



SACRAMENTO
SAN FRANCISCO

Gary M. Messing
gary@majlabor.com
direct: 916.551.3330

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**VIA LABOR AND WORKFORCE DEVELOPMENT AGENCY/
DEPARTMENT OF INDUSTRIAL RELATIONS ONLINE FILING
FOR NEW PAGA CLAIM NOTICE**

**Re: Private Attorney Generals' Act Notice of Labor Code Violations Regarding
Dangerous Conditions for CAL FIRE Employees**

To Whom it May Concern:

Please consider this a California Labor Code Private Attorney Generals' Act ("PAGA") notice filed pursuant to California Labor Code section 2699.3(b) on behalf of our clients, the individual aggrieved employees listed below (each, an "Aggrieved Employee" and collectively, "Aggrieved Employees") who are employed by the California Department of Forestry and Fire Protection ("CAL FIRE"). On behalf of the Aggrieved Employees, we respectfully request that the Division of Occupational Safety and Health (DOSH) and the Labor Workforce Development Agency (LWDA) investigate dangerous work conditions that are harming the Aggrieved Employees and other CAL FIRE employees state-wide and that violate Labor Code sections 6400, 6401, 6402, 6403, 6404, and 6406(d). Each Aggrieved Employee files this notice on behalf of themselves and as a representative of all other CAL FIRE employees who have been exposed to these violations. See Labor Code § 2699(c); *Kim v. Reins International California, Inc.* (2020) 9 Cal.5th 73, 85 ("[e]mployees who were subjected to at least one unlawful practice have standing to serve as PAGA representatives even if they did not personally experience each and every alleged violation.")

Introduction

1. Aggrieved Employees

Our clients, the Aggrieved Employees, are as follows:

Peter Boctor is a fire captain assigned to "Schedule A" (as defined below) at Station 90 in CAL FIRE's Riverside Unit, or "RRU."

James Wadlund is a firefighter 2/paramedic assigned to Schedule A at Station 66 in RRU.

Justin Morris is a firefighter/paramedic assigned to Schedule A at Station 20 in RRU.

Jason Vesterfelt is a fire captain assigned to "Schedule B" (as defined below) at Station 10 in CAL FIRE's San Luis Obispo Unit, or "SLU."

**MESSING ADAM &
JASMINE LLP**

980 9TH STREET
SUITE 380
SACRAMENTO, CA
95814

916.446.5297 MAIN
916.448.5047 FAX

MAJLABOR.COM

Gabe Garcia is a fire captain/paramedic assigned to Schedule A at Mesa Station 22 in SLU.

John Pearl is a fire captain/paramedic assigned to Schedule A at South Bay Station 15 in SLU.

Kevin Anderson is a fire captain in SLU's Station 21 assigned to Schedule A.

Adam Armendariz is a fire captain assigned to Schedule B at King City Station in CAL FIRE's San Benito-Monterey Unit, or "BEU."

Derek Sharp is a Schedule A fire apparatus engineer/paramedic assigned to Station 25 in BEU.

Sean Edwards is a paramedic in BEU assigned to Station 21. He works Schedule A.

2. Other Involved Parties

CAL FIRE is an agency of the State of California that is primarily responsible for fire protection and stewardship of over 30 million acres of California's wildlands also known as the State Responsibility Area (SRA). In addition, CAL FIRE provides varied emergency services (e.g., municipal fire protection, emergency medical services, search and rescue response, hazardous materials mitigation, and natural disaster relief) in 36 of the State's 58 counties via contracts with local governments. CAL FIRE's operations are divided into 21 units throughout the state. CAL FIRE employs approximately 5,300 full-time fire professionals, foresters, and administrative employees and 1,783 seasonal firefighters. This force is supplemented by 2,750 local government volunteer firefighters; 600 Volunteers in Prevention; and 4,300 inmates and wards that currently provide 196 fire crews. Its fire professionals include firefighters, fire apparatus engineers, fire captains, battalion chiefs, foresters, pilots, supervisors, forestry logistics officers, fire prevention specialists and other classifications.

RRU is CAL FIRE's largest unit comprised of more than 1,000 emergency response personnel and operates within the borders of Riverside County.

SLU is comprised of approximately 330 emergency response personnel and operates within the borders of San Luis Obispo County.

BEU is comprised of approximately 240 emergency response personnel during fire season (excluding management). It operates within the borders of San Benito and Monterey counties.

Each of the above units, like other CAL FIRE units, operate within their respective jurisdictions according to a two-fold pattern. First, the unit provides fire protection services for SRA wildlands within its assigned geographical area. CAL FIRE employees assigned to these operations are referred to as Schedule B employees. Second, the unit provides fire protection and emergency services for local jurisdictions within its assigned county pursuant to cooperative agreements. This includes the county governments themselves, e.g., CAL FIRE operates the Riverside County Fire Department ("RCFD") and the San Luis Obispo County Fire Department ("SLOFD"). CAL FIRE employees assigned to county-level departments and other local jurisdictions are referred to as Schedule A employees.

3. Summary of Dangerous Conditions

Over the past several years, CAL FIRE and the local jurisdictions with which it has cooperative agreements (collectively, "Local Partners") have failed to staff an adequate number of firefighters and other emergency service positions to fulfill its core duties of fire protection and responding to other types of emergencies throughout the state, including particularly Riverside County, San Luis Obispo County, San Benito County and Monterey County. To address these chronic staff shortages, CAL FIRE or the local departments through which it works, e.g. RCFD and SLOFD, has consistently ordered CAL FIRE employees to work massive amounts of overtime to cover positions that must be filled, including so-called "voluntary" overtime and ordered or "forced" overtime. In the case of the former, management first allows employees to sign up to cover shortages in essential positions, but will order or force employees to fill these positions if there is an insufficient number of volunteers. Thus, the term "voluntary overtime" belies the fact that these overtime assignments are ultimately compulsory—management must fill them to cover essential positions and all employees are aware that management will order "forced" overtime if there are insufficient volunteers. In the case of ordered or "forced" overtime, management forgoes soliciting volunteers to sign up and immediately orders employees to work an overtime shift to cover an essential position.

As a result of overtime being used to cover staff shortages, firefighters and other emergency service employees work excessively long periods without a day off, lasting considerably longer than a firefighter's normal schedule of 72 consecutive hours without time off. Employees have been known to work 30 days or more without any time off due to forced overtime, and the most egregious cases include employees on duty for 49 days or more straight without a day off.

These arduous schedules spent working hour after hour, for days on end have wreaked havoc on the Aggrieved Employees and other CAL FIRE employees. Overworked beyond the point of exhaustion, the Aggrieved Employees and other CAL FIRE employees have sustained physical injuries and routinely experience fatigue, sleep deprivation, stress, and mental distress. The excessive hours have also taken their toll on employees' families, leading to disruption of social lives and divorce, and have contributed to alcohol and substance use to cope with the stress. Other CAL FIRE employees are quitting their job to find relief from the pressure. Even worse, some employees' emotional distress is so severe that they have committed suicide or experienced suicidal ideation as addressed below.

4. Violations of California Law

The above acts of CAL FIRE and its Local Partners and their failure to act violate Labor Code sections 6400, 6401, 6402, 6403, 6404, and 6406(d), California laws against public nuisance, and other state laws that protect the safety of employees and the public at large.

Additional Detail

1. The Aggrieved Employees and Other CAL FIRE Employees Work Excessive Amounts of Mandatory Overtime

Over the past several years, CAL FIRE stations state-wide have been chronically understaffed. Rather than solving the problem on a permanent basis by hiring more personnel, CAL FIRE and

its Local Partners have engaged in mere triage, ordering existing employees to work excessive amounts of mandatory overtime to respond to emergencies. Statistics from RRU during the period from 2017 to 2021 serve as an example. There, CAL FIRE employees worked the following approximate amounts of "forced" overtime to cover staff shortages, including those caused by various types of employee leave (e.g., holiday, vacation, annual leave, and sick leave) and employees working "fire assignments" which include backing up firefighters sent outside of the county (e.g., to fight large fires in other parts of the state:

2021: 14,776 days
2020: 10,050 days
2019: 7,761 days
2018: 8,569 days
2017: 7,817 days

These numbers show a steady increase in forced overtime since 2019 as management appears to be relying more and more on forcing employees to work more days to cover staff shortages. CAL FIRE employees also worked the following amounts of "voluntary" overtime (i.e., where management first accepts volunteers to cover necessary positions but will order employees to fill these positions if insufficient volunteers sign up):

2021: 19,327 days
2020: 24,023 days
2019: 25,845 days
2018: 22,609 days
2017: 24,149 days

Justin Morris, one of the Aggrieved Employees, is a case in point. In 2021, he worked approximately 1,176 hours of mandatory overtime. This means that on average, he worked 6 to 7 days a work week, even though the regular schedule for a CAL FIRE employee is three 24-hour shifts a week. James Wadlund is another example. In 2020, he worked approximately 1,720 overtime hours, including approximately 992 mandatory overtime hours and approximately 728 voluntary overtime hours. In 2021, he worked approximately 1,523 overtime hours, which breaks down into approximately 1,215 mandatory overtime hours and approximately 308 voluntary overtime hours. Wadlund "volunteered" to work overtime on many occasions in 2021 to avoid being forced to do overtime in a battalion that was different from his regularly assigned battalion. If he hadn't chosen these voluntary overtime shifts, his incidents of forced overtime would have been higher.

Other Aggrieved Employees at BEU worked similar hours. Sean Edwards worked approximately 1,369 overtime hours and 1,335 overtime hours in 2021 and 2020, respectively. Most of these hours were forced overtime assignments. Adam Armendariz worked approximately 1,369 overtime hours in 2021 and approximately 1,511 overtime hours in 2020. Both numbers include a significant amount of forced overtime.

CAL FIRE employees at SLU also have experienced similar hardship. From 2017 to 2020, SLU employees worked, on average, the equivalent of approximately 3,087 days of overtime per year to cover shortages similar to those listed above. This number includes an average of 1,136 days of forced overtime per year and an average of 1,952 days of voluntary overtime). In 2018

alone, SLU employees worked 3,076 days of overtime, including averages of 1,288 days of forced overtime and 1,788 days of voluntary overtime, to cover shortages in these required positions. In 2021, SLU employees worked a total of 3,083 days of overtime, including 2,215 days of voluntary overtime and 868 days of forced overtime.

2. The COVID-19 Pandemic Has Severely Exacerbated the Problem

In 2020, due to the effects of COVID-19, the already existing staff shortages reached a crisis level. The severity of the problem continues today. Since the beginning of the pandemic, a significant number of CAL FIRE firefighters, took sick leave because they suffered from COVID-19 symptoms, tested positive for the virus, or were quarantined due to a possible exposure. Covid-19-related absences occurred on top of "normal" sick leave or other time off as seen in prior years (when there was no pandemic). Additionally, there have been many scenarios where an employee will have to take mandatory COVID-19 leave multiple times due to repeated on-duty exposure (or potential exposure). This repetitive sick leave, which sidelines many employees, has placed severe strain on the already overtaxed work force.

As a result of the above, the amount of overtime days has sky-rocketed in recent years. RRU personnel worked 34,103 and 34,073 days of total overtime in 2020 and 2021, respectively. In comparison, they worked 31,966, 31,178, and 33,606 days of total overtime in 2017, 2018, and 2019, respectively. The increases in total days of mandatory overtime over the years, which contribute to the above totals, is even more staggering. RRU employees worked 10,050 and 14,776 days of mandatory overtime in 2020 and 2021, respectively. These figures dwarf the corresponding figures in 2017, 2018, and 2019, which were, respectively, 7,817, 8,569, and 7,761 days. SLU employees experienced a similar increase. For example, in 2020, they worked 3,258 days of overtime throughout the year, including 1,475 days of "forced" overtime and 1,783 days of "voluntary" overtime. These numbers are far greater than the corresponding numbers in 2018, including 1,288 of "forced" overtime and 1,788 of "voluntary" overtime which together totals 3,076 days.

The crisis continues even today. For example, at SLU, the 60-day time period from November 29, 2021 to January 28, 2022, CAL FIRE employees worked a total of 495 days of overtime to cover vacancies and staff shortages from COVID-19 and fire assignments. This total breaks down into 79 days of "forced" overtime and 416 days of "voluntary" overtime. There were also 12 occurrences where employees were ordered to work during all of their regularly-scheduled weekly days off, causing them to work 10-days straight.

For an individual employee, this means he or she worked an excessive amount of days with few or no days off—in other words, he or she worked 24-hour work days consecutively over multiple weeks without any time off due to mandatory overtime. In 2020, it was not uncommon for an RRU employee to work 17 days or more consecutively without time off due to mandatory overtime. Aggrieved Employee, James Wadlund, worked approximately 16 consecutive days on two separate occasions in 2020. In SLU, it was slightly worse as it was not uncommon for employees to work 21 days consecutively. Some even worked 30 days consecutively without time off in the most egregious cases.

Similar occurrences happened in 2021. In a sample 28-day time period from December 28, 2020 to January 24, 2021, RRU had 29 occurrences where employees were ordered to work

their 4 regularly-scheduled off-duty days, which means they worked a 10-day stretch (i.e., 3 days of regularly-scheduled 24-hour shifts, plus 4 regularly-scheduled days off, plus 3 days of regularly-scheduled 24-hour shifts). And, there were 31 occurrences where employees were ordered to work 3 days straight of mandatory overtime in a row. In December 2021, RRU Battalion 12 had 12 members who worked 10 or more days consecutively. Because this statistic pertains only to one battalion out of RRU's 15 battalions, the total instances where RRU employees worked 10 or more consecutive days is likely significantly higher. In a sample 56-day time period from December 28, 2020 to February 21, 2021, there were also 13 occurrences where SLU employees were ordered to work four days of back-to-back mandatory overtime in addition to their regular duties, causing them to work 10-days straight.

3. Excessive Mandatory Overtime Is No Longer Confined to "Fire Season" But Endures Throughout the Year

"Fire season" coincides with the hottest temperatures during the year resulting in not only more fires compared to the rest of the year, but also larger, more dangerous fires. For southern California, the fire season is approximately from May to November. Historically, fire season requires "all hands on deck" where CAL FIRE employees work significant amounts of mandatory overtime to respond to the greater emergencies. Thus, it was not unusual during past fire seasons for firefighters to work more than a month straight without seeing their families. In comparison, history shows significantly less forced overtime during the off-season, from approximately December to April. Less demand for fire protection during this relatively cooler time of the year allowed CAL FIRE employees to take more time off. This meant time for employees to physically and emotionally recuperate from the grueling schedule of the fire season and the opportunity to make up for important lost time with families.

A confluence of factors has changed the above pattern. Due to the staffing crisis, hotter and drier weather, and COVID-19, CAL FIRE employees must work an inordinate amount of mandatory overtime not only through fire season as expected, but also throughout what was once the off-season. Now, the extreme stress that comes from working long hours for many days on end has become permanent. This means that the vital down time that once occurred during the relatively slower part of the year, which helped sustain employees during the fire season onslaught, is no longer available.

4. The Aggrieved Employees and Other CAL FIRE Employees Have Been Harmed by Excessive Overtime

Under these conditions, employees are unable to "turn off" either mentally or physically to recuperate from the extended work periods, including giving them the time to process the horrific things that they see when they are on the front lines. This causes firefighters to suffer from fatigue and stress, which decreases their ability to experience heightened awareness during emergency incidents. As a result, occupational accidents are more likely to occur, which in turn increases the likelihood that firefighters will get injured on-duty. To put this in the proper perspective, in normal times without a global pandemic, CAL FIRE employees generally work a consecutive 72-hour period without a day off. This is far more than the typical 56-hour work week that almost all other firefighters in the state work, which, without overtime, subjects firefighters to a dangerous and stressful work environment. And, it greatly exceeds the number of hours that most people are scheduled to work—approximately 2,080 hours a year (40 hours

per week multiplied by 52 weeks in a year) including time allocated to vacations, holidays, or other types of time off—which is merely a fraction, approximating one-half, of CAL FIRE employees' combined regularly scheduled hours and total overtime hours in a year. Thus, CAL FIRE's longer 72-hour shift, extended by overtime days, has an enormous negative impact on the health of firefighters. Moreover, certain CAL FIRE stations are very busy experiencing heavy emergency call volume. Certain RRU stations handle approximately 12 to 15 calls a day, requiring personnel to respond to these calls throughout the day and all hours of the night. Accordingly, firefighters who are forced to work overtime in these stations, on top of their normal shifts, are placed under great stress, which may adversely affect their health.

Consistent with the above, the Aggrieved Employees and other CAL FIRE employees have sustained physical injuries and suffer from fatigue, sleep deprivation, stress, and emotional distress. Some of the Aggrieved Employees blame excessive overtime for causing or contributing to the failure of their marriages, excessive drinking, and the development of other personal problems. Other CAL FIRE employees are quitting CAL FIRE to be free of the stress. Even worse, some employees' emotional distress is so severe that they have had suicidal ideation.

We provide the following examples. First, Adam Armendariz sustained an injury to his right ankle in November 7, 2021 from working too much. He was diagnosed with "chronic fatigue" to the ankle. Sean Edwards fractured his wrist while on-duty on December 8, 2020, the cause of which was related to the stress of working excessive hours. Second, James Wadlund worked so much in 2021 that he had a break down at work. In a medical check-up soon after the incident, he was diagnosed with "work stress injury." Third, Jason Vesterfelt's injuries to his right ankle, back and rotator cuff are attributable to the demanding schedule of his job. He also believes that the excessive work hours contributed to causing his divorce. Fourth, Justin Morris worked excessive mandatory overtime causing him to become severely sleep deprived. The extreme stress of handling emergencies as a paramedic while being severely sleep deprived aggravated his pre-existing post-traumatic stress disorder and caused him to have a break down at work on September 6, 2019. He subsequently took time off from work and sought medical treatment. Upon his return to work, CAL FIRE continued to force him to work overtime. This caused him to have another break down at work. As a result, his doctor recommended that he be placed on a limited schedule. CAL FIRE refused, which contributed to Morris's wife having a break down due to stress. Fifth, all of the Aggrieved Employees routinely experience fatigue, exhaustion, stress, and sleep deprivation from the excessive work hours.

5. Independent Studies Show that Excessive Work Hours Cause Physical and Mental Harm to Employees

a. Long work hours are directly related to sleeping problems

Long hours spent working is directly related to sleeping problems, including short sleep duration which is defined as less than six hours of sleep. The relationship between working hours and sleep duration is proportional. As employees' work hours increase, their sleep duration is more negatively affected. See Kapo Wong, et. al, "The Effect of Long Working Hours and Overtime on Occupational Health: A Meta-Analysis of Evidence from 1998 to 2018," International Journal of Environmental Research and Public Health (June 13, 2019), Section 4.1. For example, one study discussed in Wong, et. al, *supra*, shows that sleep duration was shorter for subjects who

worked 51 to 60 hours per week versus those who worked 41 to 50 hours. See *id.* Another study discussed in Wong, et. al, *supra*, also found that employees working more than 50 hours per week or more than 10 hours per day had a higher chance of experiencing occupational health problems than those working less hours. See *id.* CAL FIRE employees work even more than the higher range in this study, as they have a regular work week of 72 hours and often work significant amounts of overtime.

b. Short sleep duration from long work hours leads to negative health effects

Other studies specifically link firefighters' job duties to poor sleep quality and quantity and fatigue. Research shows that firefighters who work more than 70 hours in a week—like most CAL FIRE first responders who work a regular 72-hour work week—experienced significantly increased levels of stress and sleep disturbance and had a significantly higher risk of occupational accidents, compared to firefighters who work no more than 50 hours a week. See Lusa et al., "Perceived physical work capacity, stress, sleep disturbance and occupational accidents among firefighters working during a strike," *Work & Stress*, 2002, Vol. 6, No. 3, 264. See also Grace E. Vincent, Brad Aisbett, Sarah J. Hall, Sally A. Ferguson, "Fighting fire and fatigue: sleep quantity and quality during multi-day wildfire suppression," *Ergonomics*, 2016, Vol 59, No. 7, 932-940 (providing objective evidence that firefighters' sleep is restricted during wildfire suppression, as shifts that were beyond 14 hours in length resulted in an average of 5.7 hours of sleep, or 48 min less sleep than the average hours of sleep associated with shifts that last less than 14 hours); Andrew T. Jeklin, et. al, "Fatigue and sleep patterns among Canadian wildland firefighters during a 17-day fire line deployment," *Journal of Occupational and Environmental Hygiene*, 17:7-8, 364-371 (finding that participants performed poorer on cognitive performance tests and reported being significantly sleepier toward the end of their 17-day deployment at a wildland fire compared to after their first day of deployment). Short sleep duration also contributes to exhaustion and sleep disturbance, which in turn affects mental health, circadian rhythms and cognitive function. See Wong, *supra*, Section 4.1. See also Francesco P. Cappuccio, et. al., "Sleep duration predicts cardiovascular outcomes: a systematic review and meta-analysis of prospective studies." *European Heart Journal* 32, no. 12 (2011): 1484–1492 (Multiple studies show that "short duration of sleep was associated with a greater risk of developing or dying of [coronary heart disease].")

Per Dr. Charles A. Czeisler, the Baldino Professor of Sleep Medicine at Harvard Medical School, sleep deprivation from a period of just 18 hours of wakefulness negatively affects safety by impairing reaction speed, memory, ability to focus, decision-making capacity, cognitive speed, and spatial orientation. B. Fryer, "Organizational Culture-Sleep Deficit: The Performance Killer," *Harvard Business Review*, October 2006 (available at <https://hbr.org/2006/10/sleep-deficit-the-performance-killer>.) Dr. Czeisler advises, "Cut sleep back to five or six hours a night for several days in a row, and the accumulated sleep deficit magnifies these negative effects." *Id.* He further states, "We know that 24 hours without sleep or a week of sleeping four or five hours a night induces an impairment equivalent to a blood alcohol level of .1%." *Id.*

For these reasons, Dr. Czeisler recommends the following for employers:

It's important to have a policy limiting scheduled work—ideally to **no more than 12 hours a day, and exceptionally to no more than 16 consecutive hours. At least 11 consecutive hours of**

rest should be provided every 24 hours. Furthermore, employees should not be scheduled to work more than 60 hours a week and not be permitted to work more than 80 hours a week. **When working at night or on extended shifts, employees should not be scheduled to work more than four or five consecutive days,** and certainly no more than six consecutive days. People need at least one day off a week, and ideally two in a row, in order to avoid building up a sleep deficit. (Emphasis added.)

Id.

c. Short sleep duration is linked to heart disease

Sleep duration is a serious threat to health that has been linked to the following: cardiovascular heart diseases, coronary heart diseases, obesity, hypertension, and type 2 diabetes mellitus. See Kapo Wong, *supra*, Section 4.1. See also Cappuccio, *supra* (multiple studies show that “short duration of sleep was associated with a greater risk of developing or dying of [coronary heart disease].”) Forty-five percent of on-duty firefighter deaths result from cardiac events, and a 2011 international study concluded that sleep deprivation increases risk of a cardiac event by 46%, regardless of diet or fitness. See Eric Saylor, “Firefighters are not machines; they need sleep,” January 6, 2018, (available at <https://medium.com/@esaylors/firefighters-are-not-machines-they-need-sleep-9fc33b8cfb3e>) citing Fahy RF, “U.S. firefighter fatalities due to sudden cardiac death,” 1995–2004. Quincy, MA: National Fire Protection Association, June 2005 citing Cappuccio, *supra*. And, a 1996 study by the University of Chicago found people who sleep five to six hours each night or less were 200% to 300% more likely to suffer calcification of coronary arteries. See *id.* citing Matthew Walker, “Why We Sleep: Unlocking the Power of Sleep and Dreams,” Scribner, Kindle Edition, at 166.

d. Short sleep duration is linked to cancer

Short sleep duration has also been linked to cancer. Dr. Matthew Walker, a neuroscientist and director of the Center for Human Sleep Science at the University of California, Berkeley, states, “Routinely sleeping less than six or seven hours a night demolishes your immune system, more than doubling your risk of cancer.” Walker, *supra*, p. 3. In 2007, the World Health Organization’s International Agency for Research on Cancer classified “shift work,” defined as work periods falling outside the hours between 7 am and 6 pm, that leads to circadian disruption as a “probably carcinogenic to humans.” Erren, et. al, “Shift Work and Cancer, The Evidence and Challenge,” *Deutsches Arzteblatt International*, v.107(38); (September 2010).

And, several studies found positive associations between night shift work, on one hand, and breast cancer, prostate cancer, and colorectal cancer, on the other. *Id.* See also, *Lancet Oncology: Carcinogenicity of night shift work*, July 4, 2019, [http://dx.doi.org/10.1016/S1470-2045\(19\)30455-3](http://dx.doi.org/10.1016/S1470-2045(19)30455-3).

e. Line of duty accidents and injuries increase with number of hours worked

Across the board, research indicates that longer working hours result in higher injury rates. One longitudinal survey shows that "working at least 12 hours per day was associated with a 37% increased hazard rate and working at least 60 hours per week was associated with a 23% increased hazard rate. Allard E. Dembe et al, "The impact of overtime and long work hours on occupational injuries and illnesses: new evidence from the United States," *Occupational and Environmental Medicine*, 588-597 (2005). The Occupational Safety and Health Administration (OSHA) warns that extended work shifts may be more stressful physically, as well as mentally and emotionally (<https://www.osha.gov/emergency-preparedness/guides/extended-unusual-work-shifts>), and studies show working overtime and shift work increases the likelihood for on-the-job injuries and illness. Allard E. Dembe, "Ethical Issues Relating to the Health Effects of Long Working Hours," *Journal of Business Ethics*, 84, 195-208 (2009). In addition to the deleterious effects of sleep deprivation on firefighter mental health and cardiovascular diseases, "[c]ompared to other professions, firefighters are at high risk for musculoskeletal injuries." Chris Frost, et al, "The effects of sleep on firefighter occupational performance and health: A systematic review and call for action," *Sleep Epidemiology*, Volume 1 (2021).

In considering the ideal firehouse shift schedule in light of disruptions to sleep patterns, Sara Jahnke, Ph.D., cites a report by Dr. Laura Barger that "[i]njuries for those working 48-hour shifts are highest during the second day of the shift – a finding that is consistent with Executive Fire Officer reports on the topic." Sara Jahnke, Ph.D., *Is the firefighter 48/96 shift a health hazard?* <https://www.firerescue1.com/health-wellness/articles/is-the-firefighter-4896-shift-a-health-hazard-BtSYBb011J5sHVB3/>. A 2003 Executive Fire Officer Report supports that finding, "The second 24-hour period of the consecutive 48- hour shift shows a 44.4 increase in injuries compared to the first 24 hour period of the same shift." Clack, J., "The management effects of firefighters working a consecutive 48-hour shift," 19 Executive Fire Officer Research Paper Report #33641, National Fire Academy (2003). Forrest M. Craig, Division Chief of the Novato Fire Protection District, investigates in detail the risk to firefighter safety in his 2005 Executive Fire Officer Program research paper:

Several causes of injuries were reported just due to the nature of shift work according to Glazner. She reported that "The timing of the highest frequencies of injuries suggest that, due to the shiftwork nature of firefighting, both disruption of eating patterns and fatigue increase the risk of work-related injury to firefighters." (Internal citations omitted.)

Forrest M. Craig, "Impact of the 2x4 Work Schedule and Consecutive Shifts Worked," 6, Executive Fire Officer Research Paper Report, National Fire Academy (December 2005).

Of course, firefighters out on leave to recover from on-the-job injuries only exacerbates already acute staffing concerns. John K. Murphy, a retired Deputy Fire Chief, writes, "[i]n my experience as a Health and Safety Officer, my department was seeing an increase in injuries for firefighters who work longer than a 24-hour shift and on extended overtime up to 48 hours. Those injuries were sprains, strains, and back problems that could take a firefighter off the line for a period of time, compounding the department's overtime and staffing issues." (<https://www.fireengineering.com/leadership/mandatory-ot/>) There may also be public safety

implications to firefighters working while fatigued in terms of response time and making critical decision while suffering the cognitive impairment of sleep deprivation.

- f. Firefighters face long-term health effects of smoke inhalation, the risk of which increases the more times someone is exposed and the longer the someone is exposed

The federal Occupational Safety and Health Administration reports that "wildland firefighters are more likely than the general population to face long-term health effects from wildfire smoke, **with risk increasing the more and longer a person is exposed.**" (Emphasis added.) Mara Kardas-Nelson, "Overstretched Wildland Firefighters Risk Lung, Heart Maladies," InvestigateWest, Sept. 28, 2020 (available at <https://www.invw.org/2020/09/28/overstretched-wildland-firefighters-risk-lung-heart-maladies/>).

A 2019 risk assessment ("2019 Navarro Study") estimates that wildland firefighters have a significantly increased chance of lung cancer and heart disease. *Id. citing* Kathleen M. Navarro, et. al, "Wildland firefighter smoke exposure and risk of lung cancer and cardiovascular disease mortality," Environ Res. June 2019 (available at <https://pubmed.ncbi.nlm.nih.gov/30981117/>). Federal OSHA also notes that wildland firefighters are exposed to carbon monoxide, which at high levels can lead to death and with long-term exposure is linked to heart disease. *Id.* They also inhale a lot of silica dust, which can cause cancer. *Id.* Wildland firefighters are increasingly exposed to some of the same materials structural firefighters have faced for years — burning cars, molten refrigerators, singed electronics — as wildfires engulf not only forests, but whole towns, too. *Id.* For example, last year, the University of California, Berkeley, released a study suggesting that firefighters working in the 2017 Tubbs Fire, one of the largest in California's history, had elevated levels of mercury and other chemicals, including per- and polyfluoroalkyl substances (PFAS), in their blood. *Id.* PFAS are a diverse group of human-made chemicals used in a wide range of consumer and industrial products.

The risk that CAL FIRE employees are exposed to these harmful materials increases the more hours they work. A 2017 study by scientists at the U.S. Department of Agriculture Forest Service ("2017 USDA Study") reports the following:

The risk for lung cancer mortality increases nearly linearly with exposures over time and is more strongly influenced by exposure duration than are the risks of death from cardiovascular or ischemic heart disease. On the other hand, the risk of cardiovascular mortality rises steeply for doses in the range we estimated for firefighter exposures but flattens out at higher exposures to P[articulate]M[atter]. The data presented in this paper clearly identify the crews and activities most likely to exceed occupational exposure limits and firefighters may have an increased health risk from smoke exposures.

Joseph W. Domitrovich, et. al, "FINAL REPORT: Wildland Fire Smoke Health Effects on Wildland Firefighters and the Public," Firescience.gov, Joint Fire Science Program, June 2017 at 1 (available at <https://wildfiretoday.com/documents/FirefighterSmokeHealthRisk.pdf>). It further states,

For the past 25 years many researchers have made recommendations to wildland fire management agencies to minimize exposure. **Many of these recommendations are consistent across all studies [including] [r]educe exposure by limiting shift length, and rotate crews out of heavy smoke areas.** Based on the findings from this project there has been no appreciable reduction in firefighter exposure and in some instances unsafe exposures are more severe than observed by previous research. Exposure to wildland smoke has direct consequences on the ability of firefighters to remain safe by compromising their ability to think clearly and function at their highest mental and physical level. Exposure to the harmful constituents in wildland smoke underlies virtually every aspect of risk management and must be addressed effectively in order to assure other risk management decisions are sound. Therefore, it is essential that sound smoke exposure mitigation strategies be developed, implemented, and enforced. (Emphasis added.)

Id. at 28 – 29. Thus, CAL FIRE's 72-hour shift, which includes more hours than most other firefighters, combined with massive amounts of overtime, is subjecting CAL FIRE employees to greater danger from smoke inhalation than employees in other departments. "Since health risks increase the more a person is exposed, an overstretched firefighting force may also be a less healthy one. And America's wildland firefighters are increasingly spread thin, with fire seasons becoming longer and more intense." *Id.*

Even though the 2017 USDA Study and the 2019 Navarro Study are relatively recent, the time that has passed since their completion has seen steady increases in the frequency and severity of wildland fires, which means that their risk assessments are already outdated. CAL FIRE employees are therefore subject to an even greater risk from smoke inhalation than stated in these studies.

g. Wildland firefighters' unique job characteristics are linked to the development of emotional problems and suicide

A firefighter who works a regular schedule without overtime has a stressful, demanding job. Firefighters and emergency medical services workers, like soldiers, routinely witness horrific, traumatic events. "It's chronic, repeated exposure to everyone's worst day," said Sara Jahnke, director of the Center for Fire, Rescue and EMS Health Research at National Development and Research Institutes Inc., a nonprofit health research group. Nina Agrawal, "Must Reads: Firefighter suicides reflect toll of longer fire seasons and increased stress," LA Times, March 1, 2019 (available at <https://www.latimes.com/local/lanow/la-me-ln-firefighter-suicides-20190302-story.html>.) Adding to the stress, "[t]he nature of shift work can make things worse, as firefighters may be scheduled or recalled to work on holidays and birthdays, putting stress on family relationships." *Id.* This leads to a high suicide rate among firefighters. For example, CAL FIRE San Diego Fire Captain Ryan Mitchell committed suicide in 2017 by jumping off a bridge after his 72-hour shift. *Id.* He was one of at least 115 firefighters and emergency medical service workers in the U.S. who died by suicide in 2017, according to data compiled by the Firefighter Behavioral Health Alliance, which tracks such figures nationwide. *Id.* "The suicide rate among

such workers has been estimated at 18 per 100,000 people, exceeding the rate in the general population of 13 per 100,000. *Id.* Other research on first responder mental health shows they contemplate and attempt suicide at a rate more than 10 times greater than the general public. Dahlia Singer, "Burning out: the silent crisis spreading among wildland firefighters," *The Guardian*, August 2021, (available at <https://www.theguardian.com/world/2021/aug/17/mental-health-crisis-spreading-wildfire-fighters>.) Documented suicides have been rising since around 2005 and exceeded 100 each year from 2014 to 2017, according to the behavioral health alliance. See Agrawal, *supra*. "According to one national survey of more than 1,000 firefighters, nearly half reported having suicidal thoughts. One in five reported planning a suicide." *Id.* "Firefighters, specifically, report higher rates of suicidal ideation, planning and attempts than even military personnel, and it's more common for firefighters to die by suicide than in the line of duty." Singer, *supra*.

Wildland firefighters, in comparison to other types of firefighters, are at elevated risk for depression, alcohol use disorder, sleep deprivation, post-traumatic stress and suicide. Singer, *supra*. This may be due to the extent of the destruction caused by these fires. "The exposure to human suffering in the last three years is not something you'd see at a typical day of work at firefighting – entire communities destroyed, loss of human life, loss of wildlife, loss of the landscape that we treasure. That's not what wildland firefighters signed up to do, but it's what they're exposed to," says Nelda St Clair, who worked in wildland fire for 40 years and is now the national critical incident stress management program manager for the Bureau of Indian Affairs (BIA). Singer, *supra*. Furthermore, wildland firefighters are at a high risk of developing severe mental distress. A recent study showed that among a sample of wildland firefighters, 55% of them reported clinically significant suicidal symptoms, which is higher than the corresponding rate among non-wildland firefighters, which is 32%. *Id.*

A contributing cause for this difference is the excessive work hours of wildland firefighters, who face "[f]ire seasons [that] are now, on average, 78 days longer than they were in 1970, causing additional exposure to stress and trauma..." *Id.* Non-wildland firefighters do not experience the same uptick in fires from fire seasons, and thus do not experience the same prolonged period of stress.

6. SLU's Minimal Staffing of Municipal Fire Engines Makes a Difficult Job Even Harder and Thus More Stressful

The San Luis Obispo Fire Department staffs municipal fire engines with only two Schedule A firefighters, which is less than half of the required staffing per National Fire Protection Association ("NFPA") code and standards and federal Occupational Safety and Health Administration ("OSHA") regulations applying to structural firefighting operations. (This standard is also referenced in San Luis Obispo County's own 2020 Strategic Plan Independent Study Recommendation.) This staffing is also less than the staffing of fire engines in most other California jurisdictions. Under the NFPA and OSHA safety rules, there must be a total of four firefighters on scene prior to any firefighter entering a burning structure so that at least two firefighters enter a burning structure together, while at the same time, at least two other firefighters remain outside. This assures that the "two in" remain in visual or voice contact at all times to monitor each other and assist with equipment failure, entrapment or other hazards, and that the "two out" can monitor those in the building, initiate rescue, or call for assistance. There are many instances when a single SLU fire engine with only two firefighters on board arrives at

a fire or does so before other units arrive. In these cases, the two firefighters cannot do their jobs to the best of their ability. They either must avoid attacking the fire from inside, which is crucial to fire suppression or they must wait until additional firefighters arrive, which can take 15 minutes or more, before initiating an internal fire attack. Furthermore, this below-standard staffing means that while one firefighter performs critical tasks such as monitoring the fire, communicating with supervisors, or protecting the safety of bystanders, the other firefighter, by himself or herself, must perform difficult tasks that would normally be performed by two or more firefighters in other jurisdictions, including lifting heavy equipment, setting up large ladders to scale the building, breaking windows or walls to ventilate the structure, establishing a water source, laying out an attack line and a back-up line as well as other necessary activities to prepare for fire suppression. Accordingly, the minimal staffing of fire engines forces SLU firefighters to do their jobs with one arm tied behind their back. This makes their already dangerous job even more dangerous and thus more stressful.

Request for an Immediate Investigation

For the foregoing reasons, the Aggrieved Employees respectfully requests that DOSH and LWDA conduct an immediate investigation into these unsafe conditions. The Aggrieved Employees fear that CAL FIRE's refusal to hire additional staff and its consistent practice of ordering excessive mandatory overtime throughout the year as triage to cover staff shortages will lead to more serious injuries and possibly death.

The Aggrieved Employees reserve their right under PAGA to pursue a civil action if DOSH or LWDA fails to investigate these unsafe conditions or fails to penalize or take corrective action against CAL FIRE and its Local Partners.

Very truly yours,

MESSING ADAM & JASMINE LLP



Gary M. Messing
Matthew Taylor

cc: Mike Richwine, State Fire Marshal/Acting Director, CAL FIRE
Joe Tyler, Deputy Director, Fire Protection, CAL FIRE
Tim Edwards, President, CAL FIRE Local 2881
Peter Boctor, State Rank & File Director, CAL FIRE Local 2881