of day and allowing for time zone differences. If the current time is not convenient, the contractor will schedule an appointment time for the interview. For those phone numbers found to be incorrect, Google searches will be conducted, along with searches of various Whitepage directories and other Web-based sources. Telephone operators will also be used as appropriate.

For those respondents who do not choose to complete the full interview, they will be asked to complete a 2-question nonresponse form developed to capture a minimum amount of data about dissemination practices in regards to occupational safety and health. This nonresponse form will allow NIOSH to assess whether the associations and unions that complete the full survey are different from those that complete the nonresponse form for these 2 questions. It will also be possible to look for differences between the respondent and the nonrespondent associations/unions using data available in the Associations Unlimited Database such as organization size (number of employees), number of members, and geographic location. However, it is our hope that the significance of the survey in terms of future opportunities to partner with NIOSH and receive NIOSH documents will outweigh the 15 minutes of burden to participate in the survey.

4. Tests of Procedures or Methods to be Undertaken

The survey instrument was reviewed by Dr. Grace LeMasters, Professor of Epidemiology and Biostatistics, in the Department of Epidemiology and Biostatistics at the University of Cincinnati, College of Medicine and Jennifer Tierney Lyden, Survey Implementation Specialist, Constella Group, LLC. Dr. Virginia Sublet, ORISE, conducted pre-tests with five organizations and pilot tests with eight trade associations and labor unions to determine the clarity, time, and opinion of participants about the survey.

5. Individuals Consulted on Statistical Aspects and /or Individuals Collecting and/or Analyzing Data Consultants

The final sampling plan was developed in consultation with the following two individuals with expertise in survey sampling:

Janice Watkins, Ph.D.
Chief Statistician
Oak Ridge Institute for Science and Education
Oak Ridge Associated Universities
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Oak Ridge, TN 37831-0117
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Martin Petersen, Ph.D.
Senior Statistician
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National Institute for Occupational Safety and Health
Cincinnati, Ohio 45226
(513) 841-4234

Dr. Janice Watkins, Senior Statistician, ORISE (865 576-3395) designed the sampling frame in consultation with Martin Petersen, Ph.D. Dr. Watkins will analyze the survey data.

Virginia Sublet, Ph.D.
Oak Ridge Institute for Science and Education
Oak Ridge Associated Universities
P.O. Box 117
Oak Ridge, TN 37831-0117

Dr Virginia Sublet, Senior Toxicologist, ORISE (407 909-4744) will oversee the selection of sample respondents, development of the survey and database for the survey results, training of interviewers, collection of survey data, and preparation of individuals sector reports and summary reports.

Appendices

Appendix A: Copy of Authorizing Legislation

Appendix B: Copy of Data Collection Instruments

Appendix C: Copy of 60 Day Federal Register Notice

Appendix D: Copy of 60 Day Federal Register Notice Correspondence

Appendix E: Follow-up Letter to Respondent

Appendix F: Letter to Associations and Unions Requesting Help Completing Survey