

**Report of the Small Business Advocacy Review Panel
On the Draft OSHA Standard for
Confined Spaces in Construction**

November 24, 2003

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Report of the Small Business Advocacy Review Panel on the Draft OSHA Standard for Confined Spaces in Construction

1. Introduction

This report has been developed by the Small Business Advocacy Review Panel (the Panel) for the draft OSHA standard for Confined Spaces in Construction. The Panel included representatives of the Occupational Safety and Health Administration, the Office of the Solicitor of the Department of Labor, the Office of Advocacy of the Small Business Administration, and the Office of Information and Regulatory Affairs of the Office of Management and Budget. On September 26, 2003, the Panel Chairperson, Robert Burt of OSHA, convened this Panel under section 609(b) of the Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA)(5 U.S.C. 601 et seq.). A list of the panel members and their affiliations is included in Appendix A.

This report consists of four parts, including this introduction as Part 1. Part 2 provides background information on the development of the draft proposal and describes the requirements of the draft proposal. Part 3 summarizes the oral and written comments received from the small-entity representatives (SERs) who reviewed and submitted comments on the draft; a list of the SERs is included in Appendix B of this report, and a complete copy of the written comments submitted by the SERs is included in Appendix C of this report. Part 4 presents the findings and recommendations of the Panel.

2. Background and Summary of the Draft Proposal

Reasons Why Action by the Agency is being Considered

As described in the Unified Regulatory Agenda (68 FR 30552), OSHA agreed to issue a proposed rule to extend confined-space protection to construction workers as a result of a settlement agreement with the United Steelworkers of America relating to litigation on the general industry confined spaces standard. A number of construction workers are killed or injured in confined spaces every year. A revised OSHA standard covering confined spaces in construction is expected to reduce fatalities and injuries among construction employees who work in these spaces, and will decrease significant financial and emotional burdens suffered by family members and many other people associated with these cases. OSHA estimates that as a result of this rulemaking, about 6 fatalities and 880 injuries could be avoided annually by full compliance with the draft proposed rule.

Stakeholder Involvement

In 1994, OSHA asked the Advisory Committee for Construction Safety and Health (ACCSH) for advice regarding the development of a standard addressing hazards associated with confined spaces in construction. ACCSH established a work group that developed recommendations for a standard for confined spaces in construction.

During 1999 and 2000, OSHA held three stakeholder meetings across the country to obtain feedback from the construction industry on issues related to the development of a standard for confined spaces in construction.

Overview of the Standard

OSHA developed the draft proposed standard to protect employees from the hazards associated with work in confined and enclosed spaces. To avoid imposing unnecessary burdens, OSHA identified differences in the types of spaces and the corresponding hazards involved in these spaces, and tailored the standard to reflect the existence of such hazards. Thus, some requirements only apply to particular types of spaces.

The draft proposed standard includes requirements for “hazardous-enclosed spaces,” “isolated-hazard confined spaces,” “controlled-atmosphere confined spaces,” and “permit-required confined spaces.” Some specific hazards occur in confined spaces that are already regulated under different standards and, thus, may be exempt from this standard, depending on the hazards present. For example, construction work involving excavations, underground construction, and diving are covered by specific corresponding standards specifically addressing such work.

Under the draft proposal employers must first determine whether they have a hazardous-enclosed space or a confined space at the job site, and then determine which requirements apply. Depending on the type of the enclosed or confined space, employers may be required to implement the following precautions and procedures:

- Testing for atmospheric hazards;
- Eliminating, adequately controlling, or protecting employees from any identified atmospheric hazards;
- Monitoring continuously for non-isolated engulfment hazards and atmospheric hazards;
- Identifying and isolating any physical hazards that may be present;
- Documenting the determinations made;
- Issuing, canceling, and retaining entry permits;
- Providing an attendant outside the space and identifying an entry supervisor;
- Notifying affected employees about the location of spaces and posting danger signs;
- Coordinating and communicating with host employers and contractors;
- Providing training and maintaining training records for each affected employee;

- Consulting with employees and their authorized representatives on the development and implementation of the documents and procedures required by the standard;
- Providing employees who enter the space the opportunity to observe the required inspections and atmospheric testing and monitoring;
- Providing employees and their authorized representatives an opportunity to review relevant information and documents before entering a space, including entry permits, verifications, and inspection information;
- Providing all relevant information and documents to employees at the job site; and
- Providing stand-by rescue personnel.

Under the draft proposed standard, the employer must first determine if any hazardous-enclosed spaces or confined spaces are present at the jobsite. A “hazardous-enclosed space” is defined as a space that is large enough and so arranged that an employee can bodily enter it and perform assigned work, has unrestricted means for entry and exit, and contains a hazardous atmosphere due to insufficient ventilation. A “confined space” is defined as a space that has all of the following characteristics: It is large enough and so arranged that an employee can bodily enter it and perform assigned work; it has limited or restricted means for entry and exit; and it is not designed for continuous employee occupancy.

When any confined spaces are present, the employer must determine if those spaces are subject to any hazards (both existing and potential hazards). The draft proposal contains procedures to protect workers who investigate the spaces to make these determinations, such as monitoring, ventilation, and personal protective equipment.

For confined spaces that contain hazards, employers must then take steps to classify the space in the least hazardous category feasible. When the hazard is blocked or isolated, then the space is classified as an isolated-hazard confined space. Should such control not be feasible, and the only hazard is an atmospheric one that is controlled with ventilation, then the space is classified as a controlled-atmosphere confined space. When ventilation alone is not sufficient to control the hazard, or when ventilation to control the hazard is not feasible, then the employer must classify the space as a permit-required confined space.

Requirements for entering and working in the space vary depending on the space classification. For hazardous-enclosed spaces, the least stringent requirements apply: as necessary, employers must conduct monitoring and use engineering controls and/or provide personal protective equipment to employees. The most stringent requirements apply to PRCSSs. Requirements for these spaces include using an entry-permit system to document safe procedures, assigning an entry supervisor and an entry attendant to monitor conditions in the work space, arranging for both non-entry rescue and entry rescue, and providing training.

3. Summary of Comments from Small Entity Representatives (SERs)

On September 26, 2003, the Panel for this rulemaking was convened for purposes of soliciting comments about the draft proposal and its associated estimated impacts from potentially affected small-entity representatives (SERs). The Panel provided the SERs with a copy of the draft proposal, a summary of OSHA's preliminary estimates of the economic impacts, costs, and benefits of the draft proposal, the Preliminary Initial Regulatory Flexibility Analysis (PIRFA), and a list of issues on which the Panel was specifically seeking the advice and recommendations of affected small businesses.

The Panel held teleconferences with the SERs on October 9th and 10th that allowed for interactive discussion. After these teleconferences, the Panel received written comments from several of the SERs. The remainder of this section summarizes the oral and written comments received from the SERs, consolidated by the particular issue of the draft proposal being addressed. The complete written comments submitted by the SERs are included in Appendix C of this report.

General Clarity and Usability of the Draft Standard

The SERs reported that they struggled to understand the definitions of the standard as they applied to real-world situations. One SER stated that an overall problem with the draft standard is that too much is left open to interpretation, especially regarding the introduction of new and different definitions of confined spaces, which expand and change what has been considered to be a confined space under existing standards.

The SERs also felt that the standard created too many different classifications of spaces, and that this would create confusion in the field in determining what type of space was being entered. Particularly troubling to the SERs was the fact that the draft standard was proposing to add new types of classifications, as well as different terminology for existing classifications used under the General Industry standard. Many employers in the construction industry must be familiar with both the applicable Construction and General Industry standards, and the work done by construction employers throughout the year often includes both projects that are covered by construction standards and projects that are covered by General Industry standards.

A SER involved in residential housing construction expressed confusion about what specifically, under the draft standard, OSHA would be expecting contractors to be looking for, and what specific triggers would be established for required actions to be taken. Many different chemicals can be present on construction sites, and under OSHA's hazard-communication standard, employers are currently provided with guidance on protective measures to be implemented. According to the SER, the draft standard was not clear in establishing when monitoring or training would be required given that

different trades may be working with different products in many different rooms across many days.

The SERs asserted that in practice it would be difficult to know when the confined spaces standard would apply. Examples provided include digging or building a pit or shaft and then performing work in it, and installing cables in a tunnel as part of a tunnel project.

A SER suggested that OSHA should include at the beginning of the standard examples of what is considered a confined space and what is not considered a confined space.

One SER stated that, in his opinion, the draft standard is cumbersome and not user-friendly, and that it is not easy to find out what is required by the draft standard. Overall, the draft standard was considered by the SER to be complicated and confusing.

One SER pointed out that in the definitions section, a hazardous-enclosed space is not classified as a confined space, but in section 1926.1225(a), employers are required to classify a space as a hazardous-enclosed space.

Another source of confusion identified by a SER was the definition of a hazardous-enclosed space, which lists as a defining characteristic that the space has unrestricted means for entry and exit. The SER questioned how a space can both be enclosed and have unrestricted means for entry and exit.

Another source of confusion identified by a SER were the requirements of 1926.1206(b)(1)(ii) and 1926.1206(b)(1)(iii). The first provision requires testing for atmospheric hazards without mechanical ventilation, and the second provision requires that test results must show that ventilation alone (which must consist of continuous forced-air mechanical systems) is sufficient to control atmospheric hazards at safe levels. These requirements appear to the SER to be contradictory, and the SER wondered whether two separate tests are being required.

According to one SER, the draft standard adds requirements for the “controlling employer” and “host employer” who may be “lacking in knowledge and experience” [Chandler, p.2.] Another SER stated:

Far too much of the rule is left to interpretation. Where you have a multi-employer site with several people having safety responsibility, what do you do if there is a difference of opinion? Also, if one can make the final decision does he then assume the legal liability? The term ‘controlling employer’ is a new term of art and has created confusion over who is ultimately responsible. [Taylor, p. 2.]

Application of the General Industry Standard or the ANSI Standard to Construction

The SERs indicated that extending the requirements of the General Industry standard to construction projects would not add significant burdens, unlike adopting the draft

construction standard. A SER expressed the view that the General Industry standard was acceptable, and that familiarity with the standard, which has already been established, was important to the effective protection of employees. One SER stated, “Most construction firms that work in confined spaces already use and are familiar with the General Industry standard 29 CFR 1910.146.” [Chandler, p. 2.]

Regarding the alternative of extending the General Industry standard to construction, one SER provided the following perspective:

[M]any employers who use the general industry standard are comfortable with the effectiveness of the standard and the costs required to implement it. There is also a wealth of compliance assistance and training materials already available for employers using the general industry confined space standard. [Behlman, p. 5.]

The SERs noted that compliance with the General Industry standard would provide sufficient protection for employees, and that an additional, different standard that had to be learned and implemented was unnecessary. SERs reported that confined spaces in construction work are generally similar to confined spaces in general industry work, and that the same standards should apply. The SERs believed that injuries or fatalities that would be prevented with compliance the draft standard would also be prevented through compliance with the requirements of the General Industry standard. Also, misunderstandings and disagreements would be avoided, hazards would be addressed consistently and more effectively, and safety would be enhanced.

One SER provided the following perspective:

Most often we encounter confined space in remodeling and working in existing facilities. If the new standard becomes law, the construction industry will be faced with working with our client’s employees where both parties fall under two different regulations. The potential for a multitude of problems would arise out of this situation. We have an existing regulation that both the client and contractor are accustomed to, and it is effective. Let’s not reinvent the wheel and add [to] the cost and confusion by enacting this new regulation. [Benning, p. 2.]

Costs and Economic Impacts

Comparison of Costs of the General Industry Standard and the Proposed Draft Standard:

The SERs generally agreed that a new comprehensive standard addressing confined spaces, such as the draft standard, that differed significantly from the General Industry standard, even if the differences involved only terminology, language, and organization, would impose large costs and compliance difficulties on affected establishments. According to the SERs, a new standard would require a lot of training and retraining across the affected work force just to establish familiarity with the standard, and many workers and supervisors may have difficulty figuring out and mastering yet more

regulatory requirements in addition to existing applicable standards. The development of training programs and materials that would need to be implemented, alongside existing measures required by the General Industry standard, would be costly and would take years to implement.

Regarding the potential alternative of extending the General Industry standard to construction, one SER provided the following perspective:

OSHA noted in the PIRFA that applying the general industry standard to the construction industry is more costly. It is difficult to understand how this determination was made, because many small construction firms that perform work in confined spaces already use OSHA's general industry confined space standard as a guideline for safe confined space entry, and the General Industry standard has worked very well to keep both general industry and construction workers safe from confined space hazards. [Behlman, p. 5.]

One SER was concerned that an overall problem with the draft standard is that too much is left open to interpretation. The SER noted that this problem adds to compliance costs since due to uncertainty, attempts to ensure compliance will result in measures being taken that may be unnecessary.

Costs Associated with Classifying Confined Spaces: A SER expressed the opinion that some estimated compliance costs were too low. For example, assessing a space may take one hour, but may involve a crew of five people who show up together at the site.

One SER estimated that a minimum of 3 to 5 hours would be necessary to evaluate and classify spaces, including contacting controlling employers and host employers "to gather information that they don't have or know, gathering information on hazards that may or may not exist, completing several written verifications, having a skilled worker (competent person) monitor the space." [Chandler, p.2.] During this time, the rest of the crew would also need to be paid at a cost of \$225 to \$1,000, depending on the type of crew involved.

Costs Associated with Training: A SER also believed that the estimated training costs were too low, and while the basic requirements to train employees were considered acceptable, the SER doubted that all employees would be able to comprehend the actual regulatory requirements and fully understand and explain the standard sufficiently to satisfy OSHA. One SER noted that OSHA provided a basic familiarization training course for the new steel-erection standard that lasted two days; two days of training should be regarded as a minimum amount of time for learning about the draft standard.

A SER observed that many firms or employees may encounter confined spaces only occasionally, and that for these people, retention of training information would be low, and years of training and frequent retraining may be necessary to know the standard adequately.

One SER estimated that a typical training seminar may cost \$170 per person, plus one day of overtime pay; all employees would have to be provided with all training for both general industry and construction, because it is not possible to know in advance where each employee will work or whether they may encounter a confined space on the job. The SER stated that at least a day or two of additional training would be needed per employee per year; even though some material may be covered by training required by other existing standards, separate training specifically for this draft standard would still need to be provided to demonstrate compliance for work addressed by this standard. The SER explained that as a result of a new OSHA standard being imposed, insurance companies would add to the types of training that they require.

One SER provided the following estimates of the costs associated with the training required by the draft standard: Train the trainer program (OSHA 500 and OSHA 502), 80 hours plus \$2,200 every four years; training in use of atmospheric monitors (including calibration, sensor replacement, and testing), 16 hours plus \$869; training seminar for supervisors, 8 hours plus \$289-\$369 every 3 years; training seminar for employees, 8 hours plus \$257 every 3 years.

Another SER estimated that, for training, “the minimum cost would be two training days per year [and] ... refresher training will have to be another two days every year.” [Mistick, p. 1.]

Another SER estimated the training costs as follows: “We estimate that we spend about 40 hours per year per employee on safety training and this proposal would add 8-10 hours additional time and expenses. The impact of training and reproducing this information in Spanish for our market is also a large burden for a small business and there are not currently available programs to convert this information.” [Taylor, p. 3.]

Another SER, with 65-130 employees depending on the season, summarized the training and familiarization costs associated with the proposed standard as follows: “[I spent] over twelve hours reviewing the information packet sent to me and developing an opinion of what the new regulation means to my business. We would look to outside sources and association contacts to educate our supervisory staff, safety person, and estimators. The safety person in turn would train our field personnel. Typical cost for an outside source training, \$2000.00; two construction managers @ 8 hours each, \$720.00; two estimators @ 8 hours each, \$720; eight field supervisors @ 8 hours each, \$2688.00; sixty field employees @ 1 hour each, \$1500.00; total first year cost, \$7628.00; total annual cost for field employees @ 1 hour each, \$1500.00.” [Benning, p.1.]

One SER provided the following summary of concerns with regard to the estimated costs of compliance:

OSHA under-estimates the burdens on small business – training time involved, cost involved in training, second or even third language requirements, identification of personnel to do the work (unskilled laborers are not qualified to be safety monitors, etc.), and cost for safety equipment and supplies. As

discussed in the panel discussion, there will be need for periodic refresher training for workers who only see a confined space a few times a year. Although our technicians stay with us 3 to 5 years on average, we still retrain on everything at least once a year. ... In terms of equipment, we're finding the life expectancy of equipment is considerably less than estimated in the proposal – and getting shorter every year. [Taylor, p. 1.]

A general contractor who currently keeps employees away from confined spaces as much as possible believed that the draft standard would require additional recordkeeping, and would require additional employees to enter the space to fulfill the responsibilities of the controlling employer. In addition, as current insurance coverage would not allow such activities, an additional cost also would involve purchasing special coverage for this purpose.

One SER explained that:

The [draft] standard would also require general contractors on residential construction sites to conduct additional inspections and [require] additional staff training. Most general contractors do not have the resources or expertise to recognize, discover, and correct hazards created by the specialty trade subcontractors ... The proposed standard would require the controlling/host employer to determine if a space is regulated under the Confined Space in Construction Standard, even though these individuals may not be as knowledgeable on the hazards as the specialty trade subcontractors. ... Economic impacts for single-family residential structures (SIC 1521 General Contractors – Single-Family Houses) are not considered and **have not been** calculated in the compliance costs. [Behlman, p. 2-3; emphasis in original.]

Costs Associated with Hazardous Enclosed Spaces: According to one SER, OSHA's estimate of \$8 million for maintaining records associated with hazardous-enclosed spaces in residential construction, including records for classifying hazardous-enclosed spaces, atmospheric-testing results, methods of protecting employees, and employee training "is a very low estimate for costs of compliance and does not reflect the ... additional burdens to small businesses in residential construction, which could add up to be in the tens of millions of dollars, and are in addition to the \$8 million estimated for record keeping compliance alone." [Behlman, p. 3-4.] The SER provided the following information regarding the additional costs that would be incurred to achieve compliance with the draft standard:

Testing/Monitoring OSHA's estimated compliance costs DO NOT reflect costs associated with atmospheric testing and monitoring (currently not required by OSHA standards) [and] would include:

- 1 \$1400-\$2000 for each equipment monitor
- 2 Initial testing of each room in the [h]ouse immediately prior to entry is estimated at 15 minutes (OSHA estimate of 5) and continuous monitoring is estimated at 20 minutes (OSHA estimate of 15)

- 3 Testing would be required for each room (average 10 spaces per home – 3 Bedrooms, 2 Baths, Kitchen, Living Room, Dining Room, Garage, and Basement)
- 4 Multiple testing of each room would be required ... prior to the work of several trade subcontractors, such as painters and flooring installation
- 5 Multiple testing of 10 spaces per home multiplied by the 1.6 million [h]omes being constructed in 2003
- 6 Testing and monitoring of hazardous enclosed spaces in residential construction could be in the tens of millions of dollars with no benefit (There have been zero (0) fatalities in confined spaces in residential construction.)

OSHA wrongly assumes that employers are likely to have, and be able to use, atmospheric testing equipment and put monitoring procedures in place, although the existing OSHA standards do not specify or require testing. These costs have not been calculated into the overall costs of compliance with the [draft] standard. Training OSHA's estimated compliance costs DO NOT reflect training costs, and estimated training costs ARE NOT accurate:

- 7 OSHA estimates 10 hours to establish a training program. This should be a minimum of 40 hours.
- 8 Training for operation of the testing/monitoring equipment. [Behlman, p. 4; emphasis in original.]

One SER disagreed with OSHA's assessment that the reporting and record keeping requirements for hazardous-enclosed spaces impose no major burden. The SER explained that the paperwork requirements of the draft standard include preparing documentation for atmospheric testing, atmospheric monitoring, information required to be communicated to both the controlling/host employer and trade subcontractors, and training records. The SER estimated that in residential construction, "this could potentially be ... millions of spaces entered (1.6 million homes constructed, multiplied by testing of each room multiplied by the number of activities covered) – not 4 times per year ..., which is OSHA's estimate." [Behlman, p. 4.] The SER added that the amount of time required for the paperwork would be "much greater than 15 minutes and could perhaps require hours to prepare this written documentation." [Behlman, p. 4.]

Costs Associated with Monitoring: Regarding the costs associated with atmospheric monitoring, the SERs asserted that the average useful life of a monitor would more appropriately be estimated as two to three years instead of five years. One SER stated, "Normal life for a monitor is maybe one year if you're lucky." [Lauer, p. 3.] Another SER noted that, regarding the cost estimate for monitoring equipment, "contractors will have to buy equipment once a year to assure the accuracy of the testing." [Mistick, p. 1.]

In addition, the SERs believed that the need for calibration services should be considered, including the time to deliver and pick up monitors and establish the documentation. Calibration gases also must be purchased to calibrate the monitor, and a small cylinder of this gas costs \$200; more than one of these cylinders is used each year.

The SERs also generally agreed that the cost of a monitor should include the cost of replacing the sensor every 12 to 18 months; the cost of a sensor is about half to two-thirds of the cost of a new monitor.

One SER pointed out that the estimated cost for atmospheric monitoring assumed the use of an unskilled worker. The SER further stated, "I would find it difficult to explain to the families of those affected by an error in this testing that we did not use a skilled professional to establish safe working conditions." [Benning, p. 2.]

Another SER stated, "The use of an unskilled worker is going to be the pot of gold at the end of a rainbow for lawyers. Unskilled is not acceptable even if it is promulgated in the standard." [Lauer, p. 3.]

With regard to the estimated time necessary for atmospheric monitoring, a SER explained, "The time of five to ten minutes doesn't consider transporting the equipment from the office/shop to the remote job sites. A minimum of one hour would be more appropriate." [Benning, p. 2.]

Other Cost Issues: One SER stated that, due to the remote location of his business, none of the equipment necessary for compliance with the standard, such as monitoring or ventilation equipment, could be rented. Another SER stated that monitoring equipment, and other equipment such as tripods, are often rented instead of purchased.

One SER estimated that the cost of an appropriate Tyvek suit for some situations may be as high as \$8 to \$10. Another SER estimated that Tyvek coveralls for chemical protection would cost \$18 per outfit, and that two outfits per day would be needed -- one before lunch and one after lunch. The SER also stated that CPR and first aid training would involve a total of eight hours of training per trainee.

Identification and Classification of Confined Spaces

The SERs believed that the draft standard was more complicated, confusing, and stringent than the General Industry standard because it established five space classifications instead of two. The SERs noted that this provision would cause confusion about the classification of spaces. One SER explained that the same space may involve two different classifications, depending on the work performed by the employees. In addition, the SERs stated that the definitions of the space classifications were not clear, and that interpretations of the requirements would vary, causing problems for compliance and for coordination with other contractors.

One SER questioned the need to have four or five different types of confined space classifications. The SER explained, "Under the present 1910/ANSI standards either it is permit or it is not and even this causes difficulties. Remember, in many cases the people

trying to make these decisions as [they relate] to confined spaces are not trained safety professionals.” [Lauer, p. 2.]

One SER stated that the requirements of the draft standard were confusing regarding the definitions and obligations of controlling employers and host employers. The SER believed that the standard was unclear about the specific duties, responsibilities, and liabilities that would have to be assumed by different employers for different types of situations and work arrangements. The SER also noted that because the standard was unclear regarding these factors, there would be confusion about who decides, determines, and defines hazards and confined spaces; as a result, dangers to employees may increase as people with less expertise (i.e., controlling employers or host employers) may insist on controlling safety aspects of the job. The SER stated that the standard should not impose authority on those who may not have adequate expertise, and the standard should not interfere with the mutually agreeable arrangement made by the contractors and employers involved in the project.

Hazardous-Enclosed Spaces

One SER stated that it was difficult to know in practice what would be considered a hazardous atmosphere under the draft standard. Another SER also expressed concern regarding these spaces. For example, what specifically would be required in terms of training and monitoring if a flooring contractor went from room to room, opening containers in each room as work was being done? Would employees of this firm or of other contractors who had not specifically received hazardous-enclosed space training be allowed to work in the same space or in spaces sharing ventilation with these work spaces? Would a basement without a stairway, a crawl space, or an attic be considered a hazardous-enclosed space or a confined space?

A third SER stated, “The provisions addressing the hazardous enclosed spaces impose new, burdensome requirements on the residential construction industry, without any benefit to worker safety and health.” [Behlman, p. 2.]

Another SER observed that the definition and provisions of the draft standard regarding hazardous-enclosed spaces are “vague and overbroad,” and that they address “an unproven and undefined problem.” According to this SER, “the draft rule would leave employers to guess what would be covered by this term. In any given circumstance, the employer would have to have a certified industrial hygienist and/or chemical engineer simply to make a determination if a space is ‘hazardous’ in order to avoid any potential interpretation by OSHA.” [Mistick, p. 1.]

Training

The SERs indicated that training often needs to be provided in Spanish as well as in English. In addition, much retraining is often necessary due to employee turnover. For

employers and employees who do not often deal with confined spaces, more training will be necessary to refresh knowledge.

One SER explained that compliance with the training requirements would be difficult because it is often not possible to know in advance who will be working on which projects, and it can be difficult to anticipate when a confined space will be encountered; thus, training may have to be provided to many employees who may never see or enter a confined space.

Another SER was concerned that, to offer training in Spanish, it would be necessary to use outside providers, and that these providers would be expensive. In addition, it would be necessary to wait for such training to be offered by outside sources before it could be provided to employees.

The SERs explained that training is accomplished in variety of ways, depending on the particular circumstances, in-house preferences, and the knowledge of the business manager. In some cases, all employees and supervisors may be provided with training from outside sources. In other cases, in-house trainers may be trained by outside sources, and the in-house trainer then will provide training to employees. Other businesses use a combination of outside sources, purchased materials, and on-the-job training.

Permit Systems

The SERs generally indicated that they already implement permit systems for confined spaces when required, that they often go above and beyond existing regulatory requirements, and that they did not object to such procedures being required when necessary.

One SER was concerned about the amount of additional paperwork that would be generated. The SER explained that much paperwork already is required by city and county governments, fire departments, and insurance officials, that yet another layer of terminology, definitions, and separate requirements imposed by the draft standard would be an administrative nightmare, and that file space would be an issue (e.g., insurance companies typically require the retention of all records and paperwork generated in association with such jobs for seven to ten years).

Requirement for Lowest Feasible Classification of a Confined Space

The SERs indicated that they currently make every effort to declassify spaces as much as possible to reduce or eliminate any potential hazards. In general, according to one SER, all spaces are treated as potential permit-required confined spaces until a determination is made that it is not a permit-required confined space. The SERs generally supported the nature and intent of this provision.

Atmospheric Monitoring

The SERs who do work in confined spaces generally did not object to the draft requirements for atmospheric monitoring. One SER said that the draft standard would not affect current practices much in this regard since they already do continuous monitoring. A general contractor who currently keeps employees away from confined spaces as much as possible noted that the monitoring provisions of the draft standard would require additional recordkeeping, and would require additional employees to enter the space to fulfill the responsibilities of the controlling employer; as current insurance coverage does not allow such activities, this provision would involve purchasing special coverage for this purpose.

One SER questioned how to comply with the requirement for employee participation and observation when the work site was 200 miles away, and the monitoring was conducted in advance. Would employees for the job have to be pre-selected in advance and transported to the work site? Would the authorized representative be entitled to the same arrangement? Would all workers potentially working at the site be involved in the observations?

Written Program

The SERs indicated that even if it is not required explicitly by the draft standard, they would develop a written program for confined spaces. A written program would be needed to establish the policies of the company with regard to the specific situations it encounters, to inform employees about company procedures, to provide clear guidance to workers, and to satisfy the demands of general contractors, clients, and insurance companies.

Multi-Employer Worksite Provisions

Several employers found the draft provisions involving controlling employers objectionable. The objections were based both on the perspective of the owner or general contractor, and the contractor or subcontractor.

According to the SERs, an owner or general contractor without expertise often would not want to be (and should not be made to be) responsible for evaluating confined spaces and the hazards associated with them. The owner or general contractor may be prohibited from assuming such duties (to the extent they involve entering confined spaces) by insurance restrictions. Additional liabilities, and insurance availability and costs associated with such responsibilities, could be problematic for some firms. Furthermore, additional employees may be exposed to the hazards associated with entering confined spaces unnecessarily when owners or general contractors are responsible for the confined spaces. A general contractor who currently keeps employees away from confined spaces

as much as possible noted that the draft standard would require additional employees to enter the space to fulfill the responsibilities of the controlling employer.

The SERs also explained that, from the contractor or subcontractor perspective, responsibility for employee safety should not depend on information from a controlling employer who may have little or no relevant expertise. In addition, the language of the draft standard could give rise to disputes over who has the ultimate responsibility or decision-making authority; such disagreements or confusion may result in project delays and additional costs. In practice, it can be difficult for a subcontractor to overrule or argue with decisions of a controlling employer who may have responsibility under the draft standard, but has little expertise; risks to employees could be increased as a result.

One SER noted that the problems with the controlling employer provisions are compounded because the draft standard can be subject to many different interpretations regarding what is required. Another SER stated, “Far too much of the rule is left to interpretation. Where you have a multi-employer site with several people having safety responsibility, what do you do if there is a difference of opinion? Also, if one can make the final decision does he then assume the legal liability? The term ‘controlling employer’ is a new term of art and has created confusion over who is ultimately responsible” [Taylor, p. 2.]

The SERs explained that the draft provisions regarding controlling and host employers may conflict with business contracts and agreed-upon divisions of responsibilities. The SERs generally believed that employers should be responsible for their employees, and that neither party would be comfortable having controlling or host employers tell contractors what the situation was regarding confined spaces, what hazards existed, and how the work should be done. General and subcontractor SERs agreed that the general contractor should not have the liability or authority to make determinations, decide requirements for safety or compliance, or direct the job. The SERs emphasized that specialist contractors are hired specifically because of their expertise, are hired to do the necessary job, and should have control about how to do the work and deal with confined spaces. The SERs believed that the experts should be the ones making the decisions, unimpeded by interference from others; contractors prefer to rely on their own equipment and judgment to ensure that their employees will be adequately protected.

The SERs noted that under the language of the draft standard, the controlling employer will control how the work is to be done and will impose requirements, even though they may not know what measures are appropriate. Often people without experience may read the regulatory text and conclude what should be done, but experience can produce different approaches to doing a job. The SERs indicated that under the draft standard, it may become necessary to shut down a job because more people are assigned responsibility and someone has interpreted requirements differently.

All of the SERs interpreted the draft standard as putting authority and responsibility regarding the identification of hazards on the controlling employer. A homebuilder SER questioned how OSHA could possibly expect him to be an expert on the hazards faced by

the 30 different trade contractors he hires. The SERs emphasized that the draft standard would affect (and would be inconsistent with) existing insurance, liability, contracts, and business relationships.

One SER pointed out that the definition of controlling employer was not consistent with the definition used in subpart R of 29 CFR part 1926. Another SER provided the following perspectives regarding the multi-employer worksite provisions:

The proposal does not recognize safety practices in the field and the relationship between the owner and/or general contractor (GC) and the subcontractors on the job. In many cases, we may be hired directly by the owner, bypassing the general contractor. In that instance, we are the ‘controlling employer,’ not the GC. The rule assumes frequent interaction between a GC and the sub. This does not always happen. As a matter of fact, there are many jobs where we don’t even see the GC. [Taylor, p.2.]

Another SER explained, “As a general contractor (controlling employer), we hire professionals to complete the work items on our projects that we do not have the background or expertise to complete with our own employees. We instruct our employees to not enter [confined spaces]. Under the new regulation, we as the controlling employer are responsible for entering these areas to complete the testing and establish the criteria that our specialized subcontractors are to work under. This would mean that we would be required to obtain insurance coverage ... that we presently do not carry. The cost of this coverage would dramatically affect our overhead.” [Benning, p. 2.]

Another SER believed that “there was general agreement that an improved strategy for discharging oversight responsibility would be to require the ‘performing’ employer to submit a written safety plan prior to entering the confined space.” [Mistick, p. 2.]

Several SERs agreed that the general contractor should provide information about hazards to subcontractors to the extent that the general contractor has such information. The SERs stated that often information about hazards that can be shared by general contractors can be useful and important for subcontractors in providing safety and health protection for their employees.

Continuous-System Confined Spaces

The SERs generally indicated that they believe employees already are adequately protected from the potential hazards associated with continuous-system confined spaces. One SER explained that in a typical situation, they may install a pump to divert flows away from the work site. The SER noted that it was not clear from reading the draft standard whether using a pump would be considered isolating the hazard, given that the potential hazard would exist if the pump failed. In the event that flows from upstream sources could engulf the work site, the SER noted that vigilance and preparedness for

quick evacuation were sufficient to protect employees. The SERs also indicated that the diversity of possible sources of upstream flows, given the number of forks and branches systems usually contain, would make it difficult to monitor all possible sources; therefore, it was not clear how compliance with the draft standard could be achieved in this regard.

Rescue Provisions

One SER stated that his business relies on local emergency-response teams when they are available. Sometimes it is necessary to bring in an independent organization, and this costs \$1,000 per person per day to remain at the work site. Another SER said that they provide all of their rescue capability on their own, and that they have all the equipment they need for this requirement in trailers at the job site. Yet another SER said that the cost of maintaining a full-time rescue crew would be prohibitive. One SER pointed out that the draft standard appears to require employers to provide medical services, and that providing more than first aid would be extremely costly.

Another SER was concerned that “the [draft] standard is not clear on what types of rescue training [are] needed as well as who is responsible for providing the rescue services – the CE or the contractor doing the work. There is nothing noted as to what types of rescue equipment will be necessary.” [Lauer, p. 2.]

Overlapping or Conflicting Standards

One SER explained that, with regard to asbestos, lead, and mold remediation, extensive state and local regulations now cover these activities. Some of these regulations may address establishing or working in confined or hazardous-enclosed spaces. The state and local laws also may address entry procedures, monitoring, and training; the draft standard would add more requirements on top of these regulations. The SER was not sure if the provisions would work together, and was concerned that the draft standard may not be fully consistent or coordinated with state and local regulations.

Another SER stated that, with regard to hazardous-enclosed spaces, the hazard-communication standard already requires that exposures to chemicals be limited to nonhazardous levels, so the additional requirements of the draft standard seem unnecessary.

One SER explained that his company may have 12 different jobs occurring at once in confined spaces, and that the draft standard would create problems in interpreting definitions, scope, and other provisions. The SER also explained that recordkeeping would be required under many different rules. According to the SER, having supervisors learn and follow several different standards that may or may not be applicable would be problematic, and it would be difficult to have employees familiar with the many different regulatory requirements that apply in various situations. As a result, even contractors

committed to safety and compliance with OSHA standards would become more vulnerable to citations as many different rules could possibly apply to a situation. Potentially applicable standards, in addition to the draft standard, include the underground construction, trenching, and General Industry confined-spaces standards, as well as state and local standards.

Another SER pointed out that the provision of the draft standard addressing hazardous-enclosed spaces duplicates and “opens the door for conflicts with other regulations. ... The regulations covering such ‘hazards’ include OSHA’s PEL standards, ventilation standards, hazardous communications, local and state asbestos standards, EPA rules on abatement, and HUD’s lead abatement standards.” [Mistick, p. 1.]

A SER asserted that the draft standard definition of controlling employer “is inconsistent with the OSH Act which makes each employer responsible for the safety and health of their own employees.” [Chandler, p. 2.] Another SER identified OSHA standards that already cover the hazards associated with hazardous-enclosed spaces, including: 1926.55 – Gases, Vapors, Fumes, Dusts, and Mists; 1926.57 – Ventilation; 1926.59 – Hazard Communication; 1926.62 – Lead; 1926.651 – Specific Excavation Requirements; and 1926, Subpart Z – Toxic and Hazardous Substances. One SER stated that “1926.21(a)(b) dictates the same ... training as ... the [draft] standard.” [Lauer, p. 2.]

4. Panel Findings and Recommendations

Costs and Economic Impacts

General Comment: The SERs generally believed that OSHA had underestimated the costs of the draft standard. OSHA is committed by law to develop its analyses using the best available evidence, and it will consider carefully the SER comments in the light of this test. The Panel recommends that OSHA revise its economic and regulatory flexibility analysis as appropriate to reflect the SERs’ comments on underestimation of costs, and that the Agency compare OSHA’s revised estimates to alternative estimates provided by the SERs. For those SER estimates that OSHA does not adopt, OSHA should explain its reasons for preferring an alternative estimate, and solicit comment on the issue.

Cost of Training: Many SERs observed that OSHA had underestimated the cost of training. They were concerned particularly about the length of time required for training, training the trainers, renewal training, and multilingual training. The SERs also noted that much retraining could be avoided if OSHA adopted the General Industry rule, because most firms already have trained their employees on that rule. Some SERs also noted that they still need to train employees on the General Industry standard because some of their work would come under the General Industry standard. In these situations, they would need to continue training on the General Industry standard, while adding

training on the Construction standard and on how employees should determine which standard applies. Because OSHA's economic analysis examined training on a project basis, it is difficult to compare OSHA's cost estimates to the estimates provided by the SERs. The Panel recommends that OSHA carefully analyze the SERs' comments on training costs by developing methods for comparing these cost estimates to those estimates provided in OSHA's economic analysis. OSHA then should compare these costs to its present cost estimates, and revise its training costs as necessary based on all of the available information.

Cost of Monitoring and Monitoring Equipment: Many SERs stated that OSHA had neglected some elements of monitoring costs, such as the need for a competent person to conduct the monitoring, the need for the entire crew to wait while a supervisor performs the monitoring, the short life span in the field of monitoring equipment, and costs associated with calibrating the equipment. Those SERs affected by the hazardous-enclosed spaces portion of the draft rule were concerned, particularly about increased monitoring costs. The Panel notes that if the SERs views about the life of equipment and the need for entire crew to suspend work during monitoring are correct, and no other assumptions are changed, the costs of monitoring would be three to five times higher than OSHA estimated, adding \$6 to \$12 million to the cost of the draft standard. The Panel recommends that OSHA consider these factors and revise its monitoring-cost estimates accordingly, and that monitoring costs reflect the total actual costs associated with conducting monitoring, including the cost of transporting and maintaining equipment, and the costs associated with crew members waiting for the completion of monitoring activities.

Costs and Benefits of Hazardous-Enclosed Spaces: Many SERs were concerned that these provisions of the draft rule would result in extensive costs with few benefits. Some SERs thought the provisions required little recordkeeping beyond what they currently do. Also, some SERs noted that OSHA had underestimated the costs associated with recordkeeping. The Panel is concerned that the hazardous-enclosed spaces provision would require major atmospheric testing and monitoring burdens not identified in the cost analysis. The Panel recommends that OSHA carefully examine the benefits and costs of this portion of the rule, and compare these requirements carefully to what is required under other existing regulations, and to existing construction industry practice.

Costs of the Controlling Employer Provision: Most SERs were concerned that the treatment of controlling employers in the draft standard would result in additional costs for controlling employers in the form of increased monitoring and supervision of subcontractor activities. SERs also were concerned with the costs and time required to meet the coordination and communication requirements of the draft standard. The Panel recommends that, if OSHA does not clarify these provisions, then it should examine further the possible costs of the controlling employer provisions in the draft rule. Also, OSHA should be certain that it has accounted for all of the burdens associated with this provision.

Costs of Classifying Confined Spaces: Many SERs were concerned that the increased complexity of the classification system would add not only to the training costs but also to the costs associated with classifying confined spaces. The Panel recommends that, if the classification process is not simplified, OSHA should further analyze the costs associated with classifying confined spaces.

Description and Estimate of Potentially Affected Small Entities

OSHA estimated that the draft standard potentially affects small entities performing construction work in confined and enclosed spaces. Small entities in eight specific construction industry classifications were identified as being potentially affected by the draft standard. These classifications include Residential Housing (SIC 1522); Industrial Buildings (SIC 1541); Other Nonresidential Buildings (SIC 1542); Highway and Street Construction (SIC 1611); Bridge and Tunnel Construction (SIC 1622); Water, Sewer, and Pipeline Construction (SIC 1623); Other Heavy Construction (SIC 1629); and Structural Steel Erection (SIC 1791).

For each of these industry classifications, Table 3 shows estimates of the total number of small firms in the industry, the number of establishments operated by these firms, the number of employees of these firms, and the total sales of these firms. These figures represent the best available estimates for the numbers of potentially affected small entities meeting the definition of a small entity established by the Small Business Administration for these particular industry sectors.

In summary, an estimated 86,012 small entities are potentially affected by the draft standard. These firms operate an estimated 86,158 establishments, employ an estimated 921,831 employees, and generate total sales estimated at \$192 billion.

In addition to the small entities identified above, small entities in another industry classification, General Contractors for Single Family Homes (SIC 1521), may be affected by the provisions of the draft standard addressing hazardous-enclosed spaces. The Panel recommends that prior to publishing a proposed standard, OSHA should clarify these requirements and include the associated compliance costs, impacts, and benefits in the analysis of the proposal.

TABLE 3
Potentially Affected Small Entities

| Industry | Number of Small Entities | Number of Establishments | Number of Employees | Total Sales (\$millions) |
|---|--------------------------|--------------------------|---------------------|--------------------------|
| Residential Housing SIC 1522 | 7,328 | 7,334 | 46,593 | \$11,495 |
| Industrial Buildings SIC 1541 | 8,342 | 8,353 | 80,498 | \$19,360 |
| Other Nonresidential Buildings SIC 1542 | 29,483 | 29,523 | 311,451 | \$91,308 |
| Highway and Street Construction SIC 1611 | 10,068 | 10,113 | 149,342 | \$26,957 |
| Bridge and Tunnel Construction SIC 1622 | 996 | 1,001 | 20,360 | \$3,934 |
| Water, Sewer, and Utility Lines SIC 1623 | 10,582 | 10,597 | 144,659 | \$18,868 |
| Other Heavy Construction SIC 1629 | 15,173 | 15,194 | 120,414 | \$15,032 |
| Steel Erection SIC 1791 | 4,040 | 4,043 | 48,514 | \$5,161 |
| All Industries | 86,012 | 86,158 | 921,831 | \$192,115 |

Source: CONSAD report (2/28/03), Table 7.2.

Description of Compliance Requirements

General: Almost all of the SERs found the draft standard difficult to follow. The SERs stated that they currently were using the General Industry standard and were familiar with it. A few SERs saw some advantages to the differences between the draft standard and the General Industry standard, but even these SERs did not believe that these advantages were sufficient to justify the amount of training the draft standard would require. The Panel recommends that OSHA either make the standard easier to follow, consider a standard closer to the General Industry standard, or develop a standard in which the classification provisions that provide greater flexibility to employers are optional rather than required.

Types of Confined Spaces: Most SERs were confused by the distinctions between types of confined spaces. One SER referred to the distinctions as “metaphysical.” The Panel recommends that if these distinctions are retained, they should be made clearer, or OSHA should consider making such classifications optional.

Hazardous-Enclosed Spaces: Many SERs noted that this requirement would result in a major recordkeeping burden. Some SERs believed that these requirements represented major new requirements for many contractors. OSHA notes that a few of the SERs seemed unacquainted with some of the requirements of existing regulations. The Panel notes that the requirement to evaluate each potentially hazardous space implicit in Section 1926.1225(a)(3) could radically alter the compliance requirements and the costs of the rule in ways not reflected in OSHA’s Preliminary Initial Regulatory Flexibility Analysis. The Panel recommends that OSHA more carefully explain the relation of these requirements to existing requirements and practice, and explain the need for different requirements.

Controlling Employers: SERs were concerned that the provisions addressing controlling employers would require general contractors to develop confined-space expertise and provide confined-space supervision. OSHA’s intent with these provisions was not to change existing relations between general contractors and their subcontractors, but rather to assure that general contractors provide subcontractors with the information they possess relevant to confined spaces. Some SERs agreed that additional information could be useful. The Panel recommends that OSHA clarify this requirement to indicate that the role of the controlling employer is only to provide any information they possess concerning confined spaces.

Duplicative, Overlapping, or Conflicting Regulations

OSHA's Hazard Communication standard also provides guidance to employers on the use of certain chemicals in the work place. However, OSHA does not see any conflict between this standard and the draft standard. The Hazard Communication standard provides general precautionary information regarding the use of certain chemicals and products; the draft standard provides more explicit requirements for conditions specific to confined and enclosed spaces. Also, many construction contractors still will need to follow the General Industry standard in some types of work, and thus need to train their workers in using two different standards, and when to apply each standard. The SERs identified other federal standards that they believe address the hazards associated with confined and enclosed spaces, including OSHA standards for Ventilation (1926.57) and for Gases, Vapors, Fumes, Dusts, and Mists (1926.55), and EPA and HUD rules on abatement work. Accordingly, the Panel recommends that OSHA clarify the exact relation between the draft standard and other standards affecting work by construction employers in confined or enclosed spaces, including the Hazard Communication standard, the General Industry standard, the Permissible Exposure Limit standards, the Ventilation standard, the Gases, Vapors, Fumes, Dusts, and Mists standard, and applicable EPA and HUD standards.

Significant Alternatives

General: Alternatives to adopting the draft standard developed by OSHA include adopting the draft standard developed by the Advisory Committee for Construction Safety and Health, the industry consensus standard developed by the American National Standards Institute, or the existing OSHA General Industry standard. Additional alternatives include modifying the OSHA draft standard by removing provisions addressing hazardous-enclosed spaces, removing the requirement to classify spaces in the least hazardous category, revising requirements for atmospheric monitoring to allow periodic monitoring instead of continuous monitoring, and/or reducing or eliminating recordkeeping requirements. The Panel recommends that OSHA continue to consider these alternatives, and discuss and solicit comment on them in the proposed rule.

The General Industry Standard: Most SERs indicated a preference for using the General Industry standard for construction work, as opposed to the draft standard. OSHA is concerned that not all construction employers are as familiar with the General Industry standard as the SERs are, and that some employers might benefit from a standard designed to provide greater compliance flexibility. The Panel recommends that OSHA consider the alternative of adopting the General Industry standard and, if this alternative is not adopted, discuss and solicit comment on this alternative in the proposed rule. If OSHA does not adopt a standard closer to the General Industry standard, the Panel recommends that OSHA revise its comparative cost analysis of the General Industry rule and the draft standard to take account of SER concerns about the increased training, communication, and classification costs associated with the draft standard. The Panel

also recommends that OSHA solicit comments on how an alternative standard similar to the General Industry standard could be adapted to the construction sector. In addition, the Panel recommends that OSHA analyze and solicit comment on the nonregulatory alternative of not issuing a final standard, relying instead on existing standards and improved outreach.

Types of Confined Spaces: The SERs were confused by the variety of distinctions among confined spaces, and generally believed that the training required by these provisions negated any advantages that might arise from the flexibility of different types of confined spaces. The Panel recommends that OSHA examine and solicit comment on alternatives that reduce the number of types of confined spaces, and that OSHA consider alternatives that would allow employers the choice of using or ignoring these provisions.

Hazardous-Enclosed Spaces: Many SERs viewed the requirements for this space as highly burdensome. The Panel recommends that OSHA remove this provision unless OSHA can 1) clarify exactly how the requirements of this provision are different from other existing requirements and practices; 2) develop a detailed cost analysis of this provision; 3) quantify the hazards associated with hazardous-enclosed spaces; and 4) explain how the hazardous-enclosed space provision can serve to reduce this hazard. If OSHA retains this requirement or one like it, OSHA also should solicit comments on the need for the recordkeeping requirements in the provision. In addition, OSHA should solicit comments on removing this provision entirely.

Controlling Employers: Most SERs were concerned that this provision would alter the existing relationship between contractors and subcontractors with little gain in reduced risk to employees. OSHA notes that the purpose of this provision was only to ensure that contractors share available information at multi-employer worksites. OSHA cannot regulate contractual matters between parties or prevent terms of contracts that require subcontractors to follow instruction of general contractors. Some SERs agreed that information sharing would be helpful, but were concerned that the OSHA draft went far beyond this purpose. The Panel recommends that OSHA consider removing this provision or clarifying the purpose of this provision, and solicit comment in the proposal on the need for this provision.

Appendix A

List of Panel Members And Staff Representatives

Small Business Advocacy Review Panel Members and Staff Representatives for the Draft OSHA Standard on Confined Spaces in Construction

Robert Burt, Chairperson -- OSHA

Bruce Swanson -- OSHA

Noah Connell -- OSHA

Garvin Branch -- OSHA

Brian Eagle -- OSHA

Stephen Cloutier -- OSHA

Jens Svenson -- OSHA

Kathleen Martinez -- OSHA

George Henschel -- Office of the Solicitor, U.S. Department of Labor

Robert Biersner -- Office of the Solicitor, U.S. Department of Labor

John Graham -- Office of Information and Regulatory Affairs, OMB

Dominic Mancini -- Office of Information and Regulatory Affairs, OMB

Thomas Sullivan -- Office of Advocacy, Small Business Administration

Charles Maresca -- Office of Advocacy, Small Business Administration

Joseph Johnson -- Office of Advocacy, Small Business Administration

Appendix B

List of Small Entity Representatives

**Confined Spaces in Construction
Small Entity Representatives (SERs)**

| | | |
|--------------------------------------|---|--|
| Lonnie Chandler BRS, Incorporated | Mike Schmitt Dave Schmitt Construction | Mervin Lauer BorTunCo |
| General Contractor | Heavy Construction, Highways | Tunnel and Boring |
| Larry Taylor AirRite | Bob Behlman Behlman Builders | Tom Mistick Mistick Construction |
| HVAC service | Home Builder | General Contractor Residential, light commercial |
| Terry Crouse John E. Kelly & Sons | Jim Benning Ainsworth-Benning Construction Co. | |
| Electrical Contractors | General Contractor, commercial, industrial concrete work | |

Appendix C

Written Comments Submitted by Small Entity Representatives