Testimony in **support**
SB 434 – LABOR AND EMPLOYMENT – Occupational Safety and Health – Heat Stress Standards
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Chairperson Kelly, Vice Chair Feldman and members of the Senate Finance committee; thank you for the opportunity to testify in support of SB 434.

My name is Darryl Alexander; I have a long and varied career in health and safety including research, training and policy – most recently as the retired health and safety director of the American Federation of Teachers, a union that represents workers in all spheres of state and local government. Currently I am a Fellow of the National Council for Occupational Safety and Health (NCOSH). NCOSH is dedicated to making a safe and healthful workplace a reality for all workers.

My primary focus will be on the potential for employers to save on the cost of workers' compensation associated with heat-related illness. I have attached the results of a peer reviewed study[i]demonstrating the savings. This study has implications for all workers in the public and private sector.

Before I describe the study, I would like to underline how important a heat stress standard will be for public employees at risk of exposure to extreme heat. Over the years of assisting workers at several agencies, I've seen inadequate investment on the part of some government agencies to protecting them from exposure to hazardous agents and environments.

I'll begin with a story of Frank Musella, Staten Island supervisor and a nine-year veteran of the New York City Department Sanitation. On a very hot day in July 2015 when temperatures hit the mid-90's; Mr. Musella, on site with his sanitation crew began to feel unwell. His co-workers remembered that he complained about the muggy heat and symptoms associated with heat-related illness (HRI) – including light-headedness and nausea and that he quickly grew more distressed and agitated. Unable to cope with the mounting symptoms, he decided to return to headquarters but collapsed just as he arrived at his vehicle. He was later found – unresponsive- by his sanitation colleagues who called 911 and was rushed to Staten Island University Hospital where he was pronounced dead. Mr. Musella was only 37 years old. He left a young family.

Frank Musella's story is echoed in a review of Occupational Safety and Health Administration (OSHA) inspections of heat-related incidents in 2012-2013[ii]. OSHA cited employers (under the 5(a) general duty clause) for twenty heat-related fatalities and illnesses during the period – three of which were sanitation and waste worker fatalities. One worker had only been on the job one day before he collapsed and died; another only three days. These workers were exposed to extreme heat – heat indexes that ranged from 93.8°F to 100.8°F (extremely hot and humid). Work in sanitation and waste collection is demanding and at times grueling – imagine having to lift and strain under hot and humid conditions. These cited employers provided no opportunities for workers to acclimatize (reasonable work-rest cycles that allow them to adapt to hot and humid

conditions). One employer didn't even provide water. All three had no access to shade and only minimal breaks.

The authors of this study noted that despite the wide dissemination of the OSHA Heat Illness Prevention Campaign and other public health messages, employers with workers at high risk of extreme heat exposure still choose not to implement complete heat illness prevention programs.

In one of the few studies of municipal workers[iii], researchers were able to track actual heat exposure of outdoor municipal workers with personal monitors and survey their perception to the heat over a seven day stretch. The majority of the workers were sanitation/solid waste workers; other workers including underground utility, parks and recreation workers and fleet workers participated as well. As would be expected on hotter days, workers reported feeling uncomfortably hot as the temperature rose and reported more heat stress symptoms.

It's notable that over 1/3 of the workers in the study had recorded exposures that were hotter and more humid than the heat index of the official weather station

There was no comprehensive heat stress program in place. Most workers (85%) reported staying hydrated as a strategy for combatting heat. Yet less than half reported wearing a hat and only 40% reported seeking or being offered shade.

Studies and anecdotes from workers indicate that heat stress programs are more haphazard than comprehensive especially when it comes to making sure workers have adapted or acclimatized to working in hot environments. Employers seem not to understand what acclimatization is and how important it is for established practice. In other words, they need to provide time for workers new to the job or absent from the job for more than a few days to cope with the heat. What would that look like? On the first day of work in excessive heat, workers need their workload reduced by 50% taking frequent breaks, seeking shade and water. On the second day, the work could be increased to 60%, 80% on the third, and 100% on the fourth day. As the number of Maryland extremely hot days increases, full acclimatization might take up to 14 days or longer to attain, depending on individual or environmental factors.

Now I would like to switch to some good news. We now have evidence from a peer-reviewed study that having a comprehensive heat stress program can reduce workers compensation costs. A decade ago, the city of Waco, Texas, wanted to do something about the costly illnesses outdoor employees were experiencing due to heat. The city turned to the medical director and researchers to develop a heat stress awareness program and track the impact on workers' compensation costs from 2011-2017. The program provided annual training for supervisors and outdoor workers on the dangers of heat exposure and recognition of symptoms of overexposure. More importantly the city

established work cycle procedures and practices to assure adequate acclimatization of workers and routine breaks in cool areas.

The program made a special effort to reach workers with chronic diseases such as diabetes, heart disease and hypertension that might put them at increased risk for heat-related illness. These workers received additional training and support. They were encouraged to stop work and report to a supervisor if they experienced any cardinal symptoms

The safety culture changed. Supervisors changed work practices so that the most demanding jobs were scheduled earlier in the day when it was cooler and/or they rotated workers in and out of the most demanding jobs. They also provided more frequent breaks, water and shade.

The results? By 2016 heat-related illnesses had essentially been cut to zero, and median worker compensation costs were cut in half from $416.00 per case to $208.00. The last two years of the program, the city submitted no heat-related illness workers' compensation claims.

Workers' compensation claims do not begin to reflect the true cost of heat-related illness. Many heat-related illnesses are never recognized as such and symptoms are attributed to other illnesses.

Frank Musella's tragic death was not an "accident", it was a preventable and tragic work-related death. If he had been trained as part of a comprehensive heat stress program, he and his co-workers would have recognized early on that he was suffering heat stress symptoms; his colleagues would have been quick to provide first aid and intervention. And Mr. Musella might have survived.

The evidence is clear. Heat stress and exposure to extreme heat are manageable at low cost to employers. I urge you to take the steps to establish a clear standard for employers to follow to avoid the potential for mounting fatalities and heat-related illnesses in our hotter climate.

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[i] McCarthy RB, Shofer FS, Green-McKenzie J. Outcomes of a Heat Stress Awareness Program on Heat-Related Illness in Municipal Outdoor Workers. J Occup Environ Med. 2019 Sep;61(9):724-728.

[ii] Arbury S. et al Heat Illness and Death Among Workers — United States, 2012–2013
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[iii] Uejo C. et al. 2018. Occupational heat Exposure Among Municipal Workers. International Archives of Occupational and Environmental Health 91:705–715