VIA EMAIL and Certified Letter
Date: February 9, 2026

Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350, Sacramento, CA 95833
oshsb@dir.ca.gov

Attention: Executive Officer, Millicent Barajas

Re: Petition to OSHA for Mandatory Adoption of Voice-Activated MRI Room Alert Systems in MRI Suites in California

On behalf of the International Association of Machinists and Aerospace Workers (IAMAW), District Lodge 725 and Local Lodge 1125, we submit this petition. IAMAW represents Field Engineers who install, service, and troubleshoot MRI equipment in healthcare facilities, including work performed in and around MRI suites and magnet rooms (Zone IV). Our members face serious emergency communication hazards in these environments. We are requesting a statewide safety standard that requires reliable emergency alert measures to help protect Field Engineers and all other personnel who may be required to enter MRI areas. We respectfully submit this petition requesting that OSHA establish a state-wide safety standard requiring the installation of voice-activated emergency alert systems in all MRI rooms (Zone IV) across California.

This petition addresses a critical and well-documented safety problem. In MRI rooms, patients and healthcare workers often cannot reliably summon help during emergencies. Assistance typically depends on someone being physically present and able to respond, yet recent incidents and expert reviews show this is frequently not the case. Delays in emergency response have resulted in severe harm and fatalities.

Mandating an emergency alert system will ensure that every worker and patient can obtain immediate assistance, regardless of their location, mobility, or ability to be heard. This new standard is essential to close a longstanding safety gap in MRI environments.

Description of the Hazard

The central hazard facing MRI technologists is the lack of a reliable, hands-free method to summon immediate assistance during emergencies in the MRI magnet room (Zone IV). In most cases, technologists must physically exit the room to seek help, a requirement fundamentally incompatible with MRI emergencies, which are often sudden and severe. Workers may be unable to move, unable to leave the patient, or unable to reach a manual device. Compounding this, MRI rooms are constructed with heavy steel RF-shielded walls and acoustically insulated doors, making verbal calls for help ineffective.[1] These hazards are part of a broader set of MRI safety

[1] Zone 3 Podcast. “Staffing Challenges & MRI Suite Safety Protocols with Tobias Gilk.” YouTube; 2024. https://www.youtube.com/watch?v=3sW5L-dkc-o

risks documented in clinical literature.[2] In such emergencies, a worker must either abandon the patient and cross a hazardous magnet space or hope someone outside happens to hear them.

Although the American College of Radiology (ACR) requires two MRI-trained individuals to be "immediately available and within earshot" when a patient is in Zone IV, this staffing standard is neither enforceable nor attainable in many settings.[3] Widespread staffing shortages, off-shift imaging, and remote scanning workflows have made it common for technologists to work alone or with untrained support staff. Multiple MRI workers interviewed in national safety studies reported that being the only worker available was standard practice, despite ACR guidelines. In addition, as MRI safety expert Tobias Gilk explains, RF shielding renders 'within earshot' functionally meaningless because the structure of Zone IV itself blocks sound transmission. Thus, the intended safety control, an always-present second person, rarely exists, and even when it does, architectural isolation prevents reliable communication.

In addition, the rapid expansion of remote MRI scanning workflows further complicates emergency response in rooms. Remote scanning allows a technologist located off-site to control imaging sequences while limited personnel remain physically present with the patient. The American College of Radiology's 2024 Manual on MR Safety recognizes that remote workflows require clearly defined onsite personnel with immediate response capability and direct communication at all times.[4] However, national survey data from the Association for Medical Imaging Management (AHRA) indicate that safety concerns remain a primary barrier to implementation, with over 70% of surveyed organizations citing safety-related issues as a reason for hesitation in adopting remote scanning programs.[5] As facilities attempt to address technologist shortages through remote operations, the risk of delayed recognition of emergencies increases if robust, in-room communication systems are not in place. When the supervising technologist is not physically inside the suite, the ability of on-site personnel to summon immediate assistance becomes even more critical.

Currently, the only available emergency communication methods are shouting, leaving the room to seek help, or attempting to reach a manual alarm or intercom. These options routinely fail under common MRI emergency conditions. Technologists may be unable to leave the patient, obstructed by equipment, or unable to access alarms located outside Zone IV. Technologists have resorted to tapping on windows or shouting through doors, methods that are ineffective in RF-shielded environments.

The consequences of this communication gap are not theoretical. In the Cal/OSHA-investigated Kaiser Redwood City MRI accident (2023), a metal hospital bed became magnetized and pinned a nurse against the scanner. No alarm was activated, no communication system existed inside the room, and the responding technologist only became aware of the emergency when they faintly heard screaming through the RF door. Cal/OSHA cited the facility for inadequate emergency

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[2] L. Mittendorff et al., "A narrative review of current and emerging MRI safety issues," *Magnetic Resonance Imaging*, 2021. https://pmc.ncbi.nlm.nih.gov/articles/PMC9163467/

[3] American College of Radiology (ACR). ACR Manual on MR Safety, current edition. (2018) https://radiology.wisc.edu/wp-content/uploads/2018/11/ACR_Manual_MR_Safety.pdf

[4] American College of Radiology (ACR). *ACR Manual on MR Safety*, current edition (2024 update). https://edge.sitecorecloud.io/americancoldf5f-acrorgf92a-productioncb02-3650/media/ACR/Files/Clinical/Radiology-Safety/Manual-on-MR-Safety.pdf

[5] Association for Medical Imaging Management (AHRA). *Top 10 Takeaways From the Latest AHRA Remote Scanning Survey* (2025). https://link.ahra.org/Article/top-10-takeaways-from-the-latest-ahra-remote-scanning-survey

communication and a lack of functional alert systems, noting that the worker had no means of signaling distress except to yell, a method that failed due to the suite's architecture.[6] Other U.S. cases show similar patterns. ECRI hazard reports from 2019 and 2020 document MRI emergencies in which calls for help went unheard, delaying response and contributing to preventable harm.[7,8] These incidents occur against a backdrop of significant underreporting. A multicenter MRI safety study in Sweden found that only 38% of incidents were formally reported, even when events involved dangerous communication delays or the inability to summon help.[9]

As MRI utilization increases and staffing shortages persist across U.S. healthcare, the gap between these hazards and the systems meant to protect workers will only widen.

Regulatory Gap

Despite this well-documented risk, no federal OSHA or Cal/OSHA regulation requires any modality-specific standard governing MRI safety. The ACR Manual on MR Safety is advisory and unenforced.[10] Joint Commission standards require hospitals to manage MRI risk, but do not mandate measurable emergency response capabilities.[11] IEC equipment standards also leave implementation decisions to facility operators.[12] Facilities rely on general clauses (e.g., 29 CFR 1910.97, 1910.132) or voluntary compliance with industry recommendations (e.g., ACR Manual on MR Safety, NFPA 99). As a result, MRI emergency communication in the United States relies on hope: workers must hope someone is close enough to hear them, hope they can reach the door, hope another staff member is available, and hope the response comes before injuries worsen.

The problem is clear. MRI technologists are often placed in sealed, high-risk environments without any reliable way to summon immediate help during an emergency. Existing controls, such as verbal calls, manual devices, and staffing assumptions, consistently fail under real emergency conditions. A hands-free, voice-activated emergency alert system would directly address this risk. It would provide a guaranteed, immediate, and accessible method of communication that does not depend on movement, proximity, or being heard.

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[6] KTVU Fox 2 Bay Area. "Bay Area nurse crushed in MRI accident, highlighting safety concerns." October 27, 2023. https://www.ktvu.com/news/bay-area-nurse-crushed-in-mri-accident-highlighting-safety-concerns

[7] ECRI Institute. In-Scanner Medical Emergencies: Communication Barriers in MRI. 2018. https://www.ecri.org/components/hdjournal/pages/in-scanner-medical-emergencies-communication-barriers.aspx

[8] ECRI Institute. MRI Projectile Events and Response Delays: Hazard Summary. 2020. https://www.ecri.org/components/hdjournal/Pages/MRI-Projectile-Events-Hazard-Summary.aspx

[9] Kihlberg J, et al. *Magnetic resonance imaging incidents are severely underreported: a finding in a multicentre interview survey. European Radiology* (2022). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8660737/

[10] American College of Radiology (ACR). ACR Manual on MR Safety, current edition. https://radiology.wisc.edu/wp-content/uploads/2018/11/ACR_Manual_MR_Safety.pdf

[11] The Joint Commission. "Protecting Patients and Providers in Imaging – National Performance Goals." National Performance Goals. https://www.jointcommission.org/en-us/standards/national-performance-goals/protecting-patients-and-providers-in-imaging

[12] IEC. IEC 60601-2-33:2022—Particular Requirements for the Safety of MRI Equipment. https://webstore.iec.ch/en/publication/67211

Until these safeguards are mandated, MRI technologists will continue to face the unacceptable possibility that, in their moments of greatest need, they will be unable to call for help.

Requested Standard

In light of the documented hazard, petitioners respectfully request that OSHA begin rulemaking to require a reliable emergency communication system inside every MRI room. This standard would ensure that MRI workers can summon immediate assistance without leaving the room and without depending on being heard.

The standard should require the following:

1. Require hands-free emergency alert systems inside all MRI magnet rooms (Zone IV).

   Each MRI room must be equipped with an emergency communication system that can be activated hands-free by anyone inside Zone IV. The system must enable anyone who is trapped, injured, or unable to move to call for help, even if they cannot physically reach a device or operate controls outside the room.

2. Require a manual activation method as a backup.

   In addition to hands-free activation, the emergency communication system must also have a manual push-button option that can be used inside the MRI room. This backup allows staff to call for help if speaking is not possible or safe because of medical issues, noise, or other conditions. Having both options ensures that help can be summoned in any emergency.

3. Require both audible and visual indicators to alert onsite personnel.

   The emergency communication system must use both sound and visual signals to alert staff when there is an MRI emergency. Since MRI suites are often soundproof, visual alerts help make sure staff in nearby areas are aware of an emergency, even if they cannot hear it.

4. Require ongoing functionality monitoring, testing, and maintenance.

   Employers must keep the emergency communication system in working order with regular testing and maintenance. The system should be able to detect any problems, so repairs can be made quickly. All testing and maintenance must be recorded, and these records should be available for inspection.

5. Require training on emergency communication procedures for MRI personnel.

   MRI staff must be trained on how and when to use the emergency communication system. Training should make clear that the system is for situations where they cannot safely leave the magnet room or get help on their own, and that using it during an MRI emergency is both expected and appropriate.

Stakeholder Considerations

The hazard described in this petition directly affects MRI technologists and other personnel working in magnet rooms, where architectural isolation and workflow constraints limit emergency communication. These workers face serious risks from incidents such as projectile accidents, medical emergencies, and sedation complications, all of which require immediate access to assistance. Healthcare facilities are responsible for maintaining safe MRI environments, but currently lack clear regulatory guidance on emergency communication. The proposed standard establishes minimum functional requirements, allowing flexibility in how facilities comply while improving safety and consistency across settings.

Preliminary feedback from MRI technologists, radiologists, and safety officers indicates broad support for stronger emergency communication safeguards. Many believe that a voice-activated emergency alert system would enhance safety and reduce delays in critical situations.

This petition is submitted by individuals with direct experience in MRI safety and in consultation with affected healthcare workers. It is based on documented incidents, expert analysis, and stakeholder input.

Closing Request

For these reasons, petitioners respectfully ask OSHA to initiate rulemaking to set a statewide standard requiring reliable, in-room emergency communication systems in MRI environments. Without this requirement, workers face a known and preventable risk. Putting this standard in place will make MRI suites safer for both staff and patients. Petitioners appreciate the Board's consideration and are ready to provide more information or clarification if needed.

Respectfully,

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Assistant Directing Business Representative
IAMAW District 725/ Local 1125

cc: R. Martinez, GVP
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Addendum A: Narrative Summary of Safety Expert Interview Responses

Emergency Communication Limitations in MRI Scanner Rooms (Zone IV)

This addendum summarizes written responses from three MRI safety subject matter experts regarding safety conditions in MRI environments, with particular attention to emergency communication limitations inside MRI scanner rooms (Zone IV).

The respondents include:

1. Mike Stephens: A senior-level MRI-certified field engineer, safety course certified through GE Healthcare
2. Tobias Gilk: MRSO, MRSE, former Chair of American Board of Magnetic Resonance Safety (ABMRS), former member of American College of Radiology (ACR) MRI Safety Committee, and co-author of multiple MRI Safety publications
3. Ryan Draeger: MRI applications specialist at Canon Medical Systems USA, formerly an MRI technologist, MRSO, and MRSE, teaches MRI physics and safety and advises on complex safety cases

Operational and Safety Control Limitations

The respondents identified variability in MRI safety practices and operational pressures as ongoing challenges. One respondent described the absence of minimum operational MRI safety standards, noting there is no defined “floor” for knowledge, training, policies, or equipment, which results in wide variability in how facilities implement MRI safety. Additional concerns included technologist shortages, remote scanning workflows, increasing demand, and growing implant complexity.

Several respondents noted that technologists, field engineers, and cleaning personnel frequently work alone, particularly during night shifts. In this context, existing safety mechanisms were described as dependent on adherence to policies and procedures. While tools such as ferromagnetic detection systems can support safety practices, they are only as effective as the processes and training that accompany them.

With respect to emergency alarms, one respondent stated that most facilities do not have emergency alarms inside the MRI scanner room and that no standards require them. Another explained that the high-strength magnetic field and RF shielding inside Zone IV create unique communication barriers. Conventional devices such as cell phones or VOIP telecommunications equipment may become dangerous projectiles in the magnetic field and may also be rendered ineffective by RF interference. While phones and radios may function outside the scanner room, they may be unsafe or nonfunctional inside it. Although communication systems capable of functioning in the MRI scanner room exist, respondents indicated that adoption remains limited in the absence of regulatory requirements.

Incident Experience, Reporting Limitations, and Communication Risk

Respondents reported awareness of incidents and near-misses that illustrate limitations in current safety protocols. One respondent stated that nearly every serious MRI accident reviewed in their professional work involved lapses or failures in local safety procedures. Another referenced recent incidents in New York and California that resulted in death and injuries and were attributed to deficiencies in site access, training, or adherence to established safety standards.

Regarding reporting practices, one respondent indicated that near-miss events are often communicated verbally and may not be formally tracked. Another explained that national reporting of MRI incidents is limited; except in cases involving death, healthcare providers generally have no mandatory reporting obligation, and near-miss events are not subject to compulsory reporting. As described, many incidents remain internal and are not visible to regulators or the public.

When asked about risks associated with the inability to summon assistance inside the MRI room, respondents identified several potential scenarios. One respondent noted that there is often no alarm available inside the scanner room. Another explained that delays in obtaining assistance during a medical emergency may result in worse clinical outcomes, and that the inability to obtain timely help in citations involving violent or threatening behavior may permit avoidable injury to occur. Additional risks identified included entrapment events, patient emergencies, cryogen-related risks, catastrophic system failures, and assaults against technologists working alone. One respondent described an incident in which an engineer became physically stuck to the magnet with leg weights and had no means to call for help.

Expert Perspectives on Hands-Free Emergency Communication

All respondents described hands-free or voice-activated emergency communication capability inside Zone IV as important. One respondent stated such functionality is “very important,” particularly for individuals working alone. Another indicated that the ability to call for help without leaving a patient or suspending care should be considered a minimum criterion for staff working alone in controlled-access MRI areas. A third respondent described these systems as having significant potential and noted the absence of other effective communication solutions inside Zone IV.

Respondents described specific scenarios in which hands-free capability would allow technologists to summon help without interrupting CPR, abandoning a patient at risk of falling from the MRI table, or disengaging from a potentially violent situation. It was also noted that MRI rooms are acoustically dampened, which further limits the effectiveness of verbal calls for assistance. The respondents emphasized that such systems would not replace existing preventive controls, such as access restrictions or ferromagnetic detection. Instead, they were described as addressing a different category of risk, emergencies that arise after staff and patients are already inside the MRI scanner room. It is described as the “last line of defense” when other safety layers fail.