



International Association of

**Bridge, Structural, Ornamental and Reinforcing Iron Workers**

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Mike Manieri Jr.  
Principal Engineer  
OSH Standards Board  
2520 Venture Oaks Way, Suite 350  
Sacramento, CA 95833

RE: Fiscal/Economic Information - Proposed Reinforcing Steel and Post-Tensioning Standards

Dear Mr. Manieri:

I am writing on behalf of the District Council of Ironworkers of the State of California and Vicinity and the coalition of reinforcing steel stakeholders to provide fiscal/economic information regarding the proposed changes to the California Division of Occupational Safety and Health (DOSH), Title 8, Construction Safety Orders, Article 29, Erection and Construction, Sections 1711 and 1712 Safety Standards.

The development of new reinforcing steel and post-tensioning safety standards began in 2010 to address specific hazards and incident trends in the reinforcing steel industry. A formal petition was presented to the Dr. David Michael, Assistant Secretary of Labor for the Occupational Safety & Health Administration (OSHA). The proposed standards submitted to OSHA were developed by a diverse group of reinforcing steel stakeholders throughout the United States. The organizations representing the reinforcing steel stakeholders are The International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers, Ironworker Management Progressive Action Cooperative Trust, Concrete Reinforcing Steel Institute, Post Tensioning Institute, National Association of Reinforcing Steel Contractors, Western Steel Council, Department of Reinforcing Ironworkers Advisory Committee, and the The Center for Construction Research and Training.

The OSHA Advisory Committee on Construction Safety and Health (ACCSH) was established by the Agency to advise the Secretary of Labor on matters of safety and health. The proposed safety standards for reinforcing steel and post-tensioning operations were submitted to the ACCSH members to revised the OSHA Part 1926 Concrete and Masonry in Construction. The current OSHA standards were written in 1971 and are antiquated, and do not address serious hazards and



incident trends occurring in the reinforcing steel industry. The ACCSH members voted unanimously for the Agency to revise the OSHA Subpart Q – Concrete and Masonry standard. Subsequent to this vote, the Agency obtained approval of The Office of Management and Budget (OMB) to revise the OSHA Subpart Q – Concrete and Masonry standard.

In 2012, a petition was submitted to the American National Standards Institute (ANSI) A10 Accredited Standards Committee on Construction and Demolition Operations to revise the ANSI A10.9 Concrete and Masonry in Construction Standard. In 2013, the ANSI A10 Accredited Standards Committee on Construction published a revised A10.9 Concrete and Masonry in Construction Standard that incorporated all of the proposed safety standards that were developed by the coalition of reinforcing steel stakeholders. A copy of the new A10.9 Concrete and Masonry in Construction Standard was submitted to the OSHSB for review and reference.

The District Council of Ironworkers represents members that produced over 8,343,731 hours-worked of reinforcing steel and post-tensioning activities from May of 2012 to May of 2015. During this time period, poured-in-place concrete structures throughout California have continued to increase on an average of 12% each year. Construction forecasting by the Concrete Reinforcing Steel Institute and other organizations expect this increase to double by 2017. We regret that many serious incidents and workplace fatalities occurred during the 8,343,731 hours-worked, and prior to 2012. Many of the causation factors pertaining to these incidents were directly related to the lack of safety standards and establishing a clear line of responsibility for many activities addressed in the proposed safety standards.

Our organization was a member of the coalition of labor/management reinforcing steel stakeholders that helped to develop the proposed safety standards that were submitted to the Occupational Safety and Health Standards Board (OSHSB). Representatives of Local Unions participated in several meetings that were held in Northern and Southern California to analyze incident trends and causation factors in the reinforcing steel industry. During our stakeholder meetings, labor/management representatives discussed potential costs associated with proposed safety standards.

After thorough review of workplace incidents and proposed safety standards, there was unanimous consensus among California labor and management representatives that the proposed standards would not create an economic burden to reinforcing contractors. To the contrary, it is our belief that the proposed standards will help prevent workplace fatalities and injuries to California workers, and help reduce overall operating costs to California employers.

Following are responses and comments to the OSHSB that addresses the Construction Employers Association (CEA) letter and position on the proposed standards, and our position on any potential fiscal/economic impact of the proposed standards. We recognize the many safety achievements and contributions of the CEA to increase safety performance, and we consider the CEA to be one of the premier associations. However, we disagree with their comments addressed below.



Analysis on Potential Fiscal/Economic Costs to Reinforcing Industry

- I. Market share of reinforcing steel and post-tensioning operations – As mentioned above, The District Council of Ironworkers of the State of California represents members that produced over 8,343,731 hours-worked from May of 2012 to May of 2015. These hours-worked pertain solely to reinforcing steel installation and does not include other activities such as the erection of concrete formwork or activities that other craft trades perform. Associations such as the Concrete Reinforcing Steel Institute (CRSI) and other organizations project the demand for reinforced concrete structures to dramatically increase in the next 2-5 years. These structures both large and small include parking structures, multi-story office buildings, bridges, dams, underground tunnels for subways, piers, foundations, and other structures. It is also important to note that due to geological and seismic concerns, California has adopted more stringent building codes and specifications for reinforced concrete installation structures. This requires more attention to project coordination and the adoption of specific safety standards to address hazards and incident trends in the reinforcing steel industry.

Position on fiscal/economic impact: The District Council of Ironworkers and reinforcing steel contractors perform the vast majority of reinforcing steel installation in California. It is our position that the adoption of the proposed standards in Sections 1711 and 1712 will not create an adverse fiscal/economic impact on construction employers or project owners. The proposed safety standards will help prevent workplace fatalities and injuries to California workers, and help reduce overall operating costs to California employers including project owners, controlling contractors, and reinforcing steel contractors.

- II. Proposed Sections 1711(c)(1) and 1711(c)(2)states:

*1711(c) Site Access and Layout. The controlling contractor shall ensure that the following is provided and maintained:*

*“(1) Adequate access roads into and through the site for the safe delivery and movement of derricks, cranes, trucks, other necessary equipment, and the material to be erected and means and methods for pedestrian and vehicular control.*

*EXCEPTON: this requirement does not apply to roads outside of the construction site.*

*(2) A firm, properly graded, drained area, readily accessible to the work with adequate space for the safe assembly, rigging and storage of reinforcing and post-tensioning materials and the safe operation of the reinforcing contractors’ equipment.”*

The proposed requirements for adequate access into and through the site are practical and feasible to prevent material handling and equipment incidents on the worksite. A safe worksite begins with access and the ability for cranes, equipment and materials to safely mobilize on the worksite. Unfortunately, the frequency and severity of many workplace incidents in the reinforcing steel industry have been directly attributed to inadequate site conditions.



The proposed standards are nearly identical to the Section 1710(c)(3)(B) Erection of Structures standards that have proven effective to preventing material handling and muscular skeletal injuries. This is why we are pursuing the same safety standards for reinforcing steel contractors and ironworkers. During the Safety Advisory Committee held on October 27-28, 2014 representatives from the reinforcing steel industry, Cal/OSHA and the CEA discussed the successful results of this standard at great length. Representatives from the CEA agreed that this has been an effective standard to protect all workers from adverse site conditions, and resulted in more productive and safe job sites.

The District Council of Ironworkers and reinforcing steel contractors disagree with comments in a letter dated March 30, 2015 to the OSHSB from the CEA stating:

*"A controlling contractor is already required to provide and maintain a firm, properly graded, drained area, readily accessible to the work with adequate space for the safe storage of materials and the safe operation of the erector's equipment".*

The above statement from the CEA is misleading and implies that the 1710 Erection of Structures standard applies to the reinforcing steel contractor. To the contrary, it does not apply to the reinforcing steel contractor. Many reinforcing steel contractors have referenced the 1710 standards in an attempt to obtain safe access and site conditions for equipment usage and material storage. Unfortunately, on numerous projects some controlling contractors have denied their request stating that the 1710(c)(3)(B) Erection of Structures standard only applies to steel erection contractors, and therefore the same site conditions will not be provided to reinforcing steel contractors.

The District Council of Ironworkers and reinforcing steel contractors also disagree with comments in a letter dated March 30, 2015 to the OSHSB from the CEA stating:

*"Even though considerable thought, effort and coordination by all crafts performing work on the projects occurs in order to maximize the limited space and ensure a safe work environment, the proposed requirement for controlling contractors to provide separate areas for assembly, storage and unloading of reinforcing and post-tensioning material is not feasible".*

The above statement from the CEA is misleading. It implies that safe access and adequate areas for material storage is not feasible for reinforcing steel operations. Since the adoption of the 1710(c)(3)(B) standard in 2002, controlling contractors have experienced the benefits and increased safety performance by providing adequate access roads and site conditions for equipment usage and material storage. Furthermore, project owners and controlling contractors have not reported any instances of adverse costs or disputes with Cal/OSHA associated with this provision. It is understood that some construction job sites will have limited space. However, many complex projects utilize designated areas through preplanning and coordination with the



controlling contractor. This is nothing new, and it is not infeasible for the controlling contractor to foresee such instances and provide material staging areas when mobile cranes and truck loads of reinforcing steel are scheduled for delivery to the project.

During the Safety Advisory Committee held on October 27-28, 2014, the CEA representatives agreed that the site access conditions in section 1710(c)(3)(B) Erection of Structures standard has proven effective to increase safety and productivity for all trades on the project. It is important to note that since the adoption of the 1710(c)(3)(B) standard in 2002, the District Council of Ironworkers and steel erection contractors have experienced a dramatic decrease in material handling injuries due to adequate site access conditions for use of equipment and material storage.

Position on fiscal/economic impact: There has not been any adverse fiscal/economic costs associated with the 1710(c)(3)(B) Erection of Structures standard and we do not foresee any adverse costs for adopting the same standard for reinforcing steel contractors. Fatalities and serious injury trends have been directly associated with adverse site conditions. It is the position of the District Council of Ironworkers and reinforcing steel contractors that providing adequate site conditions for reinforcing steel activities would not create an economic burden but rather, would help increase safety and productivity.

This can be achieved through preplanning efforts by the controlling contractor with all subcontractors on the project. The above proposed standards pertaining to site conditions for reinforcing steel contractors are contained in the new ANSI A10.9 Concrete and Masonry in Construction standards that California OSHA references. It is our position that the adoption of this proposed standard will not create an adverse fiscal/economic impact on construction employers or project owners.

III. Proposed Section 1711(c)(3) requires exterior platforms to be provided for purposes of material handling.

The proposed standard states:

*1711(c)(3) Adequate exterior platform for landing materials on the floors of multi-tiered buildings.*

*Exception 1. Where, the design, structure, or space constraint precludes the installation of exterior platforms.*

*Exception 2. Where the design of the structure allows for the safe landing of materials without the exterior platform.*

The District Council of Ironworkers and reinforcing steel contractors disagree with comments in a letter dated March 30, 2015 to the OSHSB from the (CEA) stating:



*“It is unclear why the platforms for landing materials are always necessary in the first place”. The current language requires that exterior platforms be provided regardless of necessity. We are concerned that disagreements will arise between the reinforcing steel subcontractor, the controlling contractor and Cal/OSHA as to whether the design, structure or lack of space precludes the installation of these exterior platforms.*

*In addition, cantilevered exterior platforms are unnecessary for the safe construction of elevated concrete decks. Not only would the cantilevered platforms be difficult to engineer in order to support point loading of heavy rebar material, they would also likely increase the construction costs. More importantly, despite the potential for enhanced production, safety issues would actually increase under the proposed provision because of the ease which the platform could be overloaded”.*

The need for exterior platforms is quite clear. The proposed standard utilizes engineered exterior platforms for safe landing of materials on multi-tiered buildings. This is a “safety through design” provision that can be used for several purposes and trades other than reinforcing steel contractors in cases when they are needed. Reinforcing contractors and other subcontractors would not request these exterior platforms if they were not needed. We also disagree with the following CEA comment.

*“Disagreements will arise between the reinforcing steel subcontractor, the controlling contractor and Cal/OSHA as to whether the design, structure or lack of space precludes the installation of these exterior platforms.”*

It is important to note that the proposed standard contains the following exceptions that provide guidance and protection from misinterpretation or disagreements. We would not want any project owner or controlling contractor to be subject to any standard that is misguided or misused. It is our position that the following exceptions for exterior platforms provide reasonable protections to prevent any disagreements by subcontractors or Cal/OSHA personnel.

*Exception 1. Where, the design, structure, or space constraint precludes the installation of exterior platforms.*

*Exception 2. Where the design of the structure allows for the safe landing of materials without the exterior platform.*

During meetings of the coalition of reinforcing steel stakeholders, safety issues and the need for exterior platforms for safe material handling on multi-tiered buildings was thoroughly discussed with all attendees including CEA representatives. Reinforcing contractors and Ironworkers provided specific instances when exterior platforms are needed to provide safe material handling and prevent incidents to other craft workers on the project.

A full explanation and instances for exterior platforms were discussed during the Safety Advisory Committee held on October 27-28, 2014. The CEA representatives requested clarification on the



use of exterior platforms and were helpful in providing clarification for the exceptions in cases when the structural design of the building does not allow for the installation of exterior platforms. We fully agree with the exceptions to this provision and the CEA comments that it is only required when structural design allows. We do not have reason to foresee that disagreements will arise between the reinforcing steel subcontractor, the controlling contractor and Cal/OSHA as to whether the design, structure or lack of space precludes the installation of these exterior platforms.

We recognize that there would be an initial cost for the material, design and fabrication of exterior platforms. However, this platform can be used repetitively for future multi-tiered buildings where structural design allows. There are many material handling devices and equipment that are used repeatedly used on construction projects. These devices and equipment are not difficult to design or engineer. We disagree with the following CEA statement regarding exterior platforms.

*“It would be difficult to engineer in order to support point loading of heavy rebar material, they would also likely increase the construction costs. More importantly, despite the potential for enhanced production, safety issues would actually increase under the proposed provision because of the ease which the platform could be overloaded”.*

To the contrary, these platforms would increase productivity and help prevent material handling incidents. With any engineered device or equipment used during the construction process, an engineered load rating is part of the design. We do not foresee any persons overloading or misusing this equipment beyond its intended capacity use, just like other construction equipment or devices commonly used on construction projects.

Position on fiscal/economic impact: It is our position that exterior platforms would allow for safe material handling, and would not create an economic burden. This proposed standard is contained in the new ANSI A10.9 Concrete and Masonry in Construction standards that California OSHA references.

IV. Proposed Section 1711(c)(4) - requiring benching, shoring and inspection of excavations.

The proposed Section 1711(c)(4) reads as follows.

*(Site Access and Layout. The controlling contractor shall ensure that the following is provided and maintained:*

*(c)(4)“Adequate benching and/or shoring in accordance with the provisions of Sections 1541 and 1541.1 of these Orders prior to the commencement of reinforcing operations in excavations and/or trenches”.*

The District Council of Ironworkers and reinforcing steel contractors believe this proposed requirement is important to ensure that exposed excavations are properly benched, shored and



inspected by the employer performing the excavation and creating a potential hazard. The proposed standard requires these duties to be performed “*prior to the commencement of reinforcing operations in excavations and/or trenches*” for good reason. Our reinforcing contractors and workers need to know that any open excavations created by other parties have been adequately provided and maintained “*prior to the commencement of reinforcing operations*”. This will prevent many workers from entering open excavations that have not been adequately provided and maintained in accordance with the above sections.

Historically, fatalities and serious incidents pertaining to open excavations have included many craft workers on worksites and it is important to define a clear-line of responsibility. We would like to address the following comment from the CEA in a letter dated March 30, 2015 to the OSHSB stating:

*“It is every employer’s responsibility to provide a safe working environment. Even though the controlling contractor does its best to identify unsafe conditions and requires that unsafe conditions be corrected when that are identified, every employer on a multi-employer site has the responsibility for the safety of their employees. Furthermore, the reinforcing steel contractor has certain responsibilities as the exposing employer under CCR Section 336.10.”*

We agree with the CEA statement above that “*it is every employer’s responsibility to provide a safe working environment and every employer on a multi-employer site has the responsibility for the safety of their employees.*” However, we disagree with the CEA’s reference to CCR Section 336.10 that attempts to confuse the purpose of the proposed standard and the controlling contractors’ responsibilities under this Section. Following is the CCR Section 336.10 “Determination of Citable Employer”.

*“On multi-employer worksites, both construction and non-construction, citations may be issued only to the following categories of employers when the Division has evidence that an employee was exposed to a hazard in violation of any requirement enforceable by the Division:*

- (a) The employer whose employees were exposed to the hazard (the exposing employer);*
- (b) The employer who actually created the hazard (the creating employer);*
- (c) The employer who was responsible, by contract or through actual practice, for safety and health conditions on the worksite; i.e., the employer who had the authority for ensuring that the hazardous condition is corrected (the controlling employer); or*
- (d) The employer who had the responsibility for actually correcting the hazard (the correcting employer).”*

The District Council of Ironworkers and reinforcing steel contractors understand our responsibility with category (a) above to prevent employees from working in unsafe excavation hazards.



However, we want to make it clear the categories (b) through (d) above pertain directly to the controlling contractor, not the reinforcing steel contractor. Following is an explanation of the responsibilities under CCR section 336.10.

- 1) Reinforcing steel contractors do not perform excavation and shoring services. Therefore, under category (b) above, the controlling contractor or another entity would be the *“employer who actually created the hazard (the creating employer),* not the reinforcing steel contractor.
- 2) Under category (c) above, reinforcing steel contractors are not *“responsible, by contract or through actual practice, for safety and health conditions on the worksite; i.e., the employer who had the authority for ensuring that the hazardous condition is corrected (the controlling employer).”*
- 3) Under category (d) above, the reinforcing steel contractor is not *“The employer who had the responsibility for actually correcting the hazard (the correcting employer).”*

The proposed standard uses the wording *“the controlling contractor shall ensure”* for good reason. This language would allow the controlling contractor to require the excavation contractor or creating employer to maintain adequate benching and/or shoring for such excavations. It is not the responsibility of the reinforcing steel contractor to adequately maintain excavations that are provided by an excavation contractor. The reinforcing steel contractor only installs reinforcing steel in the excavations, footings, piers, etc.

The reinforcing steel contractors assume their normal responsibility under the Cal/OSHA standards to provide training to employees on the recognition and avoidance of entering unprotected excavations that are created by other employers on the work site. However, once again, it is not the duty of a reinforcing steel contractor to *“adequately maintain”* excavations created by other parties. To reiterate the importance of this proposed standard, our reinforcing contractors and workers need to know that any open excavations created by other parties have been adequately provided and maintained *“prior to the commencement of reinforcing operations”*. This will prevent many workers from entering open excavations that have not been adequately provided and maintained in accordance with the above sections.

During the Safety Advisory Committee held on October 27-28, 2014 there was a discussion and clarification between the reinforcing steel stakeholders, Cal/OSHA representatives and CEA representatives. There was no opposition to this standard that is reflected in the Advisory Committee meeting minutes. Additionally, there were no concerns expressed regarding any fiscal/economic impact of this proposed standard. This proposed standard is contained in the new ANSI A10.9 Concrete and Masonry in Construction standards that California OSHA references.

Position on fiscal/economic impact: It is the position of the District Council of Ironworkers and reinforcing steel contractors that the proposed Section 1711(c)(4) requiring benching, shoring and inspection of excavations would not create an economic burden to employers. To the contrary, it



would help to prevent excavation fatalities and incidents by defining a clear line of responsibility for inspections of excavations prior to the commencement of reinforcing steel activities.

V. Proposed Section 1711(d) - requiring written notifications prior to the commencement of reinforcing steel activities

The District Council of Ironworkers and reinforcing steel contractors believe that written notifications “before authorizing the commencement of reinforcing steel activities” are important communications between the controlling contractor and reinforcing steel contractor to help prevent structural collapse of formwork and serious incidents.

The proposed Section 1711(d) reads as follows.

*1711(d) Written Notifications Prior to Commencement of Reinforcing Steel Activities.*

*Approval to begin reinforcing steel installation. Before authorizing the commencement of reinforcing steel activities, the controlling contractor shall ensure that the reinforcing steel contractor on the project is provided with the following written notifications:*

*(1) Formwork and falsework have been inspected to meet the design requirements by a competent person of the installing formwork/falsework contractor prior to, during, and immediately after the installation of reinforcing steel and placement of the concrete.*

*(2) The structural stability of vertical formwork, elevated decks, and other working/walking surfaces are adequately braced, guyed, or supported in accordance with Sections 1713 and 1717 to allow safe access of reinforcing employees, materials, and equipment.*

*(3) The benching and/or shoring for excavations have been inspected by a competent person.*

The District Council of Ironworkers and reinforcing steel contractors disagree with the CEA comment and rational in a letter dated March 30, 2015 to the OSHSB stating:

*“There is already a requirement to perform a documented inspection of the shoring system prior to the placement of concrete upon the deck”.*

The above Cal/OSHA standard referenced by the CEA is misleading and does not provide any protection to ironworkers during the placement of reinforcing steel on decks. It only requires an inspection prior to placement of concrete upon the deck. What about the many workers on the deck installing tons of reinforcing steel prior to the placement of concrete? Our primary concern is to ensure the shoring system is inspected by a competent person of the formwork employer prior to the installation of reinforcing steel. The proposed requirement for a written notification from the responsible employer that the formwork has been inspected by a competent person will help prevent many structural collapse incidents and serious injuries, and fatalities.



The responsibility to ensure structural stability of concrete formwork has been a long-standing concern and hazard in the reinforcing steel industry. For many years we have received countless reports and concerns regarding the structural integrity and insufficient shoring and bracing of formwork. Historically, fast-track projects with accelerated work schedules have resulted in insufficient shoring. Unfortunately, in some cases structural collapse and serious injuries to workers have occurred.

The District Council of Ironworkers and reinforcing steel contractors disagree with the CEA suggestion in a letter dated March 30, 2015 to the OSHSB stating:

*“we would like to see language added that requires the steel erecting contractor to develop and submit to the controlling contractor an engineered lay down plan with weights of all loads and their locations prior to the reinforcing steel materials being staged on the falsework deck”.*

It is not the responsibility of the reinforcing steel contractor to provide engineering calculations of intended loads or make any determinations if the falsework is sufficiently designed to support such loads. The reinforcing steel contractor simply installs the reinforcing steel on falsework decks that have been engineered and installed by the formwork contractor. The engineers for the formwork contractor have already determined the appropriate engineering calculations for falsework decks to support the intended live loads and dead loads for such poured-in-place concrete structures. The engineering calculations of the formwork contractor includes the weight of concrete, reinforcing steel, post-tensioning cables, materials, personnel, and other (live loads and dead loads) loads for considering the appropriate falsework and shoring systems. The responsibility for formwork stability under loading relies solely on the formwork contractor and their engineers, not the reinforcing steel contractor.

The District Council of Ironworkers and reinforcing steel contractors believe that the proposed written notifications “are important communications between the controlling contractor and reinforcing steel contractor to help prevent structural collapse of formwork and serious incidents. The proposed written notifications are based on the successful results of similar written notifications that are contained in the 1710 Erection of Structures standard and adopted in 2002. Following are the 1710 Erection of Structures standards that require the controlling contractor to provide certain written notifications prior to the commencement of steel erection. These standards have proven effective to help prevent structural collapse incidents during the steel erection process.

*Approval to begin steel erection. “Before authorizing the commencement of steel erection, the controlling contractor shall ensure that the steel erector is provided with the following notifications.”*

- 1) *“Any repairs, replacements and modifications to the anchor bolts conducted in accordance with 1926.755(b).”*



- 2) *"Prior to the erection of a column, the controlling contractor shall provide written notification to the steel erector if there has been any repair, replacement or modification of the anchor rods of that column."*
- 3) *"Anchor rods (anchor bolts) shall not be repaired, replaced or field-modified without the approval of the project structural engineer of record."*
- 4) *"The concrete in footings, piers and walls and the mortar in the masonry piers and walls has attained, on the basis of an appropriate ASTM standard test method of field cured samples, either 75 percent of the intended minimum compressive strength design strength or sufficient enough to support the loads imposed during steel erection."*

It is important to note that since the adoption of the above standards in 2002, the District Council of Ironworkers has not received any complaints from project owners or controlling contractors regarding increased project costs due to these standards. Nor have we received any complaints that these standards have been the source of costly disagreements with the steel erector or Cal/OSHA compliance personnel. More importantly, what we do know is that these standards have produced a substantial decrease in structural collapse incidents and trends. We attribute these safety results to the written notification and communication process between the controlling contractors and steel erection contractors.

It must be understood that reinforcing steel contractors do not design, erect or inspect vertical or horizontal concrete formwork. Our reinforcing steel contractors do not have any responsibility for the installation, inspection and integrity of the formwork. We are required to access these formwork structures (vertical and horizontal) to install reinforcing steel and post-tensioning cables. Therefore, it is important to establish a clear line of responsibility to ensure these structures are properly braced and/or shored prior to access and the commencement of reinforcing steel activities.

During the Safety Advisory Committee held on October 27-28, 2014, the proposed standards for written notifications were discussed with reinforcing steel stakeholders, Cal/OSHA representatives and CEA representatives. It was clear that reinforcing steel contractors do not have any responsibility for the design, installation or inspection of formwork. It was also clear that existing Cal/OSHA standards pertaining to formwork did not include any requirement for inspection prior to the commencement of reinforcing steel activities. The above proposed standards pertaining to written notifications are contained in the new ANSI A10.9 Concrete and Masonry in Construction standards that California OSHA references.

The administration of various types of written notifications by controlling contractors is a common and daily process on most construction projects. The requirement for written notifications to be provided to the reinforcing steel contractor that the formwork and false-work has been inspected by a competent person by the formwork employer will not create an fiscal/economic burden. To the contrary, it is our believe that they will produce measurable safety results to prevent structural



collapse incident just as the written notifications for steel erection under the 1710 erection of Structures standard have.

Position on fiscal/economic impact: It is the position of the District Council of Ironworkers and reinforcing steel contractors that the proposed Section 1711(d) - requiring written notifications prior to the commencement of reinforcing steel activities would not impose any adverse fiscal/economic impact to project owners or controlling contractors. However, as suggested by the CEA, if the reinforcing steel contractors are required to submit engineering calculations for intended loads on formwork, this will create an adverse economic burden and potential liability for reinforcing steel contractors. We reject this proposed language by the CEA.

VI. Proposed Section 1711(e) requires that reinforcing steel for walls, piers, and columns be guyed, braced or supported to prevent collapse.

The proposed Section 1711(e) reads as follows.

*1711(e) Stability Requirements for Vertical and Horizontal Columns, Walls, and Other Reinforcing Assemblies. [Committee note: subsections (e)(1), (2) and (4) are relocated from Section 1712(f) with edits]*

*(1) Reinforcing steel for walls, piers, columns, prefabricated reinforcing steel assemblies and similar vertical structures shall be guyed, braced or supported to prevent collapse.*

*(2)(A) Systems for guying, bracing, or supports shall be designed by a qualified person.*

*(B) Guys, braces, and supports shall be installed and removed as directed by a competent person.*

*(3) Reinforcing steel shall not be used as a guy or brace.*

*(4) Wire mesh rolls shall be secured to prevent dangerous recoiling action.*

*(5) The controlling contractor shall bar other construction processes below or near the erection of reinforcement assemblies until they are adequately supported and/or secured to prevent structural collapse.*

The District Council of Ironworkers and reinforcing steel contractors disagree with the CEA suggestions and rational in a letter dated March 30, 2015 to the OSHSB stating:

*“This language should clarify that the reinforcing steel contractor is responsible for making this determination and for its support systems, installation and removal. In addition, we propose that the reinforcing steel subcontractor be required to perform an analysis for the purpose of determining whether or not the vertical reinforcing assemblies for walls, piers, and columns are capable of sustaining wind and construction loads, free-standing, and if they are not capable to design the bracing or guying system to be used. We also propose*



*that this analysis and any required bracing or other form of support be designed by a licensed engineer”.*

Many of the above suggestions by the CEA are clearly addressed by the proposed 1711(e) standard. Other CEA comments above do not accurately reflect the current procedures and common contractual responsibilities for supporting reinforcing steel assemblies. The proposed 1711(e)(1), 1711(e)(2), and 1711(e)(4) specify that reinforcing steel assemblies shall be supported to prevent collapse, supports systems shall be designed by a qualified person, and support systems shall be installed and removed by a competent person. This language clearly addresses the employer duty for stabilizing reinforcing steel assemblies without naming either the controlling contractor or the reinforcing steel contractor as the responsible party. The proposed language is fair to all parties who may perform this work. It is understood that whoever erects reinforcing steel assemblies and agree to stabilize them (controlling contractor or the reinforcing steel contractor) must adhere to the proposed language.

In many cases, reinforcing steel contractors have purposely excluded the responsibility for installing and removing the guying support systems for rebar columns for potential liability reasons. This has become a common contractual exclusion because of potential liability for not having control over other trade workers on the job site. Reinforcing steel contractors does not want to responsible or liable for the removal of guying systems by other trade workers on the job site. In preparation for pouring concrete, other construction trades on the job site need to remove the guying systems to install formwork. Historically, this has lead to many serious incidents involving structural collapse of reinforcing steel columns and subsequent litigation. As a result, many reinforcing steel contractors will only fabricate and erect rebar columns and will exclude any responsibility for the installation and removal of guying systems.

The District Council of Ironworkers and reinforcing steel contractors disagree with the CEA suggestion and rational in a letter dated March 30, 2015 to the OSHSB stating:

*“We also propose that any required bracing or other form of support be designed by a licensed engineer”.*

The proposed standard clearly establishes that *“systems for guying, bracing, or supports shall be designed by a qualified person”* The long-standing OSHA definition of a qualified person is clearly understood in the construction industry. It includes a variety of qualifications, one of being a licensed engineer. A qualified person can sufficiently address many safety related issues in the construction industry, and the design systems for guying, bracing and shoring is certainly one of them. We reject the CEA suggestion that only a licensed engineer can perform this function.

Other contractual arrangements often used stipulate rebar columns to be fabricated, hoisted, set and guyed by the reinforcing steel contractor, and the controlling contractor will be responsible for the removal of such guying systems. In some cases, the controlling contractor will hoist the rebar column into final position and leave it attached to the crane until the formwork has been



set, therefore preventing the rebar column from collapsing. Lastly, some controlling contractors will install their cable guying systems on large rebar columns near the top and at mid-span. This is done prior to hoisting the rebar column while it is still on the ground in a horizontal position.

The proposed Section 1711(e)(5) states the following.

*“The controlling contractor shall bar other construction processes below or near the erection of reinforcement assemblies until they are adequately supported and/or secured to prevent structural collapse.”*

The District Council of Ironworkers and reinforcing steel contractors disagree with the CEA comment and rationale in a letter dated March 30, 2015 to the OSHSB stating:

*“Proposed Section 1711(e)(5) requires the controlling contractor to prohibit all other construction processes from taking place in the vicinity of vertical steel erection without specifics concerning the weight, dimension, or any other factors regarding the steel elements being used.”*

The CEA misquoted the proposed language of Section 1711(e)(5). There is no reference to “specifics concerning the weight, dimension, or any other factors regarding the steel elements being used.” What difference does it make how much the reinforcing steel assembly weights? Whether it is a 1 ton rebar column or a 10 ton rebar column, once it falls on some other trade person working within the fall distance of that column, certain death serious injury is imminent.

When reinforcing steel assemblies such as columns and wall sections are hoisted in final position we need the cooperation of the controlling contractors to bar other construction trades from working in this immediate area until they are adequately supported. This is important to protect other workers from material hoisting and striking hazards when these rebar assemblies are in the process of being set into final position. The key is coordination and cooperation with the controlling contractor to ensure that all other trades are kept out of this area.

Position on fiscal/economic impact: It is the position of the District Council of Ironworkers and reinforcing steel contractors that the proposed Section 1711(e) will not create an adverse fiscal/economic impact on project owners, controlling contractors, or reinforcing steel contractors. These are common sense approaches that are designed to prevent structural collapse incidents. The proposed standards are contained in the new ANSI A10.9 Concrete and Masonry in Construction standards that California OSHA references.

#### VII. Proposed 1711(f) - Requirements for Impalement Protection and Custody of Protective Covers

The proposed 1711(f) standard pertaining to impalement protection and custody of protective covers reads as follows.

*(f) Requirements for Impalement Protection and Custody of Protective Covers.*



*(1) Employees shall be protected from the hazards of working around or over exposed, projecting reinforcing steel or other similar projections in accordance with the provisions of Section 1712.*

*(2) When protective covers are provided by the reinforcing steel contractor, they shall remain in place after reinforcing steel activities have been completed, to protect workers from other trades, only if the controlling contractor or its authorized representative:*

*(A) Has directed the reinforcing steel contractor to leave the protective covers in place; and*

*(B) Has inspected and accepted control and responsibility for the protective covers; or*

*(C) Has placed control and responsibility for the protective covers on another contractor other than the reinforcing steel contractor.*

*NOTE to subsection (f)(2)(A) through (C): The responsibilities of the controlling contractor related to accepting the control and custody of protective covers does not relieve the individual employer or subcontractor from protecting their employees from impalement hazards in accordance with the provisions of Section 1712(c) of these Orders.*

There is no argument that employers are already required to protect their employees from impalement hazards under current Cal/OSHA standards and ANSI standards. However, there has been a long-standing issue regarding the responsibility to “maintain” protective covers after the reinforcing steel contractor has completed their work and left the project. The reinforcing steel contractors will not accept the responsibility and liability to maintain protective covers for all trade workers for the entire project, particularly after they leave the project or work area. This makes no sense and creates unnecessary costs and potential liability for the reinforcing steel contractor.

The following “NOTE” to Section 1711(f) - Requirements for Impalement Protection and Custody of Protective Covers makes it clear that the controlling contractor acceptance of control and custody of protective covers does relieve an individual employer or subcontractor from protecting their employees from impalement hazards. This provides the controlling contractor protection under the Section 1711(f) proposed standard.

*NOTE to subsection (f)(2)(A) through (C): The responsibilities of the controlling contractor related to accepting the control and custody of protective covers does not relieve the individual employer or subcontractor from protecting their employees from impalement hazards in accordance with the provisions of Section 1712(c) of these Orders.*



The proposed standard is important because it provides specific requirements and a clear line of responsibility to ensure that protective covers are maintained after reinforcing steel contractors leave the project or complete their reinforcing steel installation in a specific area. It must be made clear that reinforcing steel contractors will continue to provide impalement covers to protect their employees. However, reinforcing steel contractors will not accept responsibility to maintain impalement covers. They will agree to leave the protective covers in place to be used by other trades in accordance with the proposed requirements for with the understanding that other employer must assume the responsibility to maintain the impalement covers.

It is important to note that the proposed standard for the “*Custody of Protective Covers*” was derived from the success of the following Cal/OSHA 1710 Erection of Structures standard that states.

*“1710(O) - Fall protection provided by the steel erector shall remain in the area to be used by other trades, only if the controlling contractor or its authorized representative:*

- 1. Has directed the erector to leave the fall protection in place; and*
- 2. Has inspected and accepted control and responsibility of the fall protection.”*

The above standard has been successful in addressing the long-standing issue of maintaining the perimeter and interior safety cables after the steel erector completed their work and left the area or project. Historically, other trades would remove or alter the perimeter safety cables and not reinstall them correctly. This resulted in numerous fatalities and serious incidents. Additionally, it resulted in costly unnecessary project delays and litigation. Since the effective date of this OSHA standard in 2001, incident trends involving falls and improper safety cables have plummeted and become non-existent.

The District Council of Ironworkers and reinforcing steel contractors want to capitalize on the success of the above 1710 Erection of Structures standard and apply the same rational and similar wording under the proposed 1711(f) standard. We strongly disagree with the CEA comment and rational in a letter dated March 30, 2015 to the OSHSB stating:

*“We propose the following changes to “1710(f)(2): If the reinforcing steel contractor chooses to provide protective covers in lieu of troughs, they shall remain in place after reinforcing steel activities have been completed to protect workers from other trades and the reinforcing steel contractor shall be responsible for maintaining the protective covers.*

The CEA comment above disregards the entire purpose of the proposed language to address the long-standing issue of maintaining impalement covers. The CEA proposed language attempts to place all the responsibility and liability for maintaining protective covers on the reinforcing steel contractor. We reject the proposed CEA language that serves no purpose in addressing the responsibility to maintain protective covers for impalement protection.



It is important to note that the American National Standards Institute (ANSI) Accredited Standards for Construction Committee recently revised the ANSI A10.9 Concrete and Masonry in Construction Standard contains all of the "1711(f) Requirements for Impalement Protection and Custody of Protective Covers". The ANSI ballot of 72 ANSI voting members was 99.5% yes and on 1 no vote. Additionally, the Advisory Committee on Construction Safety and Health (ACCSH) was established by the Occupational Safety and Health Administration (OSHA) to advise the Secretary of Labor on matters of safety and health. ACCSH voted unanimously for the Agency to revise the OSHA Subpart Q – Concrete and Masonry standard that contains all of the "1711(f) Requirements for Impalement Protection and Custody of Protective Covers".

Position on fiscal/economic impact: It is the position of the District Council of Ironworkers and reinforcing steel contractors that the proposed Section 1711(f) will not create an adverse fiscal/economic impact on project owners, controlling contractors, or reinforcing steel contractors. These are common sense approaches that are designed to prevent impalement and establish a practical requirement for maintaining protective covers after the reinforcing steel contractor has completed their work in a particular area or left the protect entirely. The proposed standards are contained in the new ANSI A10.9 Concrete and Masonry in Construction standards that California OSHA references.

III. Section 1711(g)(6) - The controlling contractor requirement to shall bar all activities under reinforcing steel hoisting activities.

Following is the proposed standard that utilizes the authority of the controlling contractor to bar other trades from working under reinforcing steel hoisting activities.

*"1711(g)(6) The controlling contractor shall bar all activities under or in the hazard area of hoisting operations including unloading and staging areas for reinforcement assemblies".*

The District Council of Ironworkers and reinforcing steel contractors disagree with the CEA proposal in a letter dated March 30, 2015 to the OSHSB stating:

*"We propose striking controlling contractor from Section 1711(g)(6) to ensure the reinforcing steel contractor ensures safe work practices during the hoisting, unloading and staging of its materials".*

The reinforcing steel contractors and Ironworkers are skilled and trained on the safe hoisting of materials. Falling objects and striking hazards continues to be one of the top five leading causing of fatalities and serious incidents in the construction industry. However, what is lacking on many job sites is the cooperation of some controlling contractors to prohibit other trades from performing their work under the hoisting operations of the reinforcing steel contractors. The hoisting and staging of reinforcing materials is no exception.



The proposed standard utilizes the authority of the controlling contractor to notify any other subcontractor on the project to cease any work beneath the hoisting and staging of reinforcing materials. This is a common sense approach that is contained in the new ANSI A10.9 Concrete and Masonry in Construction standards that California OSHA references.

Position on fiscal/economic impact: It is the position of the District Council of Ironworkers and reinforcing steel contractors that the proposed Section 1711(g)(6) will not create an adverse fiscal/economic impact on project owners, controlling contractors, or reinforcing steel contractors. It simply utilizes the authority and communication of controlling contractors to help prevent other trades from working below the hoisting and staging of reinforcing materials.

#### IX. Section 1711(h) - Post-Tensioning Operations

The proposed Section 1711(h)(4) reads as follows.

*“The controlling contractor shall bar other construction trades from working in the barricaded area during stressing operations.”*

This is an important safety standard that is designed to prevent workers from accessing areas where post-tensioning operations are being performed. In order to make this standard effective, it is necessary to involve the controlling contractor to exercise their authority to *“bar other construction trades from working in the barricaded area during stressing operations.”* The reinforcing steel contractors do not have the authority to direct other trades to stop work and leave the areas where post-tensioning operations are being performed. However, the controlling contractor certainly does. They can simply notify and direct other subcontractors to cease all work in the area.

The District Council of Ironworkers and reinforcing steel contractors disagree with the CEA proposal and rational in a letter dated March 30, 2015 to the OSHSB stating:

*“We propose striking controlling contractor from section 1711(h)(4). If the signs, and more importantly the barricades, have been sufficiently provided as required by 1711(h)(3), then Section 1711(h)(4) is unnecessary”.*

The above statement fails to recognize the authority of the controlling contractor that is often needed to intervene and prohibit other subcontractor employees from working in areas where post-tensioning operations are being performed. To reiterate, the reinforcing steel contractors do not have the authority to direct other trades to stop work and leave the areas where post-tensioning operations are being performed. However, the controlling contractor certainly does.

This proposed language was originally submitted by the Post-Tensioning Institute (PTI) that was one of the reinforcing steel stakeholders and petitioning organizations to the OSHSB. The PTI



provided testimony in the October 27-28, 2014 Safety Advisory Committee meeting in Sacramento, California. The PTI is considered the foremost expert on post-tensioning operations. The proposed standards are contained in the new ANSI A10.9 Concrete and Masonry in Construction standards that California OSHA references.

Position on fiscal/economic impact: It is the position of the District Council of Ironworkers and reinforcing steel contractors that the proposed Section 1711(h)(4) will not create an adverse fiscal/economic impact on project owners, controlling contractors, or reinforcing steel contractors. It simply utilizes the authority and communication of controlling contractors to help prevent other trades from areas where post-tensioning operations are being performed.

X. Proposed Section 1711(h)(5) requires a minimum deck formwork extension of 3'-0" for safe access

Proposed Section 1711(h)(5) reads as follows.

*"Where tensioning operations are above grade, the controlling contractor shall ensure there is an adequate safe work platform of a minimum of three feet measured from the end of the floor slab to the platform toe board, such as an extension of the formwork, for stressing tendons, cutting tendon tails, and grouting.*

*Exception. Where the adjoining structure or other structural space constraint precludes the installation of exterior platforms."*

The proposed required for deck formwork to extend a minimum of 3'-0" beyond the end of the end of the floor slab is another "safety through design" standard that will protect all workers along the building perimeter. Many previous projects have used the 3'-0" formwork extension for this exact vary purpose. This has been a safety and access issue on many above grade poured-in-place concrete structures for not only post-tensioning operations, but carpentry work, concrete finishing, and other activates.

The District Council of Ironworkers and reinforcing steel contractors disagree with the CEA comment and rational in a letter dated March 30, 2015 to the OSHSB stating:

*"Because of the modularity of formwork systems, existing structures, shoring access and other constraints, it is not always possible to achieve 3'-0".*

The proposed 1711(h)(5) standard clearly provides an exception for the 3'-0" formwork extension that states the following.

*Exception. Where the adjoining structure or other structural space constraint precludes the installation of exterior platforms."*



The District Council of Ironworkers and reinforcing steel contractors disagree with the CEA proposal and rational in a letter dated March 30, 2015 to the OSHSB stating:

*“We also propose adding language that requires the reinforcing steel subcontractor, while stressing beams during the construction of parking garages, provide access to cables below the elevated slabs in the Cunningham beams by mobile equipment such as aerial boom lifts, scissor lifts or scaffolding.”*

The purpose of the proposed standard is to provide safe access while performing post-tensioning of beams and joists that terminate at the exterior of the building. This includes safe access for parking garages and other structures with elevated slabs that require post-tensioning operations. The tensioning process requires sufficient for workers space to set-up equipment and avoid standing behind the hydraulic jack. This is best achieved by working from the extended formwork, not aerial lift equipment. We reject the proposed language that would require the use of aerial lift equipment to operate hydraulic jacks to perform post-tensioning operations. The use of aerial lift equipment would create a greater hazard to workers performing this work activity.

Position on fiscal/economic impact: It is the position of the District Council of Ironworkers and reinforcing steel contractors that the proposed Section 1711(h)(5) will not create an adverse fiscal/economic impact on project owners, controlling contractors, or reinforcing steel contractors. To the contrary, this would help prevent fall hazards to all work performed at the exterior of the building and would increase productivity.

Many previous projects have successfully used the minimum 3'-0" beyond the end of the end of the floor slab to provide safe access for all trade workers during the construction process. This proposed standard utilizes "safety through design" with specific exceptions to address adjoining structure or other structural space constraints that preclude the installation of exterior platforms. The proposed standards are contained in the new ANSI A10.9 Concrete and Masonry in Construction standards that California OSHA references.

XI. Proposed Section 1711(i) – Requires for fall protection

The proposed standards pertaining to fall protection are identical to the current Section 1712 standard that states the following.

*(i) Fall Protection. Employees shall not be permitted to place or tie reinforcing steel in walls, piers, columns, etc., more than 6 feet above an adjacent surface, unless a personal fall protection system is used in accordance with Section 1670 or other method affording equivalent protection from the hazard of falls from elevated surfaces.*



*Exception: Reinforcing ironworkers may travel point-to-point horizontally or vertically on reinforcing steel up to 24 feet above the surface below providing there are no impalement hazards.*

Both the current standard and the proposed standard have been used extensively by reinforcing steel contractors in California and throughout the United States as “minimum requirements” for many years. We are not aware of any adverse incident trends that would warrant a more stringent fall protection standard. However, we have noted incidents where the lack of training and/or the incorrect use of positioning devices during reinforcing steel installation were a primary causation factor. We recognize that some project owners and contractors have adopted more stringent for fall protection policies and requirements. In such cases, these safety policies and requirements must be noted in the project contract to address any additional costs.

Position on fiscal/economic impact: It is the position of the District Council of Ironworkers and reinforcing steel contractors that the proposed Section 1711(i) will not create an adverse fiscal/economic impact on project owners, controlling contractors, or reinforcing steel contractors. Any project owner or contractor can specify more stringent safety policies and requirements.

## XII. Proposed Section 1711(k) – Training Requirements

The proposed standards pertaining to training requirements state the following.

*(k) Training Requirements. In addition to the training requirements of Section 1509, the Injury and Illness Prevention Program, employers shall ensure that each employee who performs reinforcing steel and/or post-tensioning activities has been provided training in the following areas for the activities in which they are engaged in:*

- (1) The hazards associated with reinforcing steel and post-tensioning activities and;*
- (2) The proper procedures and equipment to perform reinforcing steel and post-tensioning activities and;*
- (3) Employees involved in reinforcing bar and post-tensioning stressing operations shall be trained by a qualified person.*

These are common sense safety training requirements that are directed to the primary disciplines of reinforcing steel installation and post-tensioning operations. This training language format was derived from the 1710 Erection of Structures standard that sets-forth specific areas of training and has been used with great success. The proposed standards for reinforcing steel seeks to obtain the same consistency and success.

Position on fiscal/economic impact: It is the position of the District Council of Ironworkers and reinforcing steel contractors that the proposed Section 1711(k) will not create an adverse fiscal/economic impact on project owners, controlling contractors, or reinforcing steel contractors.



Employers are already required to train employees on the recognition and avoidance of hazards in the workplace. These standards simply state the areas of safety training that are necessary.

XIII. Summary of Fiscal/Economic Information - Proposed Sections 1711 and 1712 Safety Standards.

We appreciate the efforts of the OSHSB to convene the Safety Advisory Committee on October 27-28, 2014 that included labor and management representatives from the reinforcing steel industry, Cal/OSHA, and the Construction Employers Association (CEA). The two-day meetings provided a detailed agenda items for discussion and reference documents to interested parties and stakeholders. The meeting minutes accurately summarized the extensive interaction and discussion on the proposed standards. We were pleased with understanding of all parties on the rational for pursuing these standards to prevent fatalities and serious incident in the reinforcing steel industry.

Historically, Safety Advisory Committee meetings would quickly note any concerns pertaining to potential "fiscal/economic impact" of proposed standards to affected parties. When such concerns are raised by a particular industry or organization they are reflected in the subsequent meeting minutes. The meeting minutes of the October 27-28, 2014 Safety Advisory Committee meeting did not note formal objections to any of the proposed standards, or concerns pertaining to potential "fiscal/economic impact" to project owners or contractors.

The proposed standards submitted to OSHSB were developed by a diverse group of reinforcing steel stakeholders throughout the United States. The organizations representing the reinforcing steel stakeholders are The International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers, Ironworker Management Progressive Action Cooperative Trust, Concrete Reinforcing Steel Institute, Post Tensioning Institute, National Association of Reinforcing Steel Contractors, Western Steel Council, Department of Reinforcing Ironworkers Advisory Committee, and the The Center for Construction Research and Training.

It is also important to note the action of the American National Standards Institute (ANSI) A10 Accredited Standards Committee on Construction and Demolition Operations to revise the ANSI A10.9 Concrete and Masonry in Construction Standard. In 2013, the ANSI A10 Accredited Standards Committee on Construction and Demolition Operations to published a revised A10.9 Concrete and Masonry in Construction Standard that incorporated all of the proposed safety standards that were developed by the coalition of reinforcing steel stakeholders.

To reiterate many of the above comments, the District Council of Ironworkers represents members that produced over 8,343,731 hours-worked of reinforcing steel and post-tensioning activities from May of 2012 to May of 2015. It is our position that the adoption of the proposed standards in Sections 1711 and 1712 will not create an adverse fiscal/economic impact on construction employers or project owners. The proposed safety standards will help prevent



workplace fatalities and injuries to California workers, and help reduce overall operating costs to California employers including project owners and controlling contractors.

We strongly urge the OSHSB to consider the expertise and diversity of organizations representing the reinforcing steel stakeholders throughout the United States and adopt the proposed changes to the California Division of Occupational Safety and Health (DOSH), Title 8, Construction Safety Orders, Article 29, Erection and Construction, Sections 1711 and 1712 Safety Standards.

Thank you for your efforts to work with our organization and reinforcing steel stakeholders to evaluate safety standards to protect California workers who perform reinforcing steel and post-tensioning operations.

Sincerely,

Steven L. Rank  
Executive Director of Safety and Health  
Iron Workers International Union

C: Marley Hart, Executive Officer, Occupational Safety and Health Standards Board  
Eric Dean, General President, Ironworkers International Union  
Ronald Piksa, General Secretary, Ironworkers International Union  
Bernie Evers, General Treasurer, Ironworkers International Union  
Donald Zampa, President, California District Council of Iron Workers  
Steve Parker, Executive Director, Department of Reinforcing, Ironworkers International Union  
William Brown, Co-Chairman, Ironworker Management Progressive Action Cooperative Trust  
Dave McEuen, IMPACT Management Co-Chairman, Region IX  
Kevin Hilton, CEO, Ironworker Management Progressive Action Cooperative Trust  
Pete Stafford, The Center for Construction Research and Training  
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