NON-FERROUS FOUNDERS' SOCIETY
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January 13, 2025

The Honorable Julie A. Su
Acting Secretary
U.S. Department of Labor
200 Constitution Avenue, NW
Washington, DC 20210

The Honorable Douglas Parker
Assistant Secretary of Labor
Occupational Safety and Health Administration
U.S. Department of Labor
Room S2315
200 Constitution Avenue, NW
Washington, DC 20210

VIA ELECTRONIC SUBMISSION TO https://www.regulations.gov/commenton/OSHA-2021-0009-4761

RE: **Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings Proposed Rule, Docket (OSHA-2021-0009)**

Dear Acting Secretary Su and Assistant Secretary Parker:

The Non-Ferrous Founders' Society (NFFS) respectfully submits these comments of its Government Affairs Committee on OSHA's proposed Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings standard (Docket No. OSHA-2021-0009). These comments are offered to address specific provisions of the proposed rule and reflect the unique operating conditions of nonferrous foundries. We appreciate OSHA's consideration of our comments.

NFFS is a 501(c)6 not-for profit trade association representing a diverse group of non-ferrous foundries and ingot manufacturers with thousands of employees in every state in the nation who believe strongly in improving workplace safety. Many NFFS members have designed effective heat injury and illness prevention programs consistent with OSHA's existing approach to address heat-related illnesses, which has been to provide extensive guidance ("Water, Rest, Shade") that can be flexibly applied to meet a wide range of circumstances. OSHA's use of this guidance, coupled with the general duty clause in enforcement proceedings in heat illness cases, has had positive results. It gives employers the flexibility to create a program that fits their unique environment while still providing useful information and elevating the concern around heat exposure. Every worksite is different, from construction to manufacturing to retail, and all these workplaces have different factors related to protecting employees from excessive exposure to heat.

However, our Government Affairs Committee and our industry at-large have significant concerns regarding the inflexible, prescriptive nature of the Agency's proposed Heat Injury and Illness rule. These concerns include impractical requirements that fail to account for industry-specific challenges, leading to increased administrative burdens without corresponding safety benefits. We respectfully urge OSHA to revise the proposed rule to adopt a more flexible, performance-based approach based on the following comments.

The Heat Injury and Illness Prevention Plan (HIIPP) - 29CFR1910.148 (c)

- ***29CFR1910.148 (c)(1)****: The employer must develop and implement a work site heat injury and illness prevention plan (HIIPP) with site-specific information*.

  Comment: Nonferrous foundries already have established safety protocols and procedures in place to manage heat stress, tailored to the specific nature of our industry. Requiring a separate, site specific HIIPP duplicates existing efforts and imposes unnecessary costs on employers without providing additional safety benefits.

- ***29CFR1910.148 (c)(2)(i)****: (The HIIP must include) A comprehensive list of the types of work activities covered by the plan;*

  Comment: The requirement for a comprehensive list of all work activities under the HIIPP is overly prescriptive. In foundries, nearly all activities are affected by ambient and radiant heat, making such a list impractical to maintain. We recommend a more flexible approach that allows employers to focus on high-risk tasks rather than listing all work activities.

- ***29CFR1910.148 (c)(2)(ii)****: (The HIIP must include) All policies and procedures necessary to comply with the requirements of this standard; and*

  Comment: Requiring all policies and procedures to be documented in a formal plan places an administrative burden on foundries, particularly smaller operations. Foundries operate under unique conditions where heat is a constant factor, and prescriptive policies could hinder operational flexibility. We suggest that OSHA provide a streamlined compliance option for industries where heat is intrinsic to the work environment.

- ***29CFR1910.148 (c)(2)(iii)****: (The HIIP must include) An identification of the heat metric (i.e., heat index or wet bulb globe temperature) the employer will monitor to comply with paragraph (d) of this section*.

  Comment: The use of a specific heat metric, such as the Wet Bulb Globe Temperature (WBGT), may not be practical in foundry environments due to radiant heat sources that do not correlate with outdoor temperature-based metrics. We recommend allowing foundries to use internal temperature metrics more aligned with the realities of our processes.

- ***29CFR1910.148 (c)(4)****: If the employer has more than 10 employees, the HIIPP must be written.*

  Comment: The blanket requirement for a written HIIPP for employers with more than 10 employees does not account for the wide variety of work environments in foundries. We recommend OSHA consider exemptions for foundries that already have robust safety programs in place, or smaller foundries where additional documentation may not improve safety outcomes.

- ***29CFR1910.148 (c)(5)****: The employer must designate one or more heat safety coordinators to implement and monitor the HIIPP. The identity of the heat safety coordinator(s) must be documented in any written HIIPP. The heat safety coordinator(s) must have the authority to ensure compliance with all aspects of the HIIPP.*

  Comment: Designating a heat safety coordinator may be an unnecessary administrative role for small to medium sized foundries, where safety is managed collectively. Requiring a formal designation adds a layer of bureaucracy without demonstrable benefits to worker safety in high heat environments already managed effectively through existing protocols. Similar regulations, such as the OSHA silica regulations, do not require a named coordinator, and a similar approach should be considered for the proposed heat injury and illness rule.

- ***29CFR1910.148 (c)(6)****: The employer must seek the input and involvement of non-managerial employees and their representatives, if any, in the development and implementation of the HIIPP.*

  Comment: While seeking input from employees is important, mandating their involvement in developing and implementing the HIIPP creates additional procedural requirements that could slow down decision making and add complexity. We recommend this be advisory, rather than mandatory.

- ***29CFR1910.148 (c)(7)****: The employer must review and evaluate the effectiveness of the HIIPP whenever a heat-related illness or injury occurs that results in death, days away from work, medical treatment beyond first aid, or loss of consciousness, but at least annually. Following each review, the employer must update the HIIPP as necessary. The employer must seek input and involvement of nonmanagerial employees and their representatives, if any, during any reviews and updates.*

  Comment: Requiring an annual review or review after a heat related incident introduces a burdensome administrative requirement that may not significantly improve safety in industries where heat exposure is already a known and managed risk. A flexible, as needed review would be more appropriate for foundries.

- ***29CFR1910.148 (c)(8)****: The employer must make the HIIPP readily available at the work site to all employees performing work at the work site.*

Comment: The requirement to make the HIIPP readily available at all times adds another administrative burden, especially when foundries already provide access to safety materials. A more flexible approach allowing electronic access or as needed availability would reduce unnecessary paperwork without compromising safety.

- ***29CFR1910.148 (c)(9)****: The HIIPP must be available in a language each employee, supervisor, and heat safety coordinator understands*.

  Comment: While foundries support communication in languages understood by employees, this requirement could add costs for translation services that may not be necessary in smaller or less diverse workplaces. OSHA should allow for employer discretion on whether a translated version of the HIIPP is necessary, based on workforce demographics and the needs of their workforce.

Identifying heat hazards - 29CFR1910.148 (d)

- ***29CFR1910.148 (d)(1)****: Outdoor work. The employer must monitor heat conditions at outdoor work areas by:*

  (i) Tracking local heat index forecasts provided by the National Weather Service or other reputable sources; or

  (ii) At or as close as possible to the work area(s), measuring the following:

  (A) Heat index, or ambient temperature and humidity measured separately to calculate heat index; or

  (B) Wet bulb globe temperature.

  Comment: Monitoring heat index or wet bulb globe temperature for outdoor work may not be applicable or practical in foundries, where heat is generated internally by industrial processes rather than external environmental factors. This requirement does not reflect the operational realities of foundries and may lead to unnecessary monitoring.

- ***29CFR1910.148 (d)(2)****: Frequency of outdoor monitoring: The employer must monitor with sufficient frequency to determine with reasonable accuracy employees' exposure to heat*.

  Comment: The requirement for frequent monitoring of outdoor heat conditions may not be necessary in foundries where outdoor conditions have minimal impact on indoor working environments. We recommend OSHA clarify or exempt foundries from outdoor monitoring requirements when the primary heat source is indoors.

- ***29CFR1910.148 (d)(3)(i)****: Indoor Work: At indoor work sites, the employer must identify each work area(s) where there is a reasonable expectation that employees are or may be exposed to heat at or above the initial heat trigger.*

  Comment: Nonferrous foundries inherently involve heat due to the nature of metal casting processes. The identification of work areas with heat exposure should acknowledge that heat is present throughout the facility, and it is impractical to isolate specific "at risk" areas. A more generalized approach to heat management would be more appropriate.

- ***29CFR1910.148 (d)(3)(ii)****: Indoor Work: The employer must develop and implement a monitoring plan covering each work area identified in paragraph (d)(3)(i) of this section to determine when employees are exposed to heat at or above the initial and high heat triggers. The employer must include the monitoring plan in the HIIPP and the monitoring plan must include measuring one of the following at or as close as possible to the work area(s) identified in paragraph (d)(3)(i) of this section:*
    - *(A) Heat index, or ambient temperature and humidity measured separately to calculate heat index; or*
    - *(B) Wet bulb globe temperature.*

    Comment: The proposed rule's requirement for a monitoring plan using specific heat metrics like WBGT is not suitable for foundries, where radiant heat from molten metal does not conform to typical outdoor or ambient heat metrics. We suggest that OSHA allow for industry specific metrics or alternative methods of monitoring that are more appropriate for industrial environments. Some foundry positions, such as furnace tender or melter, will have occasional exposure to heat at or above the thresholds, while other duties may have them working below the trigger threshold.

- ***29CFR1910.148 (d)(3)(iii):*** *Indoor Work: Whenever there is a change in production, processes, equipment, controls, or a substantial increase in outdoor temperature which has the potential to increase heat exposure indoors, the employer must evaluate any affected work area(s) to identify where there is reasonable expectation that employees are or may be exposed to heat at or above the initial heat trigger. The employer must update their monitoring plan or develop and implement a monitoring plan, in accordance with paragraph (d)(3)(ii) of this section, to account for any increases in heat exposure.*

  Comment: In foundries, changes in outdoor temperatures have little to no impact on the internal heat levels generated by production processes. This section places an unnecessary burden on employers to continually reevaluate heat risks that are already well understood and managed through existing safety protocols.

- ***29CFR1910.148 (d)(3)(iv)****: Indoor Work: The employer must seek the input and involvement of non-managerial employees and their representatives, if any, when evaluating the work site to identify work areas with a reasonable expectation of exposures at or above the initial heat trigger and in developing and updating monitoring plans in accordance with paragraphs (d)(3)(i) through (iii) of this section.*

  Comment: While employee input is valuable, mandating their involvement in the development of monitoring plans may lead to delays in implementation and add unnecessary complexity. This should be recommended but not required, allowing employers to make decisions based on their expertise.

- ***29CFR1910.148 (d)(4)****: Heat metric. The heat metric the employer chooses to monitor will determine the applicable initial and high heat triggers for purposes of this standard. If the employer does not identify their choice of heat metric in the HIIPP or monitor as required by paragraph (d) of this section, the initial and high heat triggers will be the heat index values identified in the definitions.*

  Comment: The requirement for selecting a heat metric such as the heat index or WBGT is not practical in nonferrous foundries. OSHA should allow foundries to use internal metrics that reflect the radiant heat from metalworking processes, rather than outdoor or environmental metrics that may not correlate to actual employee heat exposure.

- ***29CFR1910.148 (d)(5)****: Exemption from monitoring. The employer can assume that the temperature at a work area is at or above both the initial heat and high heat triggers instead of conducting on-site measurements or tracking local forecasts. In such cases, the employer must provide all control measures outlined in paragraphs (e) and (f) of this section.*

  Comment: While the exemption from onsite monitoring is appreciated, the blanket requirement to implement all control measures outlined in other sections when opting out of monitoring could still result in significant operational burdens. We recommend that OSHA provide more flexibility for foundries to determine appropriate control measures based on their specific operational needs.

Requirements at or above the initial trigger - 29CFR1910.148 (e)

- ***29CFR1910.148 (e)(2)****: Drinking water. The employer must provide access to potable water for drinking that is:*
  - *(i) Placed in locations readily accessible to the employee;*

Comment: Nonferrous foundries already provide water stations within easy access to work areas. Additional requirements may impose unnecessary costs without improving safety, as hydration protocols are already in place to meet high-heat operational needs. Readily accessible may mean placement within production areas that presents real hazards (such as near the melt furnaces) and may be contrary to other OSHA standards such as the Lead Standard.

- *(ii) Suitably cool; and*

  Comment: Requiring "suitably cool" water could introduce extra costs, as cooling units may not be practical or feasible in all foundry settings. Suitably cool is not well defined and vague.

- *(iii) Of sufficient quantity to provide access to 1 quart of drinking water per employee per hour.*

  Comment: The specified quantity requirement for water may not align with existing practices, where hydration needs are met based on individual requirements and work demands. Requiring fixed quantities does not account for individual variation. Most foundries have access to potable water supplies available for employees in break areas.

- ***29CFR1910.148 (e)(3)**: Break area(s) at outdoor work sites. The employer must provide one or more area(s) for employees to take breaks that can accommodate the number of employees on break, is readily accessible to the work area(s), and has at least one of the following:*
  - *(i) Artificial shade (e.g., tent, pavilion) or natural shade (e.g., trees), but not shade from equipment, that provides blockage of direct sunlight and is open to the outside air; or*

    Comment: As most nonferrous foundries are primarily indoor operations, this requirement may not apply directly. For operations with outdoor activities, a generalized requirement for artificial shade may be impractical, especially for brief tasks outside. OSHA should consider an exemption for foundries or allow shade from equipment where operationally safe. Exemptions should also be made for workers in outdoor work environments with access to interior break areas.

- ***29CFR1910.148 (e)(5)**: Indoor work area controls. The employer must provide one of the following at each work area identified in paragraph (d)(3)(i) of this section:*
  - *(i) Increased air movement, such as fans or comparable natural ventilation, and, if appropriate, de-humidification;*

Comment: Non-ferrous foundries recognize the need to manage the foundry environment and have worked very hard to provide a controlled environment including air makeup and ventilation design. Foundries typically provide personal cooling fans, but mandating additional fans can disrupt carefully engineered direct ventilation systems in the foundry, including engineered exhaust, air makeup and ventilation design. Mandating additional fans that affect facility ventilation would also result in the need to obtain additional permits from other agencies prior to implementation.

- *(ii) Air-conditioned work area; or*

  Comment: Air-conditioned work areas within the foundry are not practical nor are they economically or technologically feasible.

- *(iii) In cases of radiant heat sources, other measures that effectively reduce employee exposure to radiant heat in the work area (e.g., shielding/barriers, isolating heat sources).*

  Comment: Controls for radiant heat sources, such as barriers and shields, have already been installed as far as is technologically and economically feasible in foundries. Additional requirements could disrupt operations without adding significant protection.

- ***29CFR1910.148 (e)(6)**: Evaluation of fan use. At ambient temperatures above 102 °F, if the employer is providing fans to comply with paragraph (e)(4) or (5) of this section, the employer must evaluate the humidity to determine if fan use is harmful, and if the employer determines that it is, the employer must discontinue fan use.*

  Comment: Clarification of humidity levels that results in harm from the use of fans is required. There is no definition or methodology to identify the humidity levels at or above 102 °F which result in hazards resulting from fan use.

- **29CFR1910.148 (e)(7)**: *Acclimatization*
  - *(i) New employees. The employer must implement one of the following acclimatization protocols for each employee during their first week on the job:*
    - *(B) Gradual acclimatization to heat in which the employee's exposure to heat is restricted to no more than: 20% of a normal work shift exposure duration on the first day of work, 40% on the second day of work, 60% of the third day of work, and 80% on the fourth day of work.*

Comment: The acclimatization protocol (20%-80% shift exposure progression) is impractical in a foundry environment. Nonferrous foundries often rely on job-specific skillsets, making gradual exposure unfeasible without disrupting production. A modified acclimatization plan that allows flexibility for job-specific exposure needs would be more effective.

- *(ii) Returning employees. The employer must implement one of the following acclimatization protocols for each employee who has been away (e.g., on vacation or sick leave) for more than 14 days during their first week back on the job:*
  - *(B) Gradual acclimatization to heat in which employee exposure to heat is restricted to no more than: 50% of a normal work shift exposure duration on the first day of work, 60% on the second day of work, and 80% of the third day of work.*

    Comment: Applying acclimatization protocols to returning employees after more than 14 days away is overly prescriptive and impractical. In high-heat industries, workers are generally acclimated upon hire, and re-acclimatization needs are assessed based on individual health and exposure history rather than strict, generalized timeframes.

    Employees may take vacation in the same area as the employer resulting in continuous exposure to heat and humidity levels similar to the workplace, and in this case acclimatization would serve no benefit to the employee and be difficult for the employer to maintain standard production flows.

- ***29CFR1910.148 (e)(8)**: Rest breaks if needed. The employer must allow and encourage employees to take paid rest breaks in the break area required by paragraph (e)(3) or (4) of this section if needed to prevent overheating.*

  Comment: Allowing employees to take additional breaks as needed outside of scheduled break times is an admiral safety goal. However, mandating additional breaks outside of established times could interfere with continuous production processes, potentially necessitating costly re-heating of materials. Allowing flexibility for foundries to determine optimal break timing based on operational flow would be a better approach.

- ***29CFR1910.148 (e)(9)**: Effective communication. The employer must maintain a means of effective, two-way communication with employees (e.g., by voice or electronic means (such as a handheld transceiver, phone, or radio) and regularly communicate with employees.*

  Comment: Nonferrous foundries already maintain effective in-person communication methods in high-heat settings. Requiring additional electronic or

radio communication may be unnecessary and cost-prohibitive for smaller operations, especially when employees are often within sight and sound of supervisors.

- ***29CFR1910.148 (e)(10)****: Personal protective equipment (PPE). If the employer provides employees with cooling PPE, the employer must ensure the cooling properties of the PPE are maintained at all times during use.*

  Comment: Nonferrous foundries currently implement PPE where appropriate but requiring specialized cooling PPE maintenance could add significant costs. Cooling PPE may not be practical in foundries due to interference with processes and potential contamination of materials. Foundries should be permitted to determine their own PPE protocols based on process-specific needs. All PPE must also be selected in molten metal areas based upon resistance to this hazard as the primary concern.

Requirements at or above the high heat trigger - 29CFR1910.148 (f)

- ***29CFR1910.148 (f)(2)(ii)****: Periods during which employees are donning and doffing personal protective equipment (e.g., coveralls) must not count towards the total time provided for rest breaks; and*
- ***29CFR1910.148 (f)(2)(iii)****: The time for employees to walk to and from the break area is not included in the time provided for rest breaks.*

  Comment: Donning and doffing PPE can be significant in foundries, especially in foundries that pour leaded alloys. In addition, depending on facility type and layout, it may take employees up to 5 minutes or more to transit to/from break areas each way. The proposed 15-minute breaks easily become at least a half hour under the requirements as presented and are problematic for most foundries. Break rooms may or not be the same as the lunch room. Breaks should be provided AS NEEDED based upon the demands of critical production operations, and not on an overly prescriptive 2-hour cycle. Some foundry positions may be limited to just a single employee in some smaller shops, leading to unattended production operations on regular intervals. It may require foundries to hire additional employees just to ensure critical operation areas have sufficient workforce available to meet the break demands as outlined in this section.

- ***29CFR1910.148 (f)(4)****: Hazard Alert. Prior to the work shift or upon determining the high heat trigger is met or exceeded, the employer must notify employees of the following:*

(i) The importance of drinking plenty of water;

(ii) Employees' right to, at employees' election, take rest breaks if needed and the rest breaks required by paragraph (f)(2) of this section;

(iii) How to seek help and the procedures to take in a heat emergency; and

(iv) For mobile work sites, the location of break area(s) required by paragraph (e)(3) or (4) of this section and drinking water required by paragraph (e)(2) of this section.

Comment: This content is already included within the heat training for employees, this requirement duplicates the training requirements found in other sections of the proposed standard and should be deleted.

29CFR1910.148 (g)(2) *If an employee is experiencing signs and symptoms of heat-related illness, the employer must:*

(i) Relieve them from duty;

(ii) Monitor them;

(iii) Ensure they are not left alone;

(iv) Offer them on-site first aid or medical services before ending monitoring; and

(v) Provide them with the means to reduce their body temperature.

Comment: When is monitoring to be ended? The requirement that employees not be left alone seems excessive for employees who are experiencing general heat stress versus more critical type of heat stress such as heat stroke. Untrained personnel will be required to determine if an employee is demonstrating signs and/or symptoms of heat stress or are exhibiting symptoms of a completely different physical malady.

- **29CFR1910.148 (h)**: Training
  - *(1) Initial training. Prior to any work at or above the initial heat trigger, the employer must ensure that each employee receives training on, and understands, the following:*
    - *(i) Heat stress hazards;*
    - *(ii) Heat-related injuries and illnesses;*
    - *(iii) Risk factors for heat-related injury or illness, including the contributions of physical exertion, clothing, personal protective equipment, a lack of acclimatization, and personal risk factors (e.g., age, health, alcohol consumption, and use of certain medications);*
    - *(iv) Signs and symptoms of heat related illness and which ones require immediate emergency action;*

- *(v) The importance of removing personal protective equipment that may impair cooling during rest breaks;*
- *(vi) Importance of taking rest breaks to prevent heat-related illness or injury, and that rest breaks are paid;*
- *(vii) Importance of drinking water to prevent heat-related illness or injury;*
- *(viii) The location of break areas;*
- *(ix) The location of employer provided water;*
- *(x) The importance of employees reporting any signs and symptoms of heat-related illness they may experience, and those they observe in co-workers;*
- *(xi) All policies and procedures that are applicable to the employee's duties, as indicated in the work site's HIIPP;*
- *(xii) The identity of the heat safety coordinator(s);*
- *(xiii) The requirements of this standard;*
- *(xiv) How the employee can access the work site's HIIPP; and*
- *(xv) Employees have a right to the protections required by this standard (e.g., rest breaks, water) and employers are prohibited from discharging or in any manner discriminating against any employee for exercising those rights.*
- *(xvi) If the employer is required by paragraph (f)(5) of this section to place warning signs for excessively high heat areas, they must train employees in the procedures to follow when working in these areas.*

- *(2) Supervisor training. The employer must ensure that each supervisor responsible for supervising employees performing any work at or above the initial heat trigger and each heat safety coordinator receives training on, and understands, both the topics outlined in paragraph (h)(1) of this section and the following:*
  - *(i) The policies and procedures developed to comply with the applicable requirements of this standard, including the policies and procedures for monitoring heat conditions developed to comply with paragraphs (d)(1) and (d)(3)(ii) of this section; and*
  - *(ii) The procedures the supervisor or heat safety coordinator must follow if an employee exhibits signs and symptoms of heat-related illness.*

- *(3) Annual refresher training. The employer must ensure that each employee receives annual training on, and understands, the subjects addressed in paragraph (h)(1) of this section. The employer must also ensure that each supervisor and heat safety coordinator additionally receives annual training on, and understands, the topics addressed in paragraph (h)(2) of this section. For employees who perform work outdoors, the employer must conduct the annual refresher training before or at the start of heat season.*

- *(4) Supplemental training. The employer must ensure that each employee promptly receives, and understands, additional training whenever:*
  - *(i) Changes occur that affect the employee's exposure to heat at work (e.g., new job tasks);*
  - *(ii) The employer changes the policies or procedures addressed in paragraph (h)(1)(xi) of this section;*
  - *(iii) There is an indication that the employee has not retained the necessary understanding; or*
  - *(iv) A heat-related injury or illness occurs at the work site that results in death, days away from work, medical treatment beyond first aid, or loss of consciousness.*

- *(5) Presentation. Training must be provided in a language and at a literacy level each employee, supervisor, and heat safety coordinator understands. The employer must provide employees with an opportunity for questions and answers about the training materials.*

  Comment: The extensive list of training requirements duplicates existing safety training in foundries. Streamlining these requirements would reduce administrative burdens without compromising safety.

Conclusion

While we support OSHA's goal of preventing heat-related illnesses, the proposed standard imposes rigid and overly prescriptive requirements that fail to account for the unique conditions of nonferrous foundries. We urge OSHA to revise the rule to adopt a more flexible, performance-based approach that allows employers to tailor heat illness prevention measures to their specific operations. Existing safety frameworks, such as OSHA's "Water. Rest. Shade" program, offer effective tools without the undue burdens presented by the proposed standard.

We appreciate the opportunity to provide these comments and welcome continued dialogue with OSHA to ensure the development of a standard that effectively enhances worker safety while considering the operational realities of our industry.

Sincerely,

Jerrod Weaver

Jerrod A. Weaver
Executive Director
Non-Ferrous Founders' Society