AMERICAN SOCIETY OF
SAFETY PROFESSIONALS

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U.S. Department of Labor
Occupational Safety and Health Administration
200 Constitution Ave. NW,
Washington,
DC 20210

ASSP Technical Comments Addressing OSHA Heat Injury and Illness Prevention Standard

Topic:	Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings
Date:	Federal Register; August 30, 2024
Agency/Docket Number:	[Docket No. OSHA-2021-0009], RIN 1218-AD39
Agency:	U.S. Department of Labor Occupational Safety and Health Administration 29 CFR Part 1910, 1915, 1917, 1918, 1926, and 1928

Per the August 2024 Federal Register announcement, we submit the following information to address this request:

OSHA is proposing to issue a new standard, titled Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings. *The standard would apply to all employers conducting outdoor and indoor work in all general industry, construction, maritime, and agriculture sectors where OSHA has jurisdiction, with some exceptions. It would be a programmatic standard that would require employers to create a plan to evaluate and control heat hazards in their workplace. It would more clearly set forth employer obligations and the measures necessary to effectively protect employees from hazardous heat. OSHA requests comments on all aspects of the proposed rule.*

ASSP Background

American Society of Safety Professionals (ASSP) is the oldest society of safety professionals in the world. Founded in 1911, we represent more than 35,000 professionals advancing workplace safety and health in every industry and state and around the globe. ASSP members have upheld the occupational safety and health (OSH) community's standards for excellence, ethics and practice for more than 100 years.

Response from the members of our impacted practice specialties noted their overall support of the intent of the proposed rule with technical comments and insights via this *Notice of proposed rulemaking (NPRM).*

Hearing Request

If a hearing is held during 2025, ASSP will participate in the hearing and proposes to include a panel of three speakers addressing:

- The ANSI/ASSP A10.50 Standard for heat stress on construction and demolition operations
- ASSP expertise addressing heat stress in indoor and outdoor environments
- Society leadership

General Technical Comments and Insights

The Society released its overall position on heat stress on Oct. 8, 2021, following an approval by the ASSP Board of Directors:

> *The American Society of Safety Professionals (ASSP) strives to elevate the safety profession and the individuals who choose it. We set the occupational safety and health community's standards for excellence and ethics. ASSP strives to uphold and elevate the value of the safety profession through innovation and thought leadership, and supports the development and dissemination of objective, data-driven safety and health practices.*
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> *On Sept. 20, 2021, the Biden Administration announced the U.S. Occupational Safety and Health Administration (OSHA) will take the following actions to address extreme heat exposure:*
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> *To combat the hazards associated with extreme heat exposure – both indoors and outdoors – the White House today announced enhanced and expanded efforts the U.S. Department of Labor is taking to address heat-related illnesses.*
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> *To emphasize its concern and take necessary action, OSHA is implementing an enforcement initiative on heat-related hazards, developing a National Emphasis Program on heat inspections, and launching a rulemaking process to develop a workplace heat standard. In addition, the agency is forming a National Advisory Committee on Occupational Safety and Health Heat Injury and Illness Prevention Work Group to provide better understanding of challenges and to identify and share best practices to protect workers.*
>
> *To address these initiatives, ASSP takes the following position:*

- ASSP supports public and private sector initiatives intended to prevent occupational injuries, illnesses and fatalities.
- We support public policy initiatives backed by good science and sound technology.
- Heat stress is a well-known and largely preventable hazard, and ASSP has long supported the development of a standard for heat stress.
- Our members stress the need to keep the standard simple from an implementation perspective and encourage OSHA to review the regulatory approaches taken by state-plan states.
- ASSP will provide technical comments on the heat stress initiatives, including the national emphasis program, at the time of their release to address any concerns it believes warrant additional review.
- ASSP is working with the A10 Committee for Construction and Demolition Operations to create a voluntary national consensus standard on heat stress for construction and demolition operations:

  > *American Society of Safety Professionals New BSR/ASSP A10.50-201X [Was approved in 2024], Standard for Heat Stress Management in Construction and Demolition Operations (new standard): This standard establishes the minimum requirements for the prevention heat illnesses and management of heat stress hazards and exposures encountered during construction and demolition operations. It establishes procedures for the management of heat stress hazards and the selection and use of appropriate controls and practices to*

reduce risks presented by heat stress and prevention heat illnesses for construction and demolition environments.

ASSP had a significant number of technical comments from our members following a review of this proposal.

Society members appear to agree on three main issues:

- The view is that this proposed rule would/could potentially improve heat stress related hazards and exposures, and it does clarify the responsibilities of and role of the company/organization with implementation of the standard.

- The proposed rule will pose significant implementation challenges for organizations and occupational safety and health professionals. Implementation could be particularly challenging for smaller organizations due to lack of resources. This lack of resources could include technical and professional insight from OSH professionals.

- Many ASSP members noted they were pleased that OSHA recognized the ANSI/ASSP A10.50-2024 Standard titled: *Standard for Heat Stress Management in Construction*. ASSP has historically maintained its position that voluntary national consensus standards should be reviewed for inclusion as part of the regulatory process.

Additional Technical Comments

Numerous ASSP members submitted technical comments, and the issues below would summarize what we see as their key issues/concerns.

Heat Safety Training: Are there more details about these requirements and clarification on supplemental training per the proposed standard? Members did note that additional detail addressing training requirements and compliance with the proposed standard would be of value. For example, there were numerous suggestions that attending and completing training addressing the ANSI/ASSP A10.50 Standard be recognized as accepted supplemental training.

OSHA needs to take into account heat-related factors that occupational safety and health professionals must consider every day include physical condition, the weather (including such heat-related variables as temperature, wind, and humidity), ADA considerations, clothing worn, quickness of movement and how much physical demand is being placed on the body (lifting, heavy work), if there is air circulation over the body, whether the person is in direct sunlight and if they are taking any medication(s) that may contribute to a heat-related illness.

Recordkeeping and Reporting: Our members noted that this is also an area needing additional clarification. We are aware this is a requirement, but the actual requirements were not clear in the document. The suggestion is OSHA release a chart noting the recordkeeping and reporting requirements against current OSHA requirements in 29 CFR 1904.

The threshold of 80 degrees F as the initial heat trigger, this occurs often and year-round in parts of the country. It was noted that this trigger is also noted in the ANSI/ASSP A10.50 Standard.

ASSP members noted they do not agree with the requirement/recognition of a Heat Safety Coordinator (HSC). We suggest that OSHA consider eliminating language references in the rule concerning HSC as OSHA already

has the defined terms of “competent person” and “qualified person” in the standard to oversee the responsibilities of the HSC highlighted in the proposed standard. Numerous ASSP members expressed concern with creating additional safety and health titles in the workplace, which could potentially cause conflict and duplication.

Our members asked for clarification on issues such as paid work breaks. Several members commented that paid rest breaks may not be common practice for workers doing piece-rate work like drywallers and farmworkers. We do not disagree that workers should receive breaks. However, several members suggested that OSHA should not get into payment related issues. For example, it was noted that including these types of issues in the original OSHA proposed ergonomics rule resulted in it being rejected.

OSHA could consider including the proposed acclimatization schedules in the standard, as part of a non-mandatory appendix. We are including this comment due to several comments from members. This would/could be written into a performance-based standard similar to the PSM standard and other standards where OSHA includes a non-mandatory appendix. We suggest this approach may assist employers in better understanding what a compliant heat injury and illness prevention program should entail. The impact would be the ability to demonstrate to OSHA that innovative workplace practices of an employer concerning heat injury and illness prevention could meet the intent of the standards.

H**eat Injury and Illness Prevention Program:** We had numerous suggestions that the ANSI/ASSP A10.50 Standard should be specifically included as a reference for the creation of such a program. It should be noted that although A10.50 was prepared as a construction standard, the concepts can be applied across many other industries.

It’s worth noting that there is no clear consensus within the ASSP membership on what should be included in program. Several members commented that this requirement might be too prescriptive in nature, particularly for smaller businesses and contractors. It was also noted that during the OSHA outreach efforts some stakeholders took the position that a performance-based heat injury and illness prevention requirement should be developed for inclusion in the standard. The proposed requirement is not written in a performance-based format. Perhaps it could be modeled after the OSHA Process Safety Management (PSM) standard, which is viewed as a practical performance-based standard.

Several hundred ASSP members commented that the plan requirements in the ANSI/ASSP A10.50 standard are more robust than that proposed by OSHA. ASSP is pleased that OSHA cites A10.50 as a reference document. However, we suggest that OSHA should recognize the specific plan requirements in A10.50 as an additional example of what could be implemented on construction/demolition sites and potentially in other outdoor working environments.

The A10.50 plan notes:

> *Employers shall develop a written heat stress management program to reduce the risk of occupational heat-related illness at construction and demolition sites. The written program shall be initiated before beginning work on any task anticipated to cause worker exposures above the initial trigger of 70 WBGT (approximately 80°F heat index), see Section 6.1.6. The program should be developed in consultation with a qualified person (see qualified person definition). A copy of the program should be kept on site. See Appendix 1 for a non-mandatory example of a heat stress management program. The program should include:*
>
> - *methods to acclimatize workers to heat stress environments; see Section 5.*
> - *methods to assess workers’ exposure to heat stress; see Appendix 2.*

- *requirements to provide potable water (and electrolytes for employees involved with heavy work activities greater than 2 hours) to all work crew members; see Section 6.2.1 and 6.2.2.*
- *an emergency action plan for heat-related medical emergencies, including on-site first aid (including rapid cooling) and calling emergency services for workers adversely affected by high heat exposures; see Section 9 and Appendix 9.*
- *requirements for scheduled rest breaks and breaks that are needed for workers who are exhibiting heat stress symptoms; see Section 6.2.3.*
- *requirements for shaded areas where the workers can rest; see Section 6.2.3.*
- *identification of on-site engineering and administrative controls, as well as personal protective equipment to reduce the exposure of the workers to high heat conditions; see Section 11.*
- *a method for monitoring workers' heat strain through means, such as the buddy system; see Section 6.2.4.*
- *identification of employee participation and employee responsibilities; see Section 10 and 12.3, respectively.*
- *heat stress training; see Section 13.*
- *an annual program review and revision as necessary.*

Note: This was developed as a consensus standard by the A10 Committee, as a standard-setting body focusing on establishing/maintaining/managing standards in the construction industry. This was a function of the organization writing the standard, not an assertion that the concepts only apply to construction and demolition.

Consensus Standards

As an advocate for workplace safety and OSH professionals, ASSP understands the importance of leading the discussion and evolution of voluntary safety standards. ASSP is the secretariat for 12 American National Standards Institute (ANSI) committees responsible for more than 100 safety standards. ASSP's role in the standards development process is to organize the committees and ensure the standards are developed, revised and published in a timely manner and in accordance with ANSI procedures.

ASSP has the following occupational safety and health standards committees:

- Construction and Demolition Operations (A10)
- Walking/Working Surfaces (A1264)
- Safety and Health Metrics (Z16.1)
- Fleet/Motor Vehicles (Z15)
- Confined Spaces (Z117.1)
- Lockout, Tagout and Alternative Methods (Z244.1)
- Fall Protection and Fall Restraint (Z359)
- Hydrogen Sulfide Training (Z390.1)
- OSH Training (Z490)
- Overall OSH (Z590)
- OSH Management (Z10; ISO 45001)
- Risk Management (ISO 31000)

Our position statement addressing the use of consensus standards is attached at the end as a resource.

Key Differences Between the OSHA Proposal and the A10.50 Standard

OSHA noted the following while comparing A10.50 to the OSHA proposed standard:

> *OSHA has preliminarily determined that the proposed standard would be highly effective at addressing the risk of occupational heat exposure while remaining workable across the many different work contexts covered by the proposal. As such, OSHA believes that the standard as proposed will best effectuate the OSH Act's purpose of ensuring safe and healthful working conditions.*

We are pleased to see that A10.50 is included as a reference. While ASSP does not disagree with some insights in the comparison, we contend that A10.50 is a much more comprehensive and impactful standard than in the OSHA proposed rule overall.

What we see as the key differences between A10.50 and OSHA include:

- Members of the A10 Committee and the A10.50 subgroup noted that OSHA recognizes A10.50 as a supporting document. However, A10.50 is not specifically recognized as a reference document to be used by OSH professionals creating a plan.

- The most important difference is that the OSHA proposed heat rule uses the "heat index". This is the combination of ambient temperature and relative humidity, which can easily be obtained from the National Weather Service or the OSHA/NIOSH heat app, which is downloadable. This is also known as the "feels like" temperature. It is important to note that the heat index can be measured in the shade.

- The A10.50 Standard uses the WBGT Index, which is more comprehensive. It considers the effect of direct sunlight, which will vary with the cloud cover but still adds to the overall heating effect. WBGT also accounts for the effect of wind or air movement and the effect of any local sources of radiant heat, such as hot kettles on low-sloped roofing work or hot asphalt on road work. The WBGT can now be downloaded through organizations such as the American Industrial Hygiene Association (AIHA) and a Quebec Canada organization, IRSST, which have links to applications that provide the WBGT. The AIHA application was launched just a few months ago.

A10.50 explicitly requires workers be given stop work authority and it requires a "competent person" whereas the OSHA proposal does not.

Some additional technical background information may be found through the following links:

- The Case for Safety Podcast, Episode 133: Using the A10.50 Standard to Help Workers Beat the Heat
- ASSP Publishes First Standard on Heat Stress in Construction

A10.50 Subgroup Insights on Questions 40, 41, 42, 92 and 111

Several members of the A10.50 Subgroup also reviewed the OSHA comparison to A10.50, the OSHA proposed rule and additional technical insights addressing differences between A10.50 and OSHA.

Q40) Please comment on whether the agency should require the provision of electrolyte supplements/solutions in addition to water.

The recently approved ANSI/ASSP A10.50-2024, "Heat Stress Management in Construction and Demolition Operations," comments in section 6.2.2, Provision of Electrolyte Replenishment Beverage, note:

> "*When employees are involved with heavy work activities for greater than 2 hours (work examples in Table 2, Appendix 2) employees shall also have access to electrolyte replenishment beverages (e.g., sports drinks) that are … provided to employees free of charge. Caffeinated and high sugar electrolyte replenishment beverages should be avoided."*

The statement in 6.2.2 of A10.50 was based on information previously stated in the NIOSH Criteria for a Recommended Standard, *Occupational Exposure to Heat and Hot Environments* (DHHS (NIOSH) Publication No. 2016-106. On page 29 (last line) and page 30, the following is stated:

> *"A general rule of thumb for those exercising in the heat 1 to 2 hours is to drink plain, cool water. Sweat is hypotonic to the [blood] plasma, and one does not lose a significant amount of sodium in the first hour or two of exercise [McArdle et al. 1996b]. Therefore, one does not require fluids containing electrolytes for this exposure. However, during prolonged sweating lasting several hours, it is advisable to consume a sports drink that contains balanced electrolytes to replace those lost during sweating, as long as the concentration of electrolytes/carbohydrates does not exceed 8% by volume. Exceeding the 8% limit will slow absorption of fluids from the gastrointestinal (GI) tract [Parsons 2003]."*
>
> *McArdle WD, Katch FL, Katch VI [1996b]. Exercise physiology. 4th ed. Baltimore: Williams & Wilkins.*
>
> *Parsons KC [2003]. Human thermal environments: the effects of hot, moderate, and cold environments on human health, comfort, and performance. 2nd ed. London" Taylor and Francis.*

Thus, as stated in section 6.2.2 of A10.50, employees involved with heavy work activities for greater than 2 hours should have access to electrolyte replenishment beverages to supplement the water being used for hydration.

Q41) Please comment on whether the requirement to provide a minimum of 1 quart per hour per employee is appropriate.

Yes, that is identified in A10.50 as the appropriate amount of water for employees to consume.

During the preparation of the ANSI/ASSP A10.50 Consensus Standard, the subcommittee reviewed the OSHA website for exposure to excessive heat, the NIOSH website for working in excessive heat, and the NIOSH Criteria Document mentioned in the response to Question 40. All three of these sources indicated that individuals who are working in high heat conditions should drink about 1 quart of water per hour to replenish water lost during sweating.

The NIOSH Criteria for a Recommended Standard, *Occupational Exposure to Heat and Hot Environments* (DHHS (NIOSH) Publication No. 2016-106 states on page 29:

> *"Because the normal thirst mechanism is not sensitive enough to ensure a sufficient water intake [Greenleaf and Harrison 1986; DOD 2003], every effort should be made to encourage individuals to drink water or other fluids (e.g., sport drinks). The fluid should be as palatable as possible, at less than 15°C (59°F). Small quantities taken at frequent intervals is a more effective regimen for practical fluid replacement than the intake of large amounts of fluids per hour [McArdle et al. 2010b]. Individual, not communal, drinking cups should be provided. Individuals are seldom aware of just how much sweat they*

produce or how much water is needed to replace that lost in the sweat; 1L·h^{-1} is a common rate of water loss."

Greenleaf JE, Harrison MH [1986]. Water and electrolytes. ACS Symp Series 294:107-124.

DOD [2003]. Technical bulletin: heat stress control and heat casualty management. TB MED 507/AFPAM 48-152 (1). Washington, DC: Departments of the U.S. Army, Navy, and Air Force.

McArdle WD, McArdle FI, Katch VI [2010b]. Exercise physiology. In: McArdle WD, McArdle FI, Katch VI, eds. Exercise physiology, nutrition, energy, and human performance. 7th ed. Philadelphia: Lippincott Williams & Wilkins.

Because of the information from the NIOSH Criteria Document and the OSHA and NIOSH websites, the ANSI/ASSP A10.50-2024 standard includes the following text:

"6.2.1 Water. Employees shall have access to potable (drinking) water including, but not limited to, the requirements that it be suitable cool and provided to employees free of charge. The water shall be in close proximity to the areas where employees are working. Where drinking water is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity to provide approximately one quart (~1 liter) per employee for drinking each hour over the entire shift."

"Employers may begin the shift with smaller quantities of water if they have effective procedures to replenish the supply during the shift, as needed, to allow employees to drink one quart per hour. When the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties, it is important to frequently consume small quantities of water, such as 12 ounces (~0.35 liter) every 20 minutes, rather than waiting to drink a larger quantity less frequently, such as a whole quart at hourly intervals."

Q42) Please comment on whether there are any challenges to providing the required amount of drinking water (e.g., for employees who work on foot in remote areas) and, if so, alternatives that OSHA should consider.

We recognize that such a situation would present challenges. Remote workers have challenges in available shade, transportation, means of communication, and access to drinking water. Proper planning would be needed before assigning employees to work on foot in a remote area during high heat conditions. Does the employee (or do the employees) have shade and transportation for the entire shift, or is (are) the employee(s) without shade and transportation until the end of the work shift? If transportation remains with the employees, then one or more ice chests can be loaded with the required number of water bottles needed for half the shift. The remainder of the needed water bottles can be located next to the ice chest. As cold bottles are removed for personal use, a warm replacement bottle will be inserted into the ice. Extra bags of ice will be needed to keep the chest filled throughout the shift. An extra empty ice chest would be ideal to help keep the extra bags of ice frozen for use in the other ice chests. Properly charged cell phones or walkie-talkies will be needed to maintain contact with the main work location in case some emergency occurs.

If the employees are dropped off at a remote location and do not have shade and transportation until a vehicle returns to pick them up, then that presents a more complicated situation for protecting the worker(s). Multiple ice chests already filled with ice and the correct number of water bottles must be prepared and then placed at the remote work location with the worker(s). Temporary shade would also be needed for use during the shift. That would have to be brought to the remote location also. Thus, proper planning is required to ensure the safety of these workers.

Q92) Please comment on whether OSHA should require removal of PPE that may impair cooling during rest breaks.

ANSI/ASSP A10.50-2024 states in the second and third paragraphs of section 6.2.3, Rest Breaks and Shaded Break Locations, that:

> *"Rest breaks are commonly used as an administrative control to reduce the overall heat load by providing a temporary cool environment while reducing the metabolic heat load by resting. The length and frequency of rest breaks should increase as the heat exposure potential rises above recommended limits. Cooling the rest area will enhance the recovery of core temperature and reduce productivity losses due to heat stress and lengthy rest breaks."*
>
> *"Workers should be encouraged to remove PPE, protective garments, and extra clothing while resting to facilitate sweat evaporative cooling whenever safety considerations allow."*

Thus, whenever it is safe to do so, and outer clothing is clean or has been removed if contaminated, workers should remove extra clothing or take down the outer PPE, such as the top portion of their coveralls, to give themselves a better opportunity to cool off while they are resting. Also, rest breaks are another good opportunity to rehydrate.

Q111) Please comment on whether the agency should require annual refresher training or whether the more performance-based supplemental training requirements are sufficient.

ANSI/ASSP A10.50-2024 states in section 13.5, Retraining Requirements, that:

> *"Retraining shall occur annually and whenever there is a recognized lack of knowledge. Toolbox talks and pre-job meetings are opportunities for a brief retraining session of the important points, for example, whenever a heat wave is predicted by the National Weather Service. Heat-related issues should also be discussed after a heat-related incident and/or a close call occurs (e.g., when a worker stops working due to signs of heat-related stress due to a lack of understanding of the potential dangers or application of controls)."*

Thus, the agency should require annual refresher training, along with regular toolbox talks during the hot season, to help keep workers safe.

OSH Training Standards

ASSP notes that the revision of ANSI/ASSP Z490.1 was approved in November 2024 by ANSI and provides a solid background for the creation and implementation of effective training programs.

> Z490.1-2024: *Criteria for Accepted Practices in Safety, Health and Environmental Training*
>
> Scope: *This standard defines accepted criteria for effective occupational safety, health, and environmental (SH&E) training and learning systems. This standard provides flexibility in how to conform to the criteria in a manner appropriate to each organization and commensurate with its SH&E competency requirements.*

ASSP also notes that we are finalizing a training standard specific to construction and demolition operations that is expected to be published during the first quarter of calendar year 2025.

ASSP specifically suggests that the A10.2 and Z490.1 standards be included as references along A10.50, which is already referenced.

Of interest, we have spoken with many of our members who work in various industries impacted by this proposed rule. We would be pleased to work with OSHA on messaging to OSH professionals if/when the rule is finalized and released for implementation.

Thank you for your time and attention to our comments. If we can be of any assistance in this matter, please let us know.

Respectfully Submitted,

Pamela Walaski, CSP, FASSP
2024-25 ASSP President

ASSP Headquarters Contact Information

Sue Trebswether
Vice-President, Advocacy and Awareness
American Society of Safety Professionals
STrebswether@ASSP.Org
847/768-3433

Timothy R. Fisher, CSP, CHMM, CPEA, ARM, FASSP
Chief Technical Officer, Safety, Health, and Well Being
American Society of Safety Professionals
TFisher@ASSP.Org;
847/768-3411

AMERICAN SOCIETY OF
SAFETY PROFESSIONALS

POSITION STATEMENT ON THE ROLE OF CONSENSUS STANDARDS IN OCCUPATIONAL SAFETY AND HEALTH

Approved by the ASSP Board of Directors
August 25, 1995, Reaffirmed June 2008, and June 2011
June 2018, Reaffirmed With ASSE/ASSP Name Change

The utilization of national consensus standards will be of increased importance to this country as the economy of the United States moves towards more of a global perspective. National consensus standards reflect the opinions of the professionals who work at all levels of the public and private sectors in technology development, manufacturing, training, financial analysis, personnel, academia as well as insight from the final end user. This balanced insight enables standards to be crafted in a way which not only benefits and protects users of the standard, but also furthers the interests of the businesses which have been created to meet user demand.

ASSP supports the increased utilization of consensus standards in the formulation of legislation and regulation for occupation safety and health. Governmental agencies such as OSHA, CPSC, NHTSA, etc... should be encouraged to utilize these consensus standards as they provide an efficient/effective alternative to traditional public sector rule making.

Policy Implementation

- ASSP advocates initiatives to encourage the utilization of national consensus standards as an effective/efficient option for meeting the demand of increased regulation/legislation in occupational safety and health since:
- National consensus standards have fewer procedural burdens
- The consensus method provides for a balance between competing interests
- The voluntary nature of consensus standards enables users to adapt provisions to meet unusual circumstances.
- Much lower standards development cost are obtained.

(Supporting white paper follows)

WHITE PAPER ON THE ROLE OF CONSENSUS STANDARDS AND GOVERNMENTAL REGULATIONS IN OCCUPATIONAL SAFETY AND HEALTH

Preface

The American Society of Safety Professionals acknowledges a responsibility to take an active role in the evolution of national policy with respect to safety and health standards and regulations. At all times, and especially in times of political reform, there is a need for government to receive the counsel of the safety and health community with respect to standards development and promulgation.

As we review over three decades of social legislation and its enforcement under EPA, OSHA, CPSC, etc., Congress and the professional safety and health community are again raising questions as to what the role of occupational safety and health standards and regulation should be. Some legislators have proposed a more comprehensive program of standards and enforcement. Others have maintained that the proper place for

standards development and enforcement is within the national consensus standards-setting framework. Others have supported a performance-oriented approach to safety and health standards.

While this paper primarily focuses upon occupation safety and health standards and regulation, the positions set forth here can be applied generically to other regulatory areas. Essentially the uses of national consensus standards in the regulatory process, unless warranted by legislation already in place, should be pursued along the lines suggested in the various venues of this paper.

Introduction

To obtain a legislative compromise one of whose objective was to avoid delays that were inevitable if regulations were developed under the provisions of the Administrative Procedure Act, the Occupational Safety and Health Act of 1970 required the newly formed Occupational Safety and Health Administration (OSHA) to promulgate safety and health regulations using existing nationally recognized consensus standards. While this action did serve the congressional intent of quickly establishing a set of regulations for OSHA to enforce, it also resulted in the adoption of hundreds of regulations that were of minimum value in protecting workers. Although OSHA has done much to eliminate such nuisance regulations, enforcement of regulations with questionable value in the 1970's resulted in resentment from industry that lingers even today.

Yet another problem in OSHA's rapid adoption of consensus standards as regulations was that advisory provisions of voluntary consensus standards became mandatory provisions of government regulations. In other words, not only was the voluntary standard made into a mandatory regulation, but many advisory provisions that used the word "should" were made into mandatory provisions when OSHA replaced the word "should" with "shall." The result was that some regulations were, as a practical matter, impossible to fully comply with. Many OSHA regulations were changed to address such concerns, but the experience seems to have damaged OSHA's reputation and credibility.

These developments also impacted the conduct of consensus standards committees. Many committees revised standards to clarify the original intent of provisions, more explicitly addressed exceptions to general provisions, narrowed the scope of the standards or otherwise reacted to developments at OSHA. Even today, members of consensus standards committees look beyond conveying general principles and concepts and concern themselves with exceptions to the rule, adverse impact on specific industries, legal implications of standards, and the potential for misinterpretation. Thus, as a result of OSHA and other factors1, the development and maintenance of consensus standards related to occupational safety and health has become a much more complicated and demanding endeavor.

Given that OSHA regulations now exist and given the cost and complexity of developing and maintaining consensus standards, one may question the value of consensus standards activities. Should consensus standards be withdrawn if they cover areas also covered by OSHA regulations? If so, what would happen if OSHA is eliminated? If no, what value is the consensus standard providing? What role should consensus standards play in occupational safety and health? What functions must be reserved for regulation?

To the above end this paper examines the proper role of consensus standards and government regulation in occupational safety and health. After describing the role of consensus standards to occupational safety and health, this paper concludes with a description of policies of the American Society of Safety Professionals intended to enhance this role.

Discussion

The Value of Consensus Standards Generally

When compared to government regulation, consensus standards have several advantages, including the following:

- fewer procedural burdens,
- consensus method,
- voluntary nature allows users to adapt provisions to meet unusual circumstances,
- much lower development cost.

These advantages lead to authoritative documents that can be quickly developed and modified, appeal to common sense, are flexible in application, and are cost effective when compared to the federal regulatory process.

It is important to note that the concept of consensus and the input of most, if not all, materially interested parties is critical to the consensus system. Care must be exercised in the makeup and organization of consensus committees to assure the integrity of the process. Without these attributes the validity of a consensus standard is suspect.

When Government Regulation Is Required

As previously stated, the validity of consensus standards is based on achieving consensus among all materially interested parties. It follows that government regulation is probably necessary when consensus cannot be achieved in the voluntary standards process, or when the voluntary standards process does not receive input and consider the views of all materially interested parties.

Government regulation is also required when a higher level of validity or greater objectivity is required for enforcement. Such may be a watershed issue for industry as OSHA is legislatively and administratively reformed. If industry wants high objectivity (i.e., little or no discretion or interpretation by OSHA compliance officers), then detailed and comprehensive regulations must exist. On the other hand, if industry wants less regulation and greater flexibility, then industry should consider greater application of voluntary standards in enforcement decisions made by OSHA compliance officers using their professional judgment. Given the appeal provisions allowed under OSHA this trade off appears worthwhile.

A potential danger in increased use of consensus standards is that the process will become targeted by special interests. However, viewed another way, increased use, and application of consensus standards by OSHA will motivate increased participation in the consensus process and thereby increase the quality and validity of consensus standard related to occupational safety and health. While the "political" intensity of the process may increase, each party in the process will proceed with the understanding that (1) consensus does not require unanimity, and (2) failure to reach consensus may result in federal regulation.

The Value of Consensus Standards in Areas Addressed by Government Regulations

A practical concern to resource-limited standards developers is the extent to which support should be continued for consensus standards in areas addressed by government regulation. Consensus standards related to safety and health are perceived as less acceptable when OSHA regulations address the same issue, but nevertheless provide the following benefits:

- consensus standards can provide a useful "how to" supplement to OSHA regulations
- consensus standards can influence revisions to OSHA regulations
- unlike OSHA, consensus standards can address off-the-job safety and health issue
- consensus standards address new issues and incorporate updated scientific information quickly while OSHA proceeds with its rulemaking process
- consensus standards can provide a valuable reference for safety and health evaluations in cases where OSHA regulations have become outdated

The Relationship Between OSHA Regulations and Consensus Standards

What the preceding discussion suggests is that a complementary relationship should exist between OSHA regulations and consensus standards. As a matter of policy, OSHA should take advantage of valid consensus standards and use them in enforcement, mindful of the fact that consensus standards are not written to address every foreseeable circumstance. OSHA will spend less money developing regulations, and armed with common sense, consensus standards, and reasonable discretion, OSHA compliance officers can do their job more effectively. For the consensus standards developer, OSHA regulation can provide an alternative to stalemate when consensus cannot be achieved. In addition, such action is also in accordance with the approved, reaffirmed, and revised Office of Management and Budget Circular A-119 Federal Participation in the Development and Use of Voluntary Standards (See Appendix B). For those almost unresolvable issues of standards setting, the ASSP recommends more use of the negotiated rulemaking option as critical safety and health standards need to be available.

ASSP Supports Consensus Standard Alternatives to Federal Regulation

ASSP encourages support of consensus standards activities and processes as an alternative to government regulation of occupational safety and health whenever conditions permit. When compared to government regulation, consensus standard activities allow for greater participation by ASSP professionals in the development of safety and health practices. Also, since consensus standards do not profess to address every possible situation, ASSP professionals also have greater influence in the application and interpretation of consensus standards than they do with federal regulations.

Implications for OSHA Reform

ASSP encourages support of OSHA reforms that foster the use of consensus standards in enforcement when a standard does not exist, is inadequate, or is obsolete/dated. For safety professionals/practitioners to realize greater opportunities to apply their professional skill and judgement, consensus standards must, in some sense, be authoritative. Without such authority, safety and health professionals may not have sufficient influence and resources to properly do their jobs. For consensus standards to be authoritative. OSHA must be able to routinely rely on provisions of consensus standards in enforcement.

Since national consensus standards do not contemplate every possible scenario, there exists a need for interpretation of the standards based upon professional judgement. When such standards are used in the regulatory enforcement process, federal/state agencies should rely primarily, although not exclusively, upon the view of those who wrote the standards. Facilitation of agency needs should be provided promptly in a collegial manner.

ASSP's View of Government Regulation

While government regulation appears fundamental to safety/health standardization, it should, nevertheless, be efficient, participative, and centralized. The regulated community will more likely view these characteristics as a value-added process where they are encouraged to provide input. Having regulations developed centrally reduces the need for each jurisdiction to prepare their own standards. Having multiple standards bodies presents many difficulties for the regulated community that has facilities in many jurisdictions.

Standards need to be written for the regulated community to readily understand and implement. If standards were more clearly written, compliance directives would not be needed as an interpretation would be obvious. Standards often appear written more for ease of enforcement or to help the solicitors prevail in legal proceedings. Enabling legislation may be necessary, in this situation, to achieve the desired results.

These regulatory standards often have some requirements which have little to do with achievement of safety and health objectives. Some of this may result from OSHA's approach in writing standards in a one-size-fits-all style. These standards should require only what is necessary to achieve a reasonable reduction in risk. Layers of documentation and written certifications are often extras that add compliance burden with little safety/health accomplishment. If enabling legislation is needed to obtain these results, such action may be necessary.

Standards, developed by OSHA or any agency, need a user panel review before they are published in final form. Enabling legislation or appropriate regulation may be required to obtain this result.

Standards covering similar issues in the same Part or across different Parts of OSHA standards should have the same requirements unless the hazards are very different.

OSHA should have an active process to review standards and update them on a five (5) year cycle after a period of experience in application to harmonize them with the more current consensus standards.

The standards making/regulatory process should factor in a requirement to allow visits of sites/personnel in the regulated community at any time in the development of a standard to review how issues proposed or being developed for regulation are currently being managed and the costs of managing these issues.

The above features should be put forth or considered as desirable tasks of rule-making when legislators or regulators move toward development of such regulatory standards.

Conclusion

The ASSP supports a complementary relationship between OSHA regulations and consensus standards related to occupational safety and health which uses valid consensus standards enforcement, mindful of the fact that consensus standards are not written to address every foreseeable circumstance. ASSP points out that action of this nature may empower and enhance the professional stature of both ASSP members and OSHA compliance officers. Most importantly, such action will allow for a more efficient and responsive use of occupational safety and health resources thereby improving working conditions.

To further set in place the Society's view of national consensus standards per se Appendix A is provided. This policy position was approved by the Board of Directors on March 5, 1990. In essence the position looks at consensus voluntary standards apart from regulations while covering the range of issues involved in effective participating in the uniquely American system of standards making.

OSHA Review of the ANSI/ASSP A10.50 Standard
Federal Register – OSHA Proposed Heat Rule

OSHA must consider adopting existing national consensus standards that differ substantially from OSHA's proposed standard if the consensus standard would better effectuate the purposes of the Act (see 29 U.S.C. 655(b)(8); see also National Technology Transfer and Advancement Act of 1995, Pub. L. 104-113, section 12(d), 15 U.S.C. 272 Note).

Whenever an OSHA rule differs substantially from a national consensus standard, OSHA must publish in the **Federal Register** a statement of the reasons why the rule will better effectuate the purposes of the Act than the national consensus standard (29 U.S.C. 655(b)(8)). In the development of the proposed rule, OSHA reviewed the ANSI/ASSP national consensus Standard for Heat Stress Management in Construction and Demolition Operations, A10.50-2024. Many of the proposed provisions are consistent with the ANSI/ASSP standard, although there are some differences in the details of the provisions, particularly in the scope of the standard, as well as requirements for measurements, heat trigger levels, hydration, rest breaks, medical surveillance, PPE, recordkeeping, and a qualified person.

Regarding the scope of the standard, while the ANSI/ASSP standard applies only to employers in construction and demolition operations, the OSHA proposed standard applies to all employers in general industry, construction, maritime, and agriculture, with some exceptions (as discussed in Section VII.A., Paragraph (a) Scope and application, in Section VII., Explanation of Proposed Requirements). While both the ANSI/ASSP standard and the OSHA proposed standard would require employers to develop a written heat stress management program and acclimatization plan, the ANSI/ASSP standard requires a competent person to perform a heat stress task hazard analysis and indicates that workers' heat exposure should be assessed by use of the WBGT index or other heat stress index that accounts for climatic and metabolic heat sources and modification of heat transfer from the worker by extra clothing or PPE. The OSHA proposed standard requires that employers monitor heat conditions but allows employers more flexibility to determine workers' heat exposure. For example, in outdoor work areas, the OSHA proposed standard allows employers to track local heat index forecasts or measure heat index or WBGT, while for indoor work areas the OSHA proposed standard requires the employer to identify work areas with hazardous heat exposure and develop and implement a monitoring plan that includes measurement of heat index or WBGT. For workplaces in which employees where vapor-impermeable clothing, the employer's HIIPP must specify procedures to protect employees while wearing vapor-impermeable clothing. OSHA is allowing employers this additional flexibility to determine workers' heat exposure through multiple options based on feedback from public commenters and small entity representatives that WBGT can be technically challenging to measure accurately and that, for outdoor work areas, weather forecasts are readily available and easy to monitor (see Section IX., Technological Feasibility). In addition, with the exception of Minnesota, none of the current or proposed heat-specific State regulations rely on WBGT.

With respect to the heat trigger levels at which certain control measures are specified, the ANSI/ASSP standard and OSHA proposed standard also deviate slightly. While the ANSI/ASSP standard sets an action level of WBGT adjusted for clothing type (clothing-adjusted WBGT) of 70 °F or heat index adjusted for radiant heat (adjusted heat index) of 80 °F, the OSHA proposed standard specifies an initial heat trigger of WBGT equal to the NIOSH RAL or a heat index (unadjusted) of 80 °F. The ANSI/ASSP standard's moderate hazard action level is a clothing-adjusted WBGT of 80 °F or an adjusted heat index of 95 °F, while the OSHA proposed standard specifies a high heat trigger of WBGT equal to NISOH REL or a heat index (unadjusted) of 90 °F. Additionally, the ANSI/ASSP standard has an extreme hazard action level of a clothing-adjusted WBGT of 87 °F or an adjusted heat index of 110 °F, at which point ANSI/ASSP recommends stopping work that requires high strenuous workload. While the ANSI/ASSP and OSHA initial and high heat triggers are similar, OSHA is not specifying a third trigger in its proposed standard. This decision is in line with recommendations from the SBAR Panel to keep the heat triggers

simple to understand (see SBAR Panel findings and recommendations, Section VIII., Preliminary Economic Analysis and Initial Regulatory Flexibility Analysis). Adding a third trigger could also add considerable costs. As explained in Section V.B., Basis for Initial and High Heat Trigger, OSHA's proposed triggers are based on observational and laboratory evidence and, the agency believes, represent a highly sensitive and appropriate screening threshold for heat stress controls in the workplace. OSHA has preliminarily determined that these thresholds are protective for workers and achievable for employers.

With regards to hydration, both the ANSI/ASSP standard and the OSHA proposed standard would require that employees have access to suitably cool water that is free of charge, in close proximity to working areas, and of sufficient quantity. The ANSI/ASSP standard, however, additionally requires that employees shall have access to electrolyte replenishment beverages when they are involved with heavy work activities for greater than two hours. The OSHA proposed standard does not have this requirement, as the agency heard from an ACCSH member that electrolyte replenishment beverages can contain sugar that cannot be consumed by all workers. NIOSH, in its hydration fact sheet, recognizes that sports drinks with balanced electrolytes can replace salt lost in sweat, but similarly notes that heavy consumption will add calories due to the added sugar. NIOSH also points out, “In general, eating regular meals with adequate water is sufficient to maintain water and electrolyte balance” (NIOSH, 2017a). As a result, the OSHA proposed rule does not require employers to provide electrolyte replenishment beverages but OSHA notes in this preamble that employers may provide electrolyte replenishment beverages in addition to water if they choose to do so (see Section VII., Explanation of Proposed Requirements). OSHA also requests comment on whether the agency should require the provision of electrolyte supplements/solutions in addition to water.

Another deviation between the ANSI/ASSP standard and the OSHA proposed standard exists in the requirement for rest breaks. While both the ANSI/ASSP standard and the OSHA proposed standard require employers to provide shaded rest and hydration break areas at or above the action level or initial heat trigger, respectively, the ANSI/ASSP standard recommends, but does not require, scheduled rest breaks at the moderate hazard action level (a clothing-adjusted WBGT or 80 °F or an adjusted heat index of 95 °F). OSHA's proposed standard requires employers to provide a rest break if needed to prevent overheating at or above the initial heat trigger, as well as a rest break of at least 15 minutes every two hours at or above the high heat trigger. Rest breaks, particularly in combination with water and shade, have been shown in multiple scientific studies to reduce the risk of heat-related fatality and HRI (see Section V.C., Risk Reduction) and therefore OSHA is requiring rest breaks in the proposed standard.

Regarding medical surveillance, the ANSI/ASSP standard indicates that a medical surveillance program (e.g., a comprehensive work and medical history, a comprehensive physical exam, an assessment of any personal risk factors, and the ability to wear PPE) should be established for all workers covered by the standard, while the OSHA proposed standard does not have a medical surveillance requirement. Similarly, while both the ANSI/ASSP standard and the OSHA proposed standard require that an employee exhibiting signs or symptoms of heat illness be monitored and not left alone or sent home without being offered on-site first aid and, if necessary, emergency medical services, the ANSI/ASSP standard further requires that a supervisor or team member be trained in first aid and certified in cardiopulmonary resuscitation (CPR) and the use of the automated external defibrillator (AED) when a medical professional is not available on-site. Due to the widespread scope of the OSHA proposed standard, the agency believes that a requirement for medical surveillance or for certification of supervisors or team members in CPR and AED would be impractical and could add considerable costs. In addition, OSHA also heard a comment from a construction industry representative during the ACCSH consultation that requiring medical surveillance would also be logistically difficult (see the minutes from the meeting, Docket No. 2024-0002).

With respect to PPE, the ANSI/ASSP standard requires the implementation of heat stress controls following the hierarchy of controls, with engineering controls implemented first, followed by administrative controls, and then

cooling PPE. While the OSHA proposed standard specifies the use of engineering controls and administrative controls, it does not require the use of cooling PPE. OSHA believes that cooling PPE—such as a cooling vest—has the potential to become hazardous as the cooling properties dissipate. As a result, the OSHA proposed standard requires that employers who choose to provide cooling PPE to their employees ensure that the cooling properties of the PPE are maintained at all times during use (see Section VII.E., Paragraph (e) Requirements at or above the Initial Heat Trigger).

With regards to recordkeeping, the ANSI/ASSP standard requires employers to keep a written inventory of local conditions at the work site that affect or increase the potential for heat stress only as long as the hazard exists or as required by law. The OSHA proposed standard is more specific, requiring that employers maintain written or electronic records of indoor work area measurements for 6 months (see Section VII.I., Paragraph (i) Recordkeeping). OSHA believes this specificity increases clarity for employers.

Finally, the ANSI/ASSP standard requires a qualified person “who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project.” The ANSI/ASSP standard requires that the qualified person assist with the development and review of the heat stress management program, the use and interpretation of the WBGT, and the development and review of the first aid and emergency action plan, as well as providing guidance or in-person support to the competent person on implementation of the program as needed. The OSHA proposed standard does not have a requirement for a qualified person. Due to the widespread scope of the proposed standard, OSHA does not believe that it would be feasible to require all covered employers to hire a qualified person as contemplated by the ANSI/ASSP standard. Instead, the proposed standard requires the designation of one or more heat safety coordinators who are trained in and responsible for ensuring compliance with all requirements of the employer's HIIPP. OSHA also plans to provide compliance assistance materials such as a model HIIPP and other materials.

OSHA also notes that there are some requirements in its proposed standard that are not required by the ANSI/ASSP standard. Specifically, the OSHA proposed standard contains a hazard alert provision that requires employers to notify employees that the high heat trigger has been met or exceeded (see Section VII.F., Paragraph (f) Requirements at or above the High Heat Trigger). The OSHA proposed standard also requires that employers place warning signs at indoor areas with ambient temperatures that regularly exceed 120°F (see Section VII.F., Paragraph (f) Requirements at or above the High Heat Trigger). OSHA believes that these additional requirements are important for the protection of workers from heat hazards in the workplace.

OSHA has preliminarily determined that the proposed standard would be highly effective at addressing the risk of occupational heat exposure while remaining workable across the many different work contexts covered by the proposal. As such, OSHA believes that the standard as proposed will best effectuate the OSH Act's purpose of ensuring safe and healthful working conditions.