

**SAFETY AND HEALTH CODES BOARD
PUBLIC HEARING MINUTES
PROPOSED REGULATION, 16 VAC 25-145,
FALL PROTECTION IN STEEL ERECTION
Tuesday, August 12, 2003**

The Safety and Health Codes Board ("Board") held a Public Hearing on Tuesday, August 12, 2003 in Courtroom B of the State Corporation Commission, 1300 East Main Street, Richmond, Virginia. Mr. Richard Schneider, Vice Chairman, called the meeting to order at 10:05 a.m.

BOARD MEMBERS PRESENT: Richard F. Schneider (Vice Chairman)
Linwood Saunders
Anna Jolly (Secretary)
Franklin D. Owens
Charles L. Stiff
Khizar Wasti, Ph.D
Louis J. Cernak
James Golden

BOARD MEMBERS ABSENT: Roger L. Burkhart
Juanita L. Garcia
Alvin E. Keels, Sr.
Kenneth E. Rigmaiden
Rod Parker

STAFF PRESENT: C. Ray Davenport, Commissioner
Glenn Cox, Director of VOSH Programs
Jay Withrow, Director, Legal Support
Tom Rozman, Regional Director, Richmond Region
John Crisanti, Manager, Planning and Evaluation
Jane Daffron, Legal Assistant
Regina Cobb, Agency Management Analyst Sr.

OTHERS PRESENT: Beverly Crandell, Federal OSHA, Region III
Rodger Bryant, Riddleberger Bros., Inc.
Steven Vermillion, Associated General Contractors
Larry Patterson, Ironworkers #28
D.R. "Cotton" Sizemore, State Building Trades
Jan Thomas, Circle Safety & Health Consultants

PUBLIC COMMENT:

Vice Chairman Schneider began the Public Hearing by explaining that the purpose of the hearing was to take comments from the public regarding proposed regulation, 16 VAC 25-145, Part 1926.760 (a), (b) and (c), which deals with fall protection in steel erection. He then opened the floor to comment from the public on the proposed regulation.

Mr. Rodger Bryant, Safety Director for Riddleberger Bros., Inc., Mt. Crawford, VA, was the first speaker. He asked that additional clarification be added regarding the protection of connectors in §30 of the proposed regulation. He suggested amending the proposed language by including the following language, “*and the iron is in the air for connection...*” The amended subsection 30.1 would read as follows:

“§ 30 Connectors

Each connector shall:

Be protected in accordance with § 20 of these requirements from fall hazards of 10 feet or more above a lower level; except when structural members are being lifted for connection *and the iron is in the air for connection*, when it is considered by the connector to be a greater hazard to utilize fall protection in accordance with § 20, than to have freedom of movement to avoid accidental or inadvertent contact with structural members being hoisted to be placed and connected into position.”

Mr. Bryant explained that this added verbiage would cover additional situations where structural members are being lifted for connection. Once ironworkers have hot bolted, they should tie off. He stated that this language would require protection in situations where structural workers are between multiple lifts, e.g., ironworkers are already on the beam in the air and have bolted up and the crane has gone down to get another load, but the ironworkers are not yet tied off. The hazard of being knocked off the beam by the crane is replaced by other fall-related hazards that can result from not being tied off.

Next, Mr. Bryant suggested amending the proposed language in §40.B., Decking, by adding the following language: “*within the decking zone and*” so that subsection 40.B. would read as follows:

“ Each employee working *within the decking zone and* at the leading edge of decking operations shall be protected in accordance with subsection 20 A. of these requirements from fall hazards of 10 feet or more above a lower level.”

Mr. Bryant explained that, without this suggested change, ironworkers within the decking zone would feel as if they do not have to be tied off which, in turn, could increase the risk of fall hazards. He stated that not recognizing the control decking zone would keep workers from falling. Inclusion of this suggested language would limit access to others from coming into the decking zone.

In closing, Mr. Bryant anecdotally related that during one of his company’s large projects involving steel erection, four employees experienced falls during erection activities, but because all four were “tied off,” each was able to return safely home at the end of the work day.

The next speaker was Mr. Larry Patterson of the Ironworkers #28, who presented the Board with a written statement (**copy attached to these minutes**) from Mr. Walter Wise, President of the Iron Workers’ District Council of the Mid-Atlantic States. Mr. Wise represents the four (4) Iron Worker Local Unions serving Virginia: Local Union No. 5, Washington, DC; Local Union No. 28, Richmond, VA; Local Union No. 79, Norfolk, VA; Local Union No. 697, Roanoke, VA and their 1500 members.

In his statement, Mr. Wise commended the Board for adopting the majority of the new federal standard for Steel Erection, but he took exception to the differences proposed by the State of Virginia. Mr. Wise stated that the federal standard resulted from recommendations of the Steel Erection Negotiated Rulemaking Advisory Committee (SENRAC), which was comprised of members from Labor, management, industry, and state and federal governments. He said that SENRAC spent years meeting, reviewing and analyzing thousands of documents, statistics and comments to arrive at a unanimous consensus for their recommendations which then underwent OSHA's approval process before becoming a regulation. However, Mr. Wise's statement also noted that the State of Virginia had not offered any views or arguments that were not thoroughly considered and subsequently rejected by SENRAC or OSHA.

In proposed 16 VAC 25-145-20, General Requirements, section A, Mr. Wise, in his statement, objected to VOSH's adoption of a 10-foot height requirement for the use of fall protection systems instead of the federal requirement noting that it is very difficult in field application to arrest a fall in 10 feet. His statement added that there is no statistical evidence regarding ironworker fatalities resulting from falls of 10-15 feet.

Next, in 16 VAC 25-145-30, Connectors, Mr. Wise stated that the connectors can best determine what is safest and in their best interest. The flexibility given connectors in respect to fall protection should include the entire connecting operation.

With respect to 16 VAC 25-145-40, Decking, Mr. Wise stated that arresting a fall from 10 feet, especially during a decking operation is very difficult. The increase training and restriction of individuals to work area will dramatically decrease accidents in the decking operation, whereas mandatory fall protection for these few specialized ironworkers may increase risks.

In the conclusion of his written statement, Mr. Wise appealed to the Board to reject the proposed standards and adopt the entire federal standards for Fall Protection in Steel Erection.

The last speaker was Mr. Jay Withrow, Director of the Office of Legal Support of the Virginia Department of Labor and Industry, Richmond, VA. Mr. Withrow distributed two reports to the Board (**a copy of the reports is attached to these minutes**). The first hand-out was the Virginia Occupational Safety and Health (VOSH) Inspections report for Steel Erection (Standard Industrial Classification (SIC) 1791) for the Period of January 1, 1983 through August 5, 2003, which includes VOSH Inspections in Steel Erection (SIC 1791) where §§1926.28(a) and 1926.105(a) were cited during the period of January 1, 1983 through August 5, 2003.

In the first report, Mr. Withrow stated that VOSH conducted 987 inspections in the Steel Erection industry during the period of January 1, 1983 through August 5, 2003. He continued by stating that approximately 53% of the inspections involved the issuance of serious, repeat or willful violations of VOSH Construction Standards and approximately 33% of the inspections were found to have no violations of VOSH Standards. Thirty-three of the inspections concerned fatal or catastrophic accidents (a catastrophe is defined as three or more employees being admitted to the hospital).

The second hand-out concerned Virginia Occupational Safety and Health (VOSH) Fatality Inspections for Steel Erection (Standard Industrial Classification (SIC) 1791) for the Period of January 1, 1983 through August 5, 2003. This report contained a narrative description of the accident for most, but not all of the inspections, and lists any violations and penalties that were cited by VOSH. In this report, Mr. Withrow placed a dot beside the cases involving fatal accident inspections concerning decking operations and connectors in which citations were issued involving §§1926.28(a) and §1926.105(a).

In conclusion, Mr. Withrow said that he could address at the next meeting the two points that Mr. Bryant addressed earlier during this Public Hearing.

Mr. Schneider thanked everyone for their participation and then adjourned the meeting at 10:18 a.m.

Public Hearing for Safety Standards for Fall Protection
In Steel Erection, Construction Industry
Department of Labor and Industry
August 12, 2003

My name is Walter Wise. I am President of the Iron Workers' District Council of the Mid-Atlantic States, representing the four (4) Iron Worker Local Unions serving Virginia: Local Union No. 5, Washington, DC; Local Union No. 28, Richmond, VA; Local Union No. 79, Norfolk, VA; Local Union No. 697, Roanoke, VA and their 1500 members.

I would like to thank the State of Virginia Department of Labor and Industry and the Virginia Safety and Health Codes Board for adopting the majority of the new Federal Standard for Steel Erection, but must take exception to the differences proposed by the State of Virginia.

The new Federal Standard resulted from recommendations of the Steel Erection Negotiated Rulemaking Advisory Committee (SENRAC), comprised of members from Labor, management, industry, and state and federal governments. They spent years, at over a hundred meetings, reviewing and analyzing thousands of documents, statistics and comments to arrive at a **unanimous consensus** for their recommendations which then, underwent the exhaustive.. approval process by the Occupational Safety and Health Administration before becoming regulation. The State of Virginia has not offered any views or arguments that were not thoroughly considered by SENRAC or OSHA and rejected in favor of the Federal Standard in place today.

We object to the adoption of a 10 foot height requirement for the use of fall protection systems as opposed to the 15 foot Federal requirement contained in the proposed **96 VAC 25-945-20 General Requirements, Section A**. It is very difficult in field applications to arrest a fall in 10 feet, offering very limited protection in steel erection and may create a false sense of security for Ironworkers leading to complacency, increased risk-taking and an increase in accidents. There is no statistical evidence regarding Ironworker fatalities resulting from falls of 10-15 feet.

In **96 VAC 25-745-30 Connectors**, both the recommendations of SENRAC and the Virginia State Department of Labor recognize the inherent risk associated with connectors and their work during the initial placement of structural steel and allows the "connector" the flexibility to determine when the use of fall protection may present a greater hazard. However, the proposal presented narrows their window of determination to *"when structural members are being lifted for connection"*, inferring that their risk is only from the approach of incoming structural members. Connectors work in a very fluid and changing environment. Every piece put into place changes the dynamics of their work area. The structural members that they place are held in place by the minimum number of bolts. They are at risk, not only from the movement of incoming steel, but from the collapse of members or the structure, failing objects and other instances when they and only they, the connector, can best ascertain what is safest and in their best interest. The flexibility given connectors in respect to fall protection should include the entire connecting operation that is well defined within the ironworking industry.

As proposed in **96 VAC 25-945-40 Decking**, the controlled decking zone contained in the Federal Standards is prohibited, but replaced with a leading edge decking operation boundary containing the same description as the Federal Controlled Decking Zone with the requirement that 10 foot fall protection be required. Arresting a fall from 10 feet, especially during a decking operation is very difficult, A decking gang moves rapidly and continuously over a large area. Long, strung out safety lines offer little protection and create a hazard in and among themselves that have instigated accidents and injured workers. As was investigated by SENRAC, the large majority of fatalities associated with decking did not involve the leading edge worker. The increased training and restriction of individuals to the work area will dramatically decrease accidents in the decking operation, whereas mandatory fall protection for these few specialized ironworkers may increase risks.

The Federal Standards attempted to create uniformity, by adopting one standard for the industry. One standard that could be taught coast to coast and have ironworkers trained to its provisions; one standard that ironworkers would learn and could count on being consistent wherever their work took them. By adopting different provisions within Virginia's standards, our training curriculum will have to be modified resulting in increased costs and confusion in the workplace,

I have attached the January 18, 2001, edition of the Federal Register. It contains, not only the Federal Standard for Steel Erection, but also a Summary and Explanation of the Final Rule containing the reasoning involved in the decisions made as to fall protection requirements. You will note that proposals similar to Virginia were considered, but rejected, deferring to the men and women within the ironworking industry, to the craftsmen who build the best that America has to offer. We ask the Virginia Safety and Health Codes Board to do the same, reject the proposed standards and adopt the Federal Standards for fall protection in the Steel Erection Industry.

Thank You,



Walter W. Wise, President
Iron Workers' District Council
Of the Mid-Atlantic States
2929 Eskridge Road, Suite T
Fairfax, VA 22031
703.207.1771
703.207.1772 fax
iwmidatlst@aol.com

Columns do not include "posts" such as wind posts, and posts supporting stair landings, wall framing, mezzanines and other substructures (see definition of "post"). As discussed later in this preamble (see discussion of final § 1926.755), the Agency determined that a definition for column is needed to clarify which members are subject to the requirements of the column anchorage provisions in § 1926.755.

"Competent person." This term is already defined in § 1926.32(f), which applies to all construction work. A "competent person" is a person who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. Because the term appears so frequently in this standard, OSHA is repeating this definition in subpart R. One commenter (Ex. 13-153) suggested adding "typically, but not necessarily, the competent person on a steel erection project will be the person responsible for the steel erection." OSHA does not believe the recommended language clarifies the definition. Also, the term is used in all construction applications and the Agency does not feel it is appropriate to change the definition for steel erection.

"Connector" means an employee who, working with hoisting equipment, is placing and connecting structural members and/or components. This definition is unchanged from the proposal. Several commenters (Exs. 13-365, 13-334; 13-193A; 13-173; and 13-215) stated that this definition does not clearly indicate what activities are performed by a connector. They specifically argued that the definition does not indicate whether spreading and securing of bar joists would be considered connecting. One witness testified (Ex. 201X; p. 81) that the proposed definition was so broad that it would include almost any operation performed by ironworkers. OSHA disagrees with these commenters. SENRAC intended to make this definition as narrow as possible, and the Agency believes that the final definition carries out this intention. The definition is very specific; connecting is distinguished from other steel erection activities by the elements in the definition. For example, spreading and securing bar joists by hand would not be considered connecting, since that work is not done "with hoisting equipment." Therefore, an employee is a "connector" only when working with "hoisting equipment". This includes placing components as they are received from

hoisting equipment, and then connecting those components while hoisting equipment is overhead.

"Constructibility." This term is defined to mean the ability to erect structural steel members in accordance with subpart R without having to alter the over-all structural design. As discussed in the preamble of final rule § 1926.755, the Agency has determined that a definition for constructibility is needed for clarification. In the proposal, several provisions contained exceptions where "design and constructibility do not allow" compliance. However, the term "design and constructibility" was not defined. The term was included in the proposal to allow exemptions from specific requirements where the overall design of the structure prevents compliance with such requirements. In other words, in order to comply with the requirements, the overall design of the structure would have to be altered. Since "constructibility" includes "design" constraints, the Agency has replaced "structural design and constructibility" with "constructibility." This term is used in several places in the final rule, specifically § 1926.754(e)(2)(i), § 1926.756(e)(1) and (e)(2), and § 1926.757(a)(8)(ii).

"Controlled Decking Zone (CDZ)." This term is defined to mean an area in which certain work (for example, initial installation and placement of metal deck) may take place without the use of guardrail systems, personal fall arrest systems, restraint systems or safety net systems provided that alternative procedures (for example, controlled access combined with worker training, specified work practices and use of control lines or equivalent) are implemented. Controlled decking zones are discussed in final rule § 1926.760(c).

"Controlling contractor." OSHA defines this term to mean a prime contractor, general contractor, construction manager, owner acting as the general contractor, or any other legal entity that has overall responsibility for the construction of the project—its planning, quality, and completion.

One witness (Ex. 201X; p. 8-39) suggested that a company would be considered a controlling contractor under this definition if it controls the schedule at the worksite, dictates when other contractors will do their work, makes it a practice to inform other contractors on the site of safety problems and requires the other contractors to take corrective action. He further argued that, while these are not all of the relevant factors, they are typical of the types of authority that controlling contractors have.

Some commenters stated that the definition of a controlling contractor was vague and could be interpreted to include a "private or public owner, the project architect, general contractor or other contractors on a multiple prime contractor project[s]." The provision defines the term with respect to the extent of control of the worksite. A controlling contractor is an entity that has general supervisory authority over the worksite such that it can correct safety and health violations itself or have others correct them. So, an owner, project architect or any other entity that has this authority would be considered a controlling contractor.

The proposed phrase "by contract with other parties" has been omitted in the final rule because an employer may have the "overall responsibility for the project, its planning, quality and completion" without it provided for by contract.

"Critical lift" means a lift that (1) exceeds 75% of the rated capacity of the crane or derrick, or (2) requires the use of more than one crane or derrick. A commenter (Ex. 13-210) stated that critical lifts are not unique to steel erection and should be addressed in OSHA's crane standard, 29 CFR 1926.550. While OSHA agrees that these types of lifts occur in industries other than steel erection, there currently are no special requirements in OSHA's crane standard that specifically address these types of lifts. Since cranes are the primary equipment used in steel erection to lift/hoist steel members, the Agency feels it is important to address critical lifts in the steel erection standard. As stated in the proposal, this definition was developed by a SENRAC workgroup.

"Decking hole." This term is defined to mean a gap or void more than 2 inches (5.1 cm) in its least dimension and less than 12 inches (30.5 cm) in its greatest dimension in a floor, roof or other walking/working surface whereas "opening" means a gap or a void large enough to present a fall hazard. Pre-engineered holes in cellular decking are not included in the definition of "decking hole".

SENRAC believed that it was important to distinguish between holes that are too small to fall through (but are a tripping and falling object hazard), and holes which are large enough to fall through. This allowed the proposed rule to have safety requirements tailored to whether the hole presents a tripping/falling object hazard or a fall hazard. It therefore used the terms "decking hole" for small holes and "opening" for large holes.

Section 1926.759 Falling object protection

This section sets forth the requirements for providing employees with protection from falling objects. A real, everyday hazard posed to steel erection employees is loose items that have been placed aloft that can fall and strike employees working below.

Paragraph (a) requires that all materials, equipment, and tools that are not in use while aloft be secured against accidental displacement. The Agency received no comments on this section of the standard, and the provision is unchanged in the final rule.

The intent of paragraph (b) is that, when it is necessary to have work performed below on-going steel erection activities (other than hoisting), effective overhead protection must be provided to those workers to prevent injuries from falling objects. If this protection is not provided, work by other trades is not to be permitted below steel erection work. One way controlling contractors can reduce the hazards associated with falling objects is by scheduling work in such a way that employees are not exposed.

In the proposed rule, this section was titled, "overhead protection." Most of the comments OSHA received on this section confused this provision with the requirements for protecting workers from falling objects associated with hoisting operations, which is addressed by § 1926.753(d). OSHA has changed the title of this paragraph to "Protection from falling objects other than materials being hoisted" so employers will not confuse the two provisions.

As proposed, § 1926.759(b) stated that, "The controlling contractor shall ensure that no other construction processes take place below steel erection unless adequate overhead protection for the employees below is provided." Two commenters (Exs. 13-318 and 201X; p. 120) stated that the controlling contractor may not always be able to ensure that nobody is working under a steel erector. In other words, these commenters believe that the use of the word "ensure" would make the controlling contractor strictly liable—would have to guarantee—that no one worked below the steel erection activities. The use of the word "ensure" in this standard does not make the controlling contractor liable if it institutes reasonable measures to comply with the requirement. All defenses normally available to employers are equally available where a requirement is phrased using the term "ensure."

For a different reason, however, the Agency has rephrased the provision to read that the controlling contractor will "bar" other construction processes below steel erection. This change was made to more directly state that the employer must institute measures to keep employees out of the area below the steel erection activities.

Section 1926.760 Fall Protection

Paragraph (a) General Requirements

Paragraph (a) sets the fall protection threshold height for steel erection activities. Final paragraph (a)(1) requires that, with two exceptions, each employee covered by this rule who is on a walking/working surface with an unprotected side or edge more than 15 feet (4.6m) above a lower level must be protected by conventional fall protection (systems/devices that either physically prevent a worker from falling or arrest a worker's fall). One exception allows connectors to not use their personal fall protection to avoid hazards while working at heights between 15 and 30 feet. The other exception allows workers engaged in decking in a controlled decking zone to work without conventional fall protection at heights between 15 and 30 feet.

This is essentially the same as the proposed rule and SENRAC's recommendation. OSHA added a provision setting out the types of protection allowed. Protection must be provided by the use of guardrail systems, safety net systems, personal fall arrest systems, positioning devices systems or fall restraint systems. The Agency also re-worded the exception for connectors to clarify that they are permitted to not use their fall protection system where, in their sole discretion, they determine that is necessary to avoid a hazard.

Prior to enactment of this final rule, the fall protection requirements for steel erection were in three separate provisions. Depending on the structure and the type of fall exposure, one of the following applied: §§ 1926.750(b)(1)(ii), 1926.750(b)(2)(i) (both are in subpart R), or § 1926.105(a) (subpart E, Personal Protective and Life Saving Equipment). These provisions were the subject of considerable litigation, the product of which was the following: (1) In single story structures, § 1926.105(a) applied, which required fall protection at and above 25 feet for both fall hazards to the interior and exterior of the structure; (2) in multi-tiered buildings, § 1926.750 applied to fall hazards to the interior of the building. Several courts held that, under that standard, fall protection was required at and above 30 feet; (3) in

multi-tiered buildings, § 1926.105(a) applied to fall hazards to the exterior of the building, which required fall protection at and above 25 feet. With the exception of § 1926.754(b)(3), the final rule eliminates distinctions between interior and exterior fall hazards and tiered versus untiered buildings for the fall protection trigger heights.

The fall protection rules for steel erection differ from the general fall protection rules in subpart M, which set six feet as the trigger height for fall protection. OSHA agrees with SENRAC that steel erection activities are different from most other construction activities. The different trigger height reflects these differences. OSHA also agrees with SENRAC that the former fall protection rules relating to steel erection are insufficiently protective and need to be strengthened.

In examining the issue of the threshold height for requiring conventional fall protection, SENRAC considered 29 CFR 1926 subpart M, the general fall protection standard for construction. In general, the subpart M trigger height for fall protection is six feet. SENRAC evaluated whether the trigger height in steel erection should be different than that in subpart M and concluded that it needed to be higher.

Steel erection differs from general construction in three major respects—the narrowness of the working surface, its location above, rather than below, the rest of the structure, and a minimum distance of approximately 15 feet to the next lower level. We explained the steel erection process in the proposal as follows (63 FR 43478-79):

Initially, vertical members, referred to as columns, are anchored to the foundation. The columns are then connected with solid web beams or steel joists and joist girders to form an open bay. In a multi-story building, the columns are usually two stories high. These structural members are set by connectors in conjunction with a hoisting device (typically a crane). When the two-story columns are set in place, the connector installs the header beams at the first level, which forms the first bay. Each floor is typically 12.5 to 15 feet in height. After an exterior bay is formed ("boxing the bay"), the filler beams or joists are placed in the bay. The connector then ascends the column to the next level, where the exterior members are connected to form a bay, and so on. The floor or roof decking process basically consists of hoisting and landing of deck bundles and the placement and securing of the metal decking panels.

In short, a new, very narrow working surface is constantly being created as skeletal steel is erected at various heights. For many steel erectors, especially connectors, the work starts at the top level of the structure.

The special circumstances of steel erection can make conventional fall protection very difficult to deploy below 15 feet. For many steel erectors, especially connectors, the work starts at the top level of the structure. This means that anchor points above foot level are often limited or unavailable. Because of the nature of the structure, the available fall arrest distance is usually about 15 feet.

Thus, we noted in the proposal that fall equipment manufacturers appeared before the Committee and discussed the relationship between the fall distance when fall arrest systems are used and the trigger height for requiring fall protection (63 FR 43479). The location of anchor points, in conjunction with a number of other factors, will affect the fall arrest distance—the distance a worker will fall before the fall arrest system stops the fall. The fall arrest distance is the sum of the distance the worker falls before the fall arrest system begins to stop the fall, plus the additional distance that it takes for the system to slow and then finally stop the fall completely. Other factors that affect the fall arrest distance include the type of fall protection system used, the type of components and how the system is configured and anchored. The degree of mobility needed for the worker, location of available anchor points, and the need to limit the arresting forces on the worker's body also affect the choice of system and its installation.

Personal fall arrest systems commonly used by workers in full body harnesses often have one of the following: (1) Shock absorbing lanyard; (2) self-retracting lifeline; (3) rope grab with vertical lifeline; or (4) shock absorbing lanyard with rope grab and vertical lifeline. Fall arrest distances can vary with different types and lengths of lanyards. The distances can also vary in systems that permit the user to adjust the amount of slack.

The three common types of anchorage systems include: (1) Horizontally mobile and vertically rigid (such as a trolley connected to a flange of a structural beam); (2) horizontally fixed and vertically rigid (such as an eyebolt, choker or clamp connected to a structural beam, column or truss); and (3) horizontally mobile and vertically flexible (such as a horizontal lifeline suspended between two structural columns or between stanchions, which are attached to a structural beam and designed to support the lifeline). Eight feasible combinations of personal fall arrest systems and anchorage connectors were discussed (63 FR 43479). The total fall distance can differ significantly depending on how the system is

configured. A system using an anchorage connector, harness and shock absorbing lanyard will have a total fall distance between 3 and 23 feet, while the total fall distance for a system using an anchorage connector, harness and self-retracting lifeline will measure between 4 and 10.5 feet. (Exs. 6–10 and 9–77-Tables 6 and 7). In 1995, one fall protection manufacturer indicated to SENRAC that the lowest point of the ironworker's body should be at least 12.5 feet above the nearest obstacle in the potential fall path when using a properly rigged, rigidly anchored, personal fall arrest system of the shock absorbing lanyard type or self-retracting lifeline type. In view of the types of equipment available, potential locations of anchor points, and typical distance between work surfaces and the next lower level, the Committee determined that 15 feet was an appropriate threshold for requiring fall protection, subject to the two exceptions mentioned above.

OSHA received comments supporting a requirement for fall protection beginning at 15 feet (Exs. 13–354; 13–151; and 13–207C). The National Erectors Association (Ex. 208X, p. 115) supported a 15-foot rule and testified against the “one size fits all” trend (relative to having a 6-foot rule). Robert Banks of the Safety Advisory Committee of Structural Steel (Ex. 205X, p. 294) felt that, when finalized, the proposed rule would generate widespread use of personal fall arrest equipment. Innovative Safety, (Ex. 207X, pp. 15–16) testified that 15 feet was realistic and that various fall arrest systems could be used at that height. One commenter (Ex. 13–246) advocated a 10-foot rule.

However, OSHA also received comments and testimony in support of a 6-foot fall protection rule. Several commenters advocated consistency between Subpart R and M (Exs. 13–159; 13–148; 13–121; 13–260; and 13–215). Some general contractors stated they support a 6-foot fall protection rule for steel erectors (Exs. 207X, p. 211; 207X, pp. 134–135, p. 172; 207X, pp. 182–186; 207X, p. 172; 13–366; 13–352; 13–306; 13–346; 13–340; 13–338; 13–240; 13–229; 13–214; 13–192; 13–167; and 13–159). Five of these companies testified to the successful implementation of their 6-foot programs for steel erection for all steel erection operations, including connecting and decking. For example, a representative from Kellogg Brown & Root testified (Ex. 207X, pp. 133–134) that their company has had a 6-foot policy for eight years. When the structure cannot accommodate fall protection or fall prevention systems, their company uses aerial lifts and/or

scissors lifts. W.S. Bellows Construction Corp. implemented a 6-foot fall protection policy in 1994 (Ex. 207X, pp. 136–141) when subpart M took effect. Bellows testified that their policy has increased productivity, decreased insurance costs, and saved lives. An official from CENTEX Construction Co., a general contractor, declared (Ex. 207X, pp. 182–186) that his company, because of positive experiences on earlier projects, implemented a policy to hire only subcontractors using 6-foot programs. Turner Construction Company's spokesman testified (Ex. 207X, p. 211) that their company would prefer a 6-foot rule, but could operate with a 15-foot threshold.

Four commenters referenced the fatality statistics and were concerned that OSHA included the SENRAC fall protection provisions in the proposed rule. These commenters contended that technology was available to protect steel erection workers at 6 feet (Nigel Ellis Ex. 23; Beacon Skanska Const. Co. Ex. –13–285; Clark Construction. Co. Ex. 202X, p. 9–10; and Joseph Fitzgerald Ex. 13–31). However, one of these commenters, Mr. Nigel Ellis, acknowledged that preplanning might not preclude all the anchorage point problems, and where employers prove that it is infeasible to provide overhead anchorage points, the rule should contain provisions that would permit free fall distances greater than 6 feet. For example, if workers are in situations where the only anchor point is at foot level, there would be difficulties when using personal fall protection at 6 feet. In general, in order to use a personal fall arrest system at 6 feet, the system would have to either be anchored above the worker's head or set up to restrain the worker from stepping past an open side or hole. For many steel erection activities, he noted this may be difficult to achieve at 6 feet.

During the rulemaking process, SENRAC and OSHA analyzed accident information derived from OSHA's IMIS system. There were two studies on steel erection fatalities—a seven-year OSHA study and a subsequent eleven-year OSHA/SENRAC study (which included the previous study's data; Exs. 9–14A; 9–42 and 49). An earlier OSHA five-year study of construction fatalities in general showed that 8% of the fatal falls occurred between 6 and 10 feet and that 25% occurred between 11 and 20 feet. However, of that 25%, the Agency does not know how many ironworker fatalities occurred between 11 and 15 feet. With this significant gap in the data, we cannot determine whether a high proportion of the falls between 11 and 20 feet occurred below 15 feet. We note that much of the steel erection

work involving single story structures, such as warehouses, is done at or above 15 feet.

After analyzing the entire record, the Agency has determined that the use of conventional fall protection at 15 feet and above is necessary and feasible in most cases. While some general contractors and large industrial steel erectors may be providing fall protection below 15 feet, the data are unclear with respect to how much of a need there may be for requiring fall protection in steel erection at those lower heights. Also, many situations in steel erection do not permit connecting fall protection below 15 feet. In addition, steel erection work that is done between 6 and 15 feet is often performed from ladders, scaffolds, or personnel work platforms (63 FR 43479). Therefore, OSHA has decided not to require conventional fall protection in steel erection below 15 feet.

Paragraph (a)(2) covers requirements for perimeter safety cables. It is modified from the proposal and moved from proposed § 1926.756(f)(1). It specifies that perimeter safety cables shall be installed at the final interior and exterior perimeters of multi-story structures as soon as the decking has been installed. These cables must be installed regardless of other fall protection systems in use. They must meet the criteria for guardrail systems in subpart M (1926.502(b)).

The final requirements differ from those proposed by specifying when the cables must be installed: "as soon as the decking has been installed." Although the proposal's preamble stated SENRAC's and OSHA's intention that "these cables * * * be installed as soon as the deck has been installed * * *" (63 FR 43471), the proposed regulatory text carried over the broader language of the current requirement that cables be installed "during structural steel assembly." To carry out SENRAC's intention, as well as to improve clarity, we have specified when the cables must be installed, so that they can protect the detail crews which follow the decking crews (Id.).

The final rule also changes the minimum thickness requirement of the cable to 1/4" to conform to the guardrail specifications required in subpart M (§ 1926.502(b)). We had proposed the cable be at least 1/2," which was the previous requirement of subpart R. We agree with the commenters that the subpart M requirements for guardrails are appropriate for the perimeter safety cables in steel erection.

The Associated General Contractors of Wisconsin and D.C. (Exs. 13-334 and

13-210) suggested that the name "perimeter cable" be changed to "perimeter cable guardrails" to be consistent with Subpart M. Because the term "perimeter safety cable" is so commonly used in the steel erection industry, the Agency has decided not to adopt this suggestion.

A few participants (Exs. 206X, p. 55; 13-63; and 13-209) stated that the meaning of perimeter is undefined because the perimeter may change as work progresses. However, in the vast majority of buildings the perimeter columns define the final perimeter where the edges will not be expanded. LeMessurier Consultants (Ex. 13-127) suggested that the proposed words "periphery" and "perimeter" lead the reader to believe that only the outermost edges of the structure have to be guarded and that the final interior perimeters (such as for atriums) are similar to final exterior perimeters in that these edges will not be expanded. We agree, and the final text makes clear that the final "interior" as well as the final "exterior" must be protected by the use of safety cables. However, we are not including an appendix with diagrams, as suggested, because of the wide variety of perimeter configurations.

One commenter (Ex. 206X, p. 55) testified that the steel erectors had the ingenuity to erect the perimeter safety cables and should be responsible for complying with the standard. Others commented that it should be the controlling contractor's responsibility to comply with the standard or to make sure, by contract, that competent people do the work and that it is a common practice for erectors to be tasked, by contract, with installing perimeter safety cables along with their other work.

The majority of the general contractors testified (see for example, Exs. 13-63, 13-116, 13-161 and 13-203) that they were opposed to making the controlling contractor responsible for the erection of equipment required in the steel erection standard. They feel the erectors are the most experienced at erecting perimeter safety cables and should have that responsibility.

The perimeter cable provision in the proposal did not specify either the steel erector or the controlling contractor as responsible for installing the perimeter cables. Section 1926.750(a) states, in part, that "the requirements of this subpart apply to employers engaged in steel erection unless otherwise specified." Since the perimeter cable provision does not specify any particular entity as responsible for installing the cables, all employers engaged in steel erection with respect to

the project are responsible for compliance with this provision, including the controlling contractor. The extent of the controlling contractor's responsibility for complying with this provision would be determined in accordance with the Agency's multi-employer policy; that policy applies to all controlling employers, irrespective of the type of construction.

Paragraph (a)(3) requires that connectors and employees working in controlled decking zones be protected from fall hazards as provided in paragraphs (b) and (c) of this section, respectively. The final rule retains (with some modifications) the proposed exceptions to the general requirement that fall protection be provided at heights above 15 feet. According to paragraphs (b) and (c), employers of connectors are partly excepted from the general rule and employers of leading edge decking workers are excepted from some of the general fall protection requirements if they comply with specified alternative procedures in these paragraphs. These provisions were the subject of much division of opinion both during SENRAC's deliberations and during the post-proposal phase of this rulemaking procedure. We discuss these provisions immediately below.

Paragraph (b) provides a special rule for employers of connectors. Paragraphs (b)(1) and (b)(2) are unchanged from the proposal. Paragraph (b)(1) requires each connector be protected from fall hazards of more than two stories or 30 feet (9.1 m) above a lower level, whichever is less. Protection at this height is currently required by OSHA's existing steel erection standard for all employees engaged in steel erection. Paragraph (b)(2) requires each connector to complete connector training in accordance with § 1926.761. Such training must be specific to connecting and cover the recognition of hazards, and the establishment, access, safe connecting techniques and work practices required by § 1926.756(c) and § 1926.760(b).

Final paragraph (b)(3) provides that connectors must be provided, at heights over 15 and up to 30 feet above a lower level, with a personal fall arrest system, positioning device system or fall restraint system and wear the equipment necessary to be tied off, or be provided with other means of protection from fall hazards in accordance with paragraph (a)(1) (or, for protection against perimeter falls, (a)(2)) of this section.

This provision reflects SENRAC's findings that at times connectors need to remain unencumbered. The revised

final provision also makes clear that this exception applies only where the employer has provided the connector with a complete personal fall protection system. This includes a personal fall arrest system as defined in § 1926.751 with secure anchorages for tying off. Employers may, of course, protect connectors working between 15 feet and 30 feet with another allowable fall protection system, in which case this limited exception does not apply.

The Committee's minutes (Ex. 6-1 through 6-11) show that the proposed "connector exception" was a compromise position. It was adopted by the Committee after listening to testimony of connector panels, fall protection equipment representatives, general contractor representatives, and steel erector representatives, all presenting differing views on whether connectors need different fall protection requirements than other non-connecting ironworkers. The Committee was informed that California's rule allowed the connector to be untied between 15 and 30 feet and the rule appears to be operating successfully (June 27-29, 1995-Committee Minutes). SENRAC told OSHA that it intended to define "connector" narrowly because the primary purpose of the definition was to specifically define which ironworkers are covered by the "connection exemption."

We proposed this exemption to reflect SENRAC's consensus agreement. As shown above, SENRAC recognized that the issue of fall protection for connectors was highly controversial. The minutes of the Committee show that some of its members agreed on the provision only when they were assured that within 3 years from the rule's effective date, the Agency would evaluate the available accident data and assess whether the rule was sufficiently protective.

The proposal set out reasons why SENRAC believed that this exception was necessary: "The Committee believes that under certain conditions, the connector is at greater risk if he/she is tied off. For example, in the event of structural collapse, a tied-off connector could be forced to ride the structure to the ground." (63 FR 43480).

The major concern of proponents of the exception both during SENRAC's meetings and during the rulemaking comment period and hearing, was that connectors needed freedom of movement and requiring them to tie-off would hinder this. The concern, as stated previously, was that in the event of structural collapse, a connector would be forced to "ride the structure to the ground" if tied off, whereas he/

she could jump free of the collapsing structure if he/she were not tied off. The ability to move without restraint in order to get away from incoming loads is also stated as a reason for connectors not to tie off.

The following discussion of the record combines information in the minutes of the committee with as information and comment submitted directly into the post-proposal record.

Fall protection was discussed during every SENRAC meeting. From the start, some committee participants stated that connectors need to remain unencumbered, both to do their job and to avoid dangerous conditions they commonly face. In the July, 1994 meeting where the full committee met with the fall protection workgroup, this point was made. Participants noted that connectors and some other steel erection workers are highly trained and experienced. It was stated that it would be a "greater hazard" to tie off such highly experienced people. (The term "greater hazard" has a precise legal meaning; it is an affirmative defense which requires employers to demonstrate various elements in order to be relieved of a citation. However, throughout SENRAC's discussions and the subsequent rulemaking, the term was used informally.) In its deliberations, SENRAC considered whether there are any jobs that requires a person to not be protected from fall protection because it is technically and economically infeasible. In the August, 1994 SENRAC meeting, a group of connectors from the Ironworkers Local #7 discussed "their experiences and views on the relative merits of mandatory fall protection for connectors and other workers." They uniformly stated that they needed to remain unencumbered when they were working with hoisting equipment and some members recounted personal experiences where they were able to escape collapses and incoming steel only because they were not tied off. By the November 27-December 1, 1995 meeting, SENRAC agreed on a consensus view incorporating the limited exception for connectors, as proposed. A few participants insisted that OSHA review fall statistics within 3 years after the final rule becomes effective, to check on whether the exception is adequately protective of connectors.

Issue #12 in the proposal asked the public to comment on whether there should be specific criteria indicating when connectors should tie-off. We also asked if it was feasible or posed a greater hazard for connectors to tie-off and if it should be the employer's

responsibility to determine where and when fall protection should be required. Several ironworkers testified during the December 1998 hearings about their personal experiences and belief that it is important to be able to move freely and, at times, to jump off a collapsing steel member.

Several commenters (Exs. 13-68; 13-345; 13-349; 13-331; and 13-114) stated connectors needed freedom of movement up to 30 feet. One commenter (Ex. 13-114) said the concern is not with falling, but being able to get away from the steel during a collapse. A member of the Ironworkers' Panel No. 1 testified (Ex. 205X, pp. 312-313) that even though the connector appears to be "running around like he's crazy, he's not. He has a place to go, and he knows where he is going at all times."

A number of other commenters objected to allowing connectors to choose whether to use fall protection, but none of these individuals indicated that they had experience connecting (Exs. 13-31; 13-60; 13-210; 13-222; and 13-334). The point was made, however, that, "in the case of structural collapse, the connector will 'ride the structure to the ground' whether or not he/she is tied off" (Ex. 13-31). The companies described above that advocated requiring fall protection at 6 feet require the connectors on their projects to be tied-off at all times. Furthermore, some commenters supporting the connector exception acknowledge that incoming steel can injure or kill connectors when they are not tied-off; Peterson Beckner Industries, Inc., (Ex. 13-354) related the case of two employees who were hit by incoming loads: the one who was tied off was hit and suffered a broken arm. The one who was not tied off was knocked off of a beam at the exterior of a building and was killed.

The record also contains two studies on steel erection fatalities—a seven-year study and a subsequent eleven-year study (which included the previous study's data) (Exs. 9-14A; 9-42 and 49). The eleven-year study categorized fatalities in a number of ways, including by "activity" and by "cause." Of the various causes listed, collapse was the third highest at 15.8% of the fatalities (the highest category was falls from slipping at 24%; second was "unknown" at 17%). By activity, connecting was second highest at 17% (the most dangerous activity was decking, at 23%).

The concern about collapses is the most cited reason for allowing connectors to not use fall protection equipment. SENRAC recommended and OSHA proposed new provisions that

SAFETY STANDARDS FOR FALL PROTECTION IN STEEL ERECTION,
CONSTRUCTION INDUSTRY
16 VAC 25-145

16 VAC 25-145-10 Application of Regulation

Notwithstanding any other provisions to the contrary relating to fall protection and controlled decking zones (CDZ) in the regulation of steel erection in 16 VAC 25-175-1926.500; 16 VAC 25-175-1926.751 through 16 VAC 25-175-1926.759; 16 VAC 25-175-1926.761; and Appendix D to Subpart R- Illustrations of the Use of Controlled Decking Zones (CSZs); Non-mandatory guidelines for complying with §1926.760 (c)(3); the provisions of 16 VAC 25-145 shall take precedence.

16 VAC 25-145-20 General Requirements

A. Except as provided by subsection C of this section, each employee engaged in a steel erection activity who is on a walking/working surface with an unprotected side or edge of 10 feet or more above a lower level shall be protected from fall hazards by guardrail systems, safety net systems, personal fall arrest systems, positioning device systems or fall restraint systems.

B. Perimeter safety cables. On multi-story structures, perimeter safety cables shall be installed at the final interior and exterior perimeters of the floors as soon as the metal decking has been installed.

C. Connectors and employees working in leading edge decking operations shall be protected from fall hazards as provided in 16 VAC 25-145-30 and 16 VAC 25-145-40

SAFETY STANDARDS FOR FALL PROTECTION IN STEEL ERECTION,
CONSTRUCTION INDUSTRY
16 VAC 25-145

respectively.

16 VAC 25-145-30 Connectors

Each connector shall:

1. Be protected in accordance with 16 VAC 25-145-20 from fall hazards of 10 feet or more above a lower level; except when structural members are being lifted for connection, when it is considered by the connector to be a greater hazard to utilize fall protection in accordance with 16 VAC 25-145-20, than to have freedom of movement to avoid accidental or inadvertent contact with structural members being hoisted to be placed and connected into position;
2. Have completed connector training in accordance with 16 VAC 25-175-1926.761;
and
3. Be provided, at heights at or above 10 and up to 30 feet above a lower level, with a personal fall arrest system, positioning device system or fall restraint system and wear the equipment necessary to be able to be tied off; or be provided with other means of protection from fall hazards in accordance with subsection 16 VAC 25-145-20 A.

16 VAC 25-145-40 Decking

- A. The use of controlled decking zones is prohibited.
- B. Each employee working at the leading edge of decking operations shall be

SAFETY STANDARDS FOR FALL PROTECTION IN STEEL ERECTION,
CONSTRUCTION INDUSTRY
16 VAC 25-145

protected in accordance with 16 VAC 25-145-20 A from fall hazards of 10 feet or more above a lower level.

C. Access to the leading edge of decking operations shall be limited to only those employees engaged in leading edge work.

D. The boundaries of a leading edge decking operation shall be designated and clearly marked. The operation shall not be more than 90 feet (27.4 m) wide and 90 (27.4 m) feet deep from any leading edge. The operation shall be marked by the use of control lines or the equivalent. Examples of acceptable procedures for demarcating can be found in 16 VAC 25-175-1926.750 through 16 VAC 25-175-1926.761, (Subpart R) Appendix A.

E. Each employee working in a leading edge decking operation shall have completed training in accordance with 16 VAC 25-175-1926.761.

F. Unsecured decking shall not exceed 3,000 square feet (914.4 m²).

G. Safety deck attachments shall be performed from the leading edge back to the control line and shall have at least two attachments for each metal decking panel.

H. Final deck attachments and installation of shear connectors shall not be performed in areas where leading edge decking operations are being conducted.

16 VAC 25-145-50 Illustration of the Use of Control Lines to Demarcate Leading Edge Decking Operations: Non-mandatory Guidelines for Complying with 16 VAC 25-145-40 D

SAFETY STANDARDS FOR FALL PROTECTION IN STEEL ERECTION,
CONSTRUCTION INDUSTRY
16 VAC 25-145

A. When used to control access to areas where leading edge and initial securement of metal deck and other operations connected with leading edge work are taking place, the work area is defined by a control line or by any other means that restricts access.

1. A control line is erected not less than 6 feet (1.8 m) nor more than 90 feet (27.4 m) from the leading edge;
2. Control lines extend along the entire length of the unprotected or leading edge and are approximately parallel to the unprotected or leading edge; and
3. Control lines are connected on each side to a guardrail system, wall, stanchion or other suitable anchorage.

B. Control lines consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:

1. Each line is rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches (1.0 m) from the walking/working surface and its highest point is not more than 45 inches (1.3 m) from the walking/working surface.
2. Each line has a minimum breaking strength of 200 pounds (90.8 kg)



COMMONWEALTH of VIRGINIA
DEPARTMENT OF LABOR AND INDUSTRY

C. RAY DAVENPORT
COMMISSIONER

POWERS-TAYLOR BUILDING
13 SOUTH THIRTEENTH STREET
RICHMOND, VA 23219
PHONE (804) 371-2327
FAX (804) 371-6524
TDD (804) 786-2376

MEMORANDUM

TO: Virginia Safety and Health Codes Board

FROM: Staff of the Department of Labor and Industry
Jay Withrow, Director, Office of Legal Support

DATE: August 12, 2003

SUBJECT: Virginia Occupational Safety and Health (VOSH) Inspections for Steel Erection
(Standard Industrial Classification (SIC) 1791) for the Period January 1, 1983
Through August 5, 2003

VOSH Inspections in Steel Erection (SIC 1791) Where §§1926.28(a) and 1926.105(a)
Were Cited During the Period January 1, 1983 Through August 5, 2003

Attached are two reports detailing VOSH inspections in the Steel Erection Industry (SIC 1791) during the period January 1, 1983 through August 5, 2003:

1. all inspections for the period (source: Inspection Summary Report)
2. where §§1926.28(a) and 1926.105(a) were cited (source: SCAN Report)

Summary of All Inspection for the Period

VOSH conducted 987 inspections in the Steel Erection industry during the period January 1, 1983 through August 5, 2003. Approximately 53% of the inspections involved the issuance of serious, repeat or willful violations of VOSH Construction Standards. Approximately 33% of the inspections were found to have no violations of VOSH Standards. Thirty-three of the inspections concerned fatal or catastrophic accidents (a catastrophe is defined as three or more employees being admitted to the hospital).

Summary of Inspections Where §§1926.28(a) and 1926.1050 Were Cited

VOSH issued citations for §§1926.28(a) and 1926.105(a) in 206 inspections in the Steel Erection Industry during the period January 1, 1983 through August 5, 2003 (206 inspections with violations of §§ 1926.28(a) and 1926.105(a) represents 20% of total inspections (987) for the period).

Violations of §1926.28(a): 179

Violations of § 1926.105(a): 28

Inspection Summary Report

User Name: laurie

Time of printing: Mon Aug 11 09:12:13 2003

INSPECTION SUMMARY On file: 44754 44753 Report: 2.2%

Insp Conducted: 987 (Attempted: 1002)		Violations Issued: 1891	
Safety 976 98.9%	Ownership		
Health 11 1.1%	Private 987 100.0%	Inspection Percentages	
Unprogrammed		Local	
Fat/Cat 33 3.3%	State	Without Violations	33.2%
Compl 34 3.4%	Federal	S,W,R Violations	53.1%
Ref'rl 106 10.7%	Programmed		Contested 14.3%
Monitor	Planned 631 63.9%		
Vari'nc 2 0.2%	Prg Rel 35 3.5%		
Fol'Up 16 1.6%	Other 3 0.3%	Violation Types	
Upg Rel 127 12.9%	Other	Other	821 43.4%
Other	Other	Serious	980 51.8%
Scope		Willful	13 0.7%
Migr'n't	Compr 708 71.7%	Repeat	77 4.1%
Union 117 11.9%	Partial 278 28.2%	Post Settle	
N/Union 870 88.1%	Record 1 0.1%	Instances	3536
Health PG		Safety PG	
Manufacturing 1 0.1%	1 0.1%	Total Penalty	\$ 872439.76
Construction 7 0.7%	950 96.3%	FTA's	5
Maritime		Total FTA Penalty \$	7000.00

Inspection Summary Limitation Selections

1 CSHO Id's	2 Job Titles	3 Date Restrictions		Begin	End
		Opening Conference Date		01/01/83	08/05/03
		Closing Conference Date			
		Date of Denial			
		Citation Issuance Date			
	4 Category	5 Type: Unprogrammed		Programmed	Other
6 Classification		7 Employees: Est Total		Covered	Controlled
Local		from -			
Nat'l		to -			
Mig't					
Strat		8 Closed	9 Own	10 Scope	11 Union
Safety Planning Guide					
Health Planning Guide					
		13 Location Codes			
		City:			
12 SIC Range: 1791 - 1791		Cnty:			

Reporting Id(s): 0355100 0355110 0355111 0355112 0355114 0355115
 0355116 0355117 0355118 0355119 0355121 0355122
 0355123 0355124 0355125

VOSH Inspections in Steel Erection (SIC 1791) Where §§1926.28(a) and 1926.105(a) Were Cited for the Period January 1, 1983 Through August 5, 2003

Year		§1926.28(a)		§1926.105(a)
1983		3		0
1984		6		0
1985		6		0
1986		10		0
1987		11		0
1988		13		5
1989		5		2
1990		11		0
1991		8		0
1992		5		1
1993		5		1
1994		9		0
1995		1		0
1996		5		2
1997		9		2
1998		14		3
1999		15		3
2000		10		4
2001		12		2
2002		14		2
2003		7		1
Totals		179		28

Source: SCAN Report



COMMONWEALTH of VIRGINIA
DEPARTMENT OF LABOR AND INDUSTRY

C. RAY DAVENPORT
COMMISSIONER

POWERS-TAYLOR BUILDING
13 SOUTH THIRTEENTH STREET
RICHMOND, VA 23219
PHONE (804) 371-2327
FAX (804) 371-6524
TDD (804) 786-2376

MEMORANDUM

TO: Virginia Safety and Health Codes Board

FROM: Staff of the Department of Labor and Industry
Jay Withrow, Director, Office of Legal Support

DATE: August 12, 2003

SUBJECT: Virginia Occupational Safety and Health (VOSH) Fatality
Inspections for Steel Erection (Standard Industrial Classification
(SIC) 1791) for the Period January 1, 1983 Through August 5,
2003

Attached is a report containing VOSH fatal accident inspections for the Steel Erection Industry (SIC 1791) for the period January 1, 1983 through August 5, 2003. The report contains a narrative description of the accident for most but not all of the inspections, and lists any violations and penalties that were cited by VOSH.

Of the 25 fatal accident inspections conducted where fall protection appears to have been the primary cause of the accident, 6 (24%) concerned decking operations and 2 (8%) concerned connecting operations. There was 1 (4%) other inspection which involved fall protection concerning a fall while moving skylight roof panels on a structural steel building.

For the 25 fatal accident inspections, §1926.28(a) was cited 3 times and §1926.105(a) was cited 3 times.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 SELECTED FATALITY INSPS IN SIC 1791
 01/01/83 THROUGH 08/05/03

PAGE: 1

ESTABLISHMENT INSPECTED REPORT ID ACTIVITY# CSHD SIC1/SIC2 SUMHRS PREP TRAY ONSIT TECSP REPRIT OCONF LITIG DENIAL
 ADDRESS OPEN DATE INSP TYPE CATEGORY SREMITTED EXPESTAS
 CITY STATE ZIP CLOSECONF OPT REPT# SCOPE OWNERSHIP EMPINSP LUBI
 COUNTY (NAME/CODE) CASE CLSD PREV ACT UNION CLASS EMPENTRL
 RELTD ACT

STANDARD	CITATION	GR	RE	ISSUANCE	ABATE	DMP	INITIAL	CURRENT	INITIAL	CURRENT	C GETLN-T HAZD		
									F-T-A	F-T-A	# DISPOS-N	SUBS	
TYP	IDENT	VC	DATE	DATE	CDE	DOLLARS	DOLLARS	DOLLARS	DOLLARS	1	/FINORDT	CODE	
COK STEEL ERECTORS AND CONSTR	0355110-5	503249759	10116-C	1791		133.3	3.3	11.3	13.0	2.3	85.0	2.3	13.3
RT. 10/460 CLAYPOOL HILL	12/17/99	UN-FATCAT	SAFETY			22							EMPLOYEE INTWALK
Cedar Bluff	VA 24609	12/17/99	014-00	PARTIAL	PRIV SEC	5							
Tazewell	185	(OPEN)	(NONE)	NONUNION	SPG-CONST	37							
A362309643													
N-01 343249791						N-20 PEN							
1926.020 B02	S 01001	A	6/01/00	6/20/00	X	2500	2500	0	0				
1926.021 B02	S 01002A	A	6/01/00	6/20/00	X	2500	2500	0	0				
1926.503 A01	S 01002B	A	6/01/00	6/20/00	X	0	0	0	0				
1926.503 A02	S 01002C	A	6/01/00	6/20/00	X	0	0	0	0				
1926.028 A	W 02001	A	6/01/00	6/07/00	X	25000	25000	0	0				
1926.501 B04	W 02002	10A	6/01/00	6/07/00	X	70000	70000	0	0				
TOTAL DOLLARS						100000	100000	0	0				

**** ACCIDENT DATA ****

SUMMARY# 080097652 DATE:12/16/99 KEYPMS: (UNRAVIL) DESCRIP: FALL FROM ELEVATION

ABSTRACT: Employees were dragging sheets of metal roof decking to point of installation. In order to try to complete a section before quitting time, the majority of workers were instructed to move the decking to the proper location. The victim set a sheet of decking down and stepped backward. The victim fell through an opening where a skylight would later be installed. The victim fell 21'8" to the concrete floor, causing fatal injuries. --- (ABSTRACT NOT REVIEWED)

VICTIM: 081 AGE: 20 SEX: M OCCUP: Not reported
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 I&J NATURE : OTHER ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 I&J SOURCE : WORKING SURFACE HUMAN FACTOR: INSUFF/LACK/PROTCV WRK CLTHG/ERRUP
 PART-OF-BODY: HEAD HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

 PRO ERECTORS INC. 0355110-8 301801148 03682-C 1791 252.0 1.5 4.5 9.5 12.0 207.0 17.5
 VA. HOUSE FURNITURE, PLANT NO. 4/22/99 UN-FATCAT SAFETY 23040 12 EMPLOYEE INTWALK
 ATKINS VA 24311 5/27/99 022-99 PARTIAL PRIV SEC 12
 Smyth 173 5/28/03 (NONE) NONUNION SPG-CONST 18 (DOLLARS WAIVED)
 A362309684

N-01 301801155
 S-03 7760.00 CONS

N-20 PEN

1926.503 A01	S 01001A	10A	10/21/99	10/26/99	X	7000	6300	0	0	Y	Y-061500
1926.503 A02	S 01001B	10A	10/21/99	10/26/99	X	0	0	0	0	Y	Y-061500
1926.503 B01	S 01001C	10A	10/21/99	10/26/99	X	0	0	0	0	Y	Y-061500
1926.501 B04	W 02001A	10A	10/21/99	10/26/99	X	70000	63000	0	0	Y	Y-061500
1926.501 A02	W 02001B	10	10/21/99	10/26/99	X	0	0	0	0	Y	Y-061500
1926.501 B10	W 02001C	10	10/21/99	10/26/99	X	0	0	0	0	Y	Y-061500
TOTAL DOLLARS						77000	69300	0	0		

1FATJAT 06/05/2003- 7:50 AM

INTERNAL REPORT

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 SELECTED FATALITY INSPS IN SIC 1791
 01/01/83 THROUGH 08/05/03

ESTABLISHMENT INSPECTED REPORT ID ACTIVITY# CSHO SIC1/SIC2 SUMHRS PREP TRAV ONSIT TECSP REPRT OCONF LITIG DENIAL
 ADDRESS OPEN DATE INSP TYPE CATEGORY \$REMITTED EMPESTAB
 CITY STATE ZIP CLOSECONF OPT REPT# SCOPE OWNERSHIP EMPINSP LWDI
 COUNTY (NAME/CODE) CASE CLSD PREV ACT UNION CLASS EMPCNTRL
 RELTD ACT

STANDARD	CITATION	GR	RE	ISSUANCE	ABATE	ABT	INITIAL	CURRENT	INITIAL	CURRENT	C	SETTLM-T	HAZ		
														TYP	IDENT

COX STEEL ERECTORS AND CONSTR	0355110-S	303249759	X0116-C	1791	133.5	3.5	11.5	13.0	2.5	85.0	2.5	15.5			
RT. 19/460 CLAYPOOL HILL	12/17/99	UN-FATCAT	SAFETY		22					EMPLOYEE INTV&WALK					
Cedar Bluff	VA 24609	12/17/99	014-00	PARTIAL	PRIV SEC	5									
Tazewell	185	(OPEN)	(NONE)	NONUNION	SPG-CONST	37									
					A362309643										
	N-01	303249791													
												N-20	PEN		
1926.020 B02	S 01001	A	6/01/00	6/20/00	X	2500	2500		0	0					
1926.021 B02	S 01002A	A	6/01/00	6/20/00	X	2500	2500		0	0					
1926.503 A01	S 01002B	A	6/01/00	6/20/00	X	0	0		0	0					
1926.503 A02	S 01002C	A	6/01/00	6/20/00	X	0	0		0	0					
1926.028 A	W 02001	A	6/01/00	6/07/00	X	25000	25000		0	0					
1926.501 B04	I W 02002	10A	6/01/00	6/07/00	X	70000	70000		0	0					
					TOTAL DOLLARS	100000	100000		0	0					

**** ACCIDENT DATA ****

SUMMARY# 000897652 DATE:12/16/99 KEYWDS: (UNAVAIL) DESCRIP: FALL FROM ELEVATION
 ABSTRACT: Employees were dragging sheets of metal roof decking to point of installation. In order to try to complete a section before quitting time, the majority of workers were instructed to move the decking to the proper location. The victim set a sheet of decking down and stepped backward. The victim fell through an opening where a skylight would later be installed. The victim fell 21'8" to the concrete floor, causing fatal injuries. ---(ABSTRACT NOT REVIEWED

VICTIM: 001 AGE: 20 SEX: M OCCUP: Not reported
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : OTHER ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE : WORKING SURFACE HUMAN FACTOR: INSUF/LACK/PROTCV WRK CLTHG/EQUIP
 PART-OF-BODY: HEAD HAZ SUBSTNCE: NO SUBSTANCE IMPLICATED

 PRO ERECTORS INC. 0355110-S 301801148 G3682-C 1791 252.0 1.5 4.5 9.5 12.0 207.0 17.5
 VA. HOUSE FURNITURE, PLANT NO. 4/22/99 UN-FATCAT SAFETY 23040 12 EMPLOYEE INTV&WALK
 Atkins VA 24311 5/27/99 022-99 PARTIAL PRIV SEC 12
 Smyth 173 5/28/03 (NONE) NONUNION SPG-CONST 18 (DOLLARS WAIVED)
 A362309684

N-01	301801155	S-03	7760.00	CONS	N-20	PEN
1926.503 A01	S 01001A	10A	10/21/99	10/26/99	X	7000 6300 0 0 Y Y-061500
1926.503 A02	S 01001B	10A	10/21/99	10/26/99	X	0 0 0 0 Y Y-061500
1926.503 B01	S 01001C	10A	10/21/99	10/26/99	X	0 0 0 0 Y Y-061500
1926.501 B04	I W 02001A	10A	10/21/99	10/26/99	X	70000 63000 0 0 Y Y-061500
1926.501 A02	W 02001B	10	10/21/99	10/26/99	X	0 0 0 0 Y Y-061500
1926.501 B10	W 02001C	10	10/21/99	10/26/99	X	0 0 0 0 Y Y-061500
					TOTAL DOLLARS	77000 69300 0 0

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 ADDRESS OPEN DATE INSP TYPE CATEGORY \$REMITTED EMPESTAB
 CITY STATE ZIP CLOSECONF OPT REPT# SCOPE OWNERSHIP EMPINSP LWDI
 COUNTY (NAME/CODE) CASE CLSD PREV ACT UNION CLASS EMPCNTRL
 RELTD ACT

STANDARD GR ABT INITIAL CURRENT C SETTLM-T HAZD
 CITATION RE ISSUANCE ABATE CMP INITIAL CURRENT F-T-A F-T-A N DISPO-N SUBS
 TYP IDENT VC DATE DATE CDE DOLLARS DOLLARS DOLLARS DOLLARS T /FINORDT CODE

W.O. GRUBB STEEL ERECTION, INC 0355111-S 303260970 T6797-C 1791 22.5 6.0 6.0 10.5
 500 PONDEROSA ROAD 5/24/00 UN-FATCAT SAFETY 9945 11 EMPLOYEE INTV&WALK
 Sandston VA 23150 7/19/00 145-00 PARTIAL PRIV SEC 11
 Henrico 087 12/05/00 (NONE) UNION SPG-CONST 240 (DOLLARS PAID)
 A100920156

N-01 303260954
 N-98 X

N-14 FOCUS S

1926.550 A09	S 01001	11/06/00	11/09/00	I	1300	845	0	0	INFORMAL
1926.105 A	R 02001	11/06/00	11/09/00	I	14000	9100	0	0	INFORMAL
1926.453 B02 IV	O 03001	11/06/00	11/09/00	I	0	0	0	0	INFORMAL
TOTAL DOLLARS					15300	9945	0	0	

**** ACCIDENT DATA ****

SUMMARY# 200920270 DATE: 5/24/00 KEYWDS: (UNAVAIL) DESCRIP: FALL FROM ELEVATION

ABSTRACT: On May 24, 2000, at approximately 4:30 p.m., employee #1 was helping two other employees install metal decking on the 42 ft. high roof. Employees were using a metal cable, which had been secured to points on the roof, to secure their lanyards to. Prior to placing decking over a 25 ft. long by 6 ft. wide opening in the roof, the foreman instructed an employee to remove the cable because it was lying over the opening creating an obstruction. while placing the first piece of decking over the opening, employee #1 accidentally stepped into the opening and fell approximately 42 ft. to the ground which resulted in his death. --- (ABSTRACT NOT REVIEWED)

VICTIM: 001 AGE: 24 SEX: M OCCUP: Structural metal workers
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : FRACTURE ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE : WORKING SURFACE HUMAN FACTOR: SAFETY DEVICES REMOVED/INOPER.
 PART-OF-BODY: MULTIPLE HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

HARROLD & SONS, INC. 0355112-S 123673709 L6986-C 1791 138.0 1.0 18.0 9.0 104.0 5.0 1.0
 5100 BAINBRIDGE BLVD. 12/07/93 UN-FATCAT SAFETY 9975 10 EMPLOYEE INTERVIEW
 Chesapeake VA 23320 5/26/94 013-94 COMPREH PRIV SEC 10
 Chesapeake 550 6/12/98 A360303713 NONUNION SPG-CONST 10 (DOLLARS WAIVED)
 A360303713

S-04 4040.00

N-98 X

1926.059 E01	S 01001A 03	5/26/94	7/01/94	X	750	355	0	0	Y Y-082694
1926.059 G08	S 01001B 03	5/26/94	7/01/94	X	0	0	0	0	Y Y-082694
1926.059 H	S 01001C 03	5/26/94	7/01/94	X	0	0	0	0	Y Y-082694
1926.404 F06	S 01002 10	5/26/94	6/02/94	X	2000	960	0	0	Y Y-082694
1926.451 A08	S 01003 10	5/26/94	6/02/94	X	7000	3340	0	0	Y Y-082694
1926.451 A10	S 01004 10	5/26/94	6/02/94	X	2000	965	0	0	Y Y-082694
1926.451 A12	S 01005 10A	5/26/94	6/02/94	X	7000	3340	0	0	Y Y-082694
1926.451 M02 I	S 01006 10A	5/26/94	6/02/94	X	2000	965	0	0	Y Y-082694
1926.451 M06	S 01007 10A	5/26/94	6/02/94	X	7000	3340	0	0	Y Y-082694
1926.403 B02	O 02001 01	5/26/94	6/02/94	X	300	150	0	0	Y Y-082694

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 ADDRESS OPEN DATE INSP TYPE CATEGORY SUBMITTED ENPESTAB
 CITY STATE ZIP CLOSECNF OPT REPTW SCOPE OWNERSHIP EMPINSP LWDI
 COUNTY (NAME/CODE) CASE CLSD PREV ACT UNION CLASS EMPCTRL
 RELTD ACT

GR A&T INITIAL CURRENT F-T-A CURRENT F-T-A N DISPOB-H SUBS C SETTLM-T BAZD
 CITATION RE ISBLNCE ABATE CMP INITIAL CURRENT F-T-A F-T-A N DISPOB-H SUBS T /FINDRDT CODE
 STANDARD TYP IDENT VC DATE DATE CPE DOLLARS DOLLARS DOLLARS DOLLARS

PRO ERECTORS INC. 0355110-S 301801148 *** CONTINUED ***

**** ACCIDENT DATA ****

SUMMARY# 000896514 DATE: 4/22/99 KEYWDS: (UNAVAIL) DESCRIP: FALL THROUGH ROOF
 ABSTRACT: Seven employees were working a roof at Virginia House Furniture removing an existing sheet metal roof and installing new sections of sheet metal. An employee stepped onto an insulation board instead of the steel purlin causing the board to give way. Employee fell approximately 26 feet to the concrete floor below, resulting in fatal injuries.
 --- (ABSTRACT NOT REVIEWED)

VICTIM: 001 AGE: 42 SEX: M OCCUP: Not reported
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : OTHER ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE : WORKING SURFACE HUMAN FACTOR: INSUFF/LACK/ENGINEERING CONTROLS
 PART-OF-BODY: HEAD HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

AMERICAN RIGGING & MILLWRIGHT 0355111-S 105709604 B6696-C 1791 11.0 .5 1.5 3.0 6.0
 830 E. MAIN STREET 5/18/88 UN-FATCAT SAFETY 400 4 EMPLOYEE INTERVIEW
 Richmond VA 23210 8/20/88 176/88 COMPRESH PRIV SEC 4
 Richmond 760 12/15/88 A360606144 NONUNION SPG-CONST 12 (DOLLARS PAID)
 A360606144

N-01 105709596

1926.021 B02 \$ 01001A D4A 10/28/88 11/03/88 X 400 400 0 0
 1926.105 A \$ 01001B A 10/28/88 11/03/88 X 0 0 0 0
 1926.451 E10 \$ 01001C A 10/28/88 11/03/88 X 0 0 0 0
 1926.500 B41 \$ 01001D A 10/28/88 11/03/88 X 0 0 0 0
 1926.500 D02 \$ 01001E A 10/28/88 11/03/88 X 0 0 0 0

**** ACCIDENT DATA ****

SUMMARY# 014209631 DATE: 6/10/88 DESCRIP: Employee killed in fall down air shaft
 KEYWDS: UNSECURED/INATTENTION/FALLING OBJECT/STUCK BY/CONSTRUCTION/AIR SHAFT/
 WORK RULES/WALK PLATFORM/FALL
 ABSTRACT: Employee #1 was on a temporary work platform, waiting for Employee #2 to cut loose a piece of 4 in. Schedule 40 steel pipe and to lower it to him for removal from an air shaft. Without realizing it, Employee #2 cut loose the only remaining attachment, causing the pipe to fall and strike the work platform. The platform dislodged and fell down the shaft. As Employee #1 was exiting the shaft, he stood on a walkboard that had also been partially dislodged. Both he and the board fell 121 ft down the shaft to a concrete floor. Employee #1 was killed instantly upon impact. Employee #2 was injured but he did not require hospitalization.
 --- (ABSTRACT WAS REVIEWED)

VICTIM: 001 AGE: 41 SEX: M OCCUP: Not reported
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : FRACTURE ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE : OTHER HUMAN FACTOR: MISJUDGMENT, HAZ. SITUATION
 PART-OF-BODY: MULTIPLE HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

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ESTABLISHMENT INSPECTED REPORT ID ACTIVITY# CS40 SIC1/SIC2 SUMERG PREP TRAV ON611 TEC6P REPR1 DCONF LITIG DENIAL
 ADDRESS OPEN DATE INSP TYPE CATEGORY \$REMITTED ENPESTAB
 CITY STATE ZIP CLOSCONF OPT REPT# SCOPE OWNERSHIP ENPINSP LNDI
 COUNTY (NAME/CODE) CASE CLSD PREV ACT UNION CLASS ENPCNTRL
 RELTD ACT

GR ABT INITIAL CURRENT C SETTLM-T HAZD
 CITATION RE ISSUANCE ABATE CMP INITIAL CURRENT F-T-A T-T-A N DISPOS-N SUBS
 STANDARD TYP IDENT YC DATE DATE CDE DOLLARS DOLLARS DOLLARS DOLLARS T /FINORDT CODE

 AMERICAN RIGGING & MILLWRIGHT 0355111-S 105709604 *** CONTINUED ***

VICTIM: 002 AGE: 35 SEX: M OCCUP: Not reported
 DISPOSITION: NONHOSPITALIZED INJURY EVENT-TYPE: FALL(FROM ELEVATION)
 INJ NATURE: BRUISE/CONTUS/ABRAS ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE: OTHER HUMAN FACTOR: MISJUDGMENT, HAZ. SITUATION
 PART-OF-BODY: MULTIPLE HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

 ATLANTIC METAL PRODUCTS, INC. 0355111-S 129638907 16197-C 1791 25.5 4.5 11.3 8.5 1.0
 STONE CONTAINER CORP., P/O IND 4/28/97 UN-FATCAT SAFETY 1000 6 EMPLOYEE INTERVIEW
 Hopewell VA 23860 6/16/97 109-97 PARTIAL PRIV SEC 6
 Hopewell 479 9/30/02 (NONE) WORK/NOTH EPC-COAST 45 (DOLLARS PAID)
 A362315905

DEL-1926.501-AD2	S 01001	10/26/97	10/28/97	X	7000							Y	Y-092702
DEL-1926.502 D08	S 01002	10/26/97	10/28/97		7000							Y	Y-092702
1926.501 AD2	S 01003A	10/26/97	10/28/97	X	1000	1600	0	0	0	0		Y	
1926.502 D08	S 01003B	10/26/97	10/28/97	X	0	0	0	0	0	0		Y	
TOTAL DOLLARS					15000	1600	0	0	0	0			

**** ACCIDENT DATA ****

SUMMARY# 000951210 DATE: 4/28/97
 DESCIP: Employee killed after falling into caustic chemical
 KEYWDS: FALL/CHEMICAL/PPE/CONSTRUCTION/CAUSTIC/STORAGE TANK/EQUIPMENT FAILURE/
 CHEMICAL BURN/WALK PLATFORM/COLLAPSE

ABSTRACT: At approximately 8:15 a.m. on April 28, 1997, Employee #1 was setting up a work area atop a 20 ft diameter by 45 ft high metal storage tank. It was filled to within 5 ft of the top with a chemical known as black liquor because it had the consistency of molasses. Employee #1 came from ground level with an oxyacetylene hose and was going to lower the ends with the gauges to the ground for a coworker to attach to the compressed gas cylinders. As he stepped on the metal walkway, it collapsed under his weight and he fell into the storage tank. Due to the tank's configuration--a covered top--and the consistency of the chemical, it took approximately 45 minutes to extract Employee #1. He died as a result of chemical burns suffered during his exposure to and ingestion of the chemical. ---(ABSTRACT WAS REVIEWED

VICTIM: 001 AGE: 37 SEX: M OCCUP: Construction trades, n.e.c.
 DISPOSITION: FATALITY EVENT-TYPE: FALL(FROM ELEVATION)
 INJ NATURE: BURN(CHEMICAL) ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE: CHEM LIQUIDS/VAPORS HUMAN FACTOR: INSUF/LACK/PROTCV WRK CLTHG/EQUIP
 PART-OF-BODY: BODYSYSTEM HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 SELECTED FATALITY INQRY IN SIC 1791
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ESTABLISHMENT INSPECTED REPORT ID ACTIVITY# CSHO SIC1/SIC2 SUMMRS PREP TRAV OHSIT TECSP REPRT OCNF LITIG DENIAL
 ADDRESS OPER DATE INSP TYPE CATEGORY #ENHITTED EMPSTAB
 CITY STATE ZIP CLOSECONF OPT REPT# SCOPE OWNERSHIP EMPINSP LWDI
 COUNTY (NAME/CODE) CASE CLSB PREV ACT UNION CLASS EMPCNTRL
 RELTD ACT

STANDARD	CITATION TYP IDENT VC	GR RE	ISSUANCE DATE	ABATE DATE	CMP CODE	INITIAL DOLLARS	CURRENT DOLLARS	INITIAL	CURRENT	C SETTLM-T	HAZD
								F-T-A DOLLARS	F-T-R DOLLARS	N DISPOS-N	SUBS T /#IBORDT CODE
CARDINAL STEEL ERECTION INC.	0355111-S	105708226	16797-C	1791		13.0	1.5	1.5	9.0	1.0	
LABURNUM PARK SHOPPING CTR, GA	3/23/88	UN-FATCAT	SAFETY	1269		5					EMPLOYEE INTERVIEW
Sandston VA 23231	10/03/88	199/88	COMPREH	PRIV SEC		5					
Henrico 067	1/05/89	(NONE)	NONUNION	SPG-CONST		25					(DOLLARS PAID)
A360297139											
N-01 105708234											
1926.100 A	S 01001	09	11/22/88	11/28/88	X	900	900	0	0		
1926.700 A02	S 01002	06	11/22/88	11/28/88	X	340	340	0	0		
1926.550 A03	O 02001	00	11/22/88	11/28/88	X	0	0	0	0		
TOTAL DOLLARS						1240	1260	0	0		

**** ACCIDENT DATA ****

SUMMARY# 014289771 DATE: 9/21/88

DESCRIP: Employee killed when struck on head by falling bar joist

KEYWB: JOIST/WORK RULES/FALLING OBJECT/CONSTRUCTION/HEAD/HARD HAT/STRUCK BY/
 UNSECURED

ABSTRACT: At approximately 3:30 p.m. on September 21, 1988, Employee #1, a crane operator, had just finished moving a Grove hydraulic crane to a different location at the work site. He usually operated this crane and kept his hard hat in it. Employee #1 was going to his truck to get something when his foreman requested that he bring him a hammer. The foreman and two other iron workers were plumbing the columns in the building. One coworker was using a come-along to pull the column plumb. Another was on top of the structural steel watching the approximately 20 ft long bar joist to ensure that it didn't slip off the beam against which the column was being plumbed. Employee #1 brought the foreman the hammer and watched as they continued to plumb the column. As the column was being pulled to the south, the 100 lb bar joist slipped off the support beam at the column north of P9 and then slipped off the support beam at column P9. It struck Employee #1 on the head, killing him. The foreman stated that he did not notice that Employee #1 was not wearing his hard hat.

---ABSTRACT WAS REVIEWED

VICTIM: 001 AGE: 44 SEX: M OCCUP: Structural metal workers
 DISPOSITION : FATALITY EVENT-TYPE : STRUCK BY
 INJ NATURE : CONCUSSION ENVIR FACTOR: OVERHEAD MOVING/FALLING OBJ AC
 INJ SOURCE : METAL PRODUCTS HUMAN FACTOR: INSP/LACK/PROTCV WRK CLTRG/ENRIP
 PART-OF-BODY: HEAD HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

M. & R. CONSTRUCTORS, INC.	0355111-S	112360880	85515-C	1791		50.0	.5	5.5	17.0	34.0	2.0
Chesterfield VA 23237	6/16/90	066-90	COMPREH	PRIV SEC		4					
Chesterfield 041	12/27/90	(NONE)	NONUNION	SPG-CONST		45					(DOLLARS PAID)
A360297365											

S-02 09/27/90

1910.184 007	S 01001	07	9/04/90	9/10/90	X	560	560	0	0	Y	Y-121190
1926.021 902	S 01002	07	9/04/90	9/10/90	X	540	560	0	0	Y	Y-121190
1926.251 A01	S 01003	07	9/04/90	9/10/90	X	560	560	0	0	Y	Y-121190
1926.751 D	S 01004	06	9/04/90	9/10/90	X	480	480	0	0	Y	Y-121190
1926.059 H	O 02001	01	9/04/90	9/14/90	X	0	0	0	0	Y	Y-121190
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ESTABLISHMENT INSPECTED	REPORT ID	ACTIVITY#	CS80	SIC1/SIC2	SUMHRS	PREP	TRAV	ONSIT	FECSF	REPRF	OCOMP	LIFIG	DENIAL
ADDRESS	OPEN DATE	INSP TYPE	CATEGORY	PERMITTED	EXPECTAB								
CITY	STATE	ZIP	CLOSECONF	OPT	RPT#	SCOPE	OWNERSHIP	ENPINSF	LWDI				
COUNTY (NAME/COOE)	CASE	CLSD	PREV	ACT	UNION	CLASS	EMPCNTRL						
	RELTD	ACT											

STANDARD	CITATION	RE	ISSURANCE	ABATE	AMP	INITIAL	CURRENT	INITIAL	CURRENT	C	SETTLM-T	HAZD
TYP	IDENT	YC	DATE	DATE	CDE	DOLLARS	DOLLARS	F-T-A	F-T-A	N	DISP06-N	SUBB
								DOLLARS	DOLLARS	T	/FINORDT	CODE

M. & R. CONSTRUCTORS, INC.	0355111-S	112369889	*** CONTINUED ***									
1926.404 F06	0 02002	01	9/04/90	9/10/90	K	0	0	0	0	Y	Y-121190	
1926.405 002 III	0 02003	01	9/04/90	9/10/90	K	0	0	0	0	Y	Y-121190	
TOTAL DOLLARS						2160	2160	0	0			

**** ACCIDENT DATA ****
 SUMMARY# 014289748 DATE: 5/17/90
 DESCRIP: Employee killed by falling steel beam
 KEYWDS: CONSTRUCTION/FALLING OBJECT/BEAM/STEEL BEAM/LOAD SHIF1/UNSECURED/PINNED/
 SLING/EQUIPMENT FAILURE
 ABSTRACT: At 3:30 p.m. on May 17, 1990, Employee #1 was rigging steel that was to be installed on the roof of a structure for a track to be used with an overhead crane. The 25 ft long by 25 in. tall by 14 in. wide beam weighed 1,825 lb, and was being lifted with a nylon sling located near its center. One end of the beam rose approximately 8 to 10 ft off the floor before the opposite end began to rise. The crane operator had started to lower the beam to correct the imbalance when the beam slid approximately 6 in. in the sling. At that point, the sling was cut and the beam fell, pinning Employee #1 to the ground and killing him. --- (ABSTRACT WAS REVIEWED)

VICTIM: 001 AGE: 29 SEX: M OCCUP: Structural metal workers
 DISPOSITION : FATALITY EVENT-TYPE : STRUCK BY
 INJ NATURE : FRACTURE ENVIR FACTOR: OVERHEAD MOVING/FALLING OBJ AC
 INJ SOURCE : METAL PRODUCTS HUMAN FACTOR: MATER-HANDLG PROCED. INAPPRDPR
 PART-OF-BODY: MULTIPLE HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

MIDASCO, INCORPORATED	0355111-S	303258461	K2709-C	1771	39.0	3.5	3.5	14.5	15.5	2.0		
2000 CHIPPENHAM PARKWAY	12/16/99	LN-FATCAT	SAFETY	\$600	55	EMPLOYEE INTERVIEW						
Chesterfield	VA Z3234	1/20/00	028-00	PARTIAL	PRIV	SEC	55					
Chesterfield	441	10/12/00	(NONE)	UNION	SP6-CONST	150	(DOLLARS PAID)					
A100920123												
N-01 303258495 K-90 X												
1926.703 D01	5 01001		6/13/00	6/19/00	K	7000	5600	0	0	Y	Y-101000	

**** ACCIDENT DATA ****
 SUMMARY# 280920239 DATE: 12/16/99 KEYWDS: (UNMAIL) DESCRIP: CRUSHED BY REBAR BRIDGE COLUMN
 ABSTRACT: Employee crushed by a 40 ft. high rebar column collapse of the Westbound Lane Bridge support for the I-805 connector highway. --- (ABSTRACT NOT REVIEWED)

VICTIM: 001 AGE: 27 SEX: M OCCUP: Structural metal workers
 DISPOSITION : FATALITY EVENT-TYPE : CAUGHT IN OR BETWEEN
 INJ NATURE : CONCUSSION ENVIR FACTOR: WEATHER, EARTHQUAKE, ETC.
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: MISJUDGMENT, HAZ. SITUATION
 PART-OF-BODY: HEAD HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

1FATJAY 08/05/2003- 7:50 AM

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ESTABLISHMENT INSPECTED ADDRESS CITY COUNTY (NAME/CODE)	REPORT ID OPEN DATE CLOSECONF CASE CLSD	ACTIVITY# INSP TYPE OPT REPT# PREV ACT	CSHD CATEGORY SCOPE UNION	SIC1/SIC2 PERMITTED OWNERSHIP CLASS	SUMIRS EMPESTAB EMPINSP ENPCNTRL	PREP TRAV	OKSIT YCSIP	REPR OCNFB	LIFIG DENIAL
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STANDARD	CITATION TYP	RE IDENT	ISSUANCE VC	ABATE DATE	ABATE DATE	CHP CSE	INITIAL DOLLARS	CURRENT DOLLARS	INITIAL F-T-A DOLLARS	CURRENT F-T-A DOLLARS	C N	SETTLM-T DISPOS-M	HAZD SUBS T /FINDRDT CODE
SOUTHERN CORROSION, INC. RT. 15 Dulpeper Dulpeper	0355111-B 10/07/91 YA 22701 047	112387400 UN-FATCAT 024-91 5/08/92	H5515-C SAFETY COMPREH (NONE)	1791 2790 PRIV SEC NONUNION			127.0 3 3 16	4.0 3 3 (DOLLARS PAID)	10.0 15.0 90.0 8.0				

S-02 03/12/92

1910.134 B01	S 01001	07	2/21/92	4/15/92	X		420	315	0	0	Y	Y-033192
1910.134 B10	S 01002	07	2/21/92	4/15/92	X		420	315	0	0	Y	Y-033192
CHSP.14604 A	S 01003	07	2/21/92	3/02/92	X		420	315	0	0	Y	Y-033192
CHSP.14606 A	S 01004	07	2/21/92	4/15/92	X		420	315	0	0	Y	Y-033192
CHSP.14607 A	S 01005	07	2/21/92	4/15/92	X		420	315	0	0	Y	Y-033192
1926.020 B01	S 01006A	06	2/21/92	4/15/92	X		560	270	0	0	Y	Y-033192
1926.020 B02	S 01006B	00	2/21/92	2/25/92	X		0	0	0	0	Y	Y-033192
1926.050 B	S 01006C	00	2/21/92	3/11/92	X		0	0	0	0	Y	Y-033192
1926.059 B01	S 01007A	07	2/21/92	4/15/92	X		420	315	0	0	Y	Y-033192
1926.059 H	S 01007B	00	2/21/92	3/11/92	X		0	0	0	0	Y	Y-033192
1926.103 B01	S 01008A	07	2/21/92	3/02/92	X		420	315	0	0	Y	Y-033192
1926.103 B02	S 01008B	00	2/21/92	3/02/92	X		0	0	0	0	Y	Y-033192
1926.451 A08	S 01009	07	2/21/92	2/25/92	X		420	315	0	0	Y	Y-033192
DEL-1926.451 LD4	S 01010	07	2/21/92	2/25/92	X		420				Y	Y-033192
TOTAL DOLLARS							4140	2790	0	0		

*** ACCIDENT DATA ***

SUMMARY# 080894782 DATE:10/01/91

DESCRIP: Employee dies of medication allergy after fall

KEYWDS: CONSTRUCTION/BOSUN CHAIR/FRACTURE/FALL/LEG/HIP/PELVIS/MECH MALFUNCTION/
 ALLERGIC REACTION

ABSTRACT: Employee #1 fell approximately 40 feet from a boatswain's chair when the rigging trolley ran off the support track. He fractured his upper leg, hip and pelvis and later died of an adverse reaction to medication given to him at the hospital. ---ABSTRACT WAS REVIEWED

VICTIM: 001	AGE: 22	SEX: M	OCCUP: Painters, construction and maintenance
DISPOSITION : FATALITY	EVENT-TYPE : FALL(FROM ELEVATION)		
IRJ NATURE : FRACTURE	ENVIR FACTOR: OVERHEAD MOVING/FALLING OBJ AC		
IRJ SOURCE : HOISTING APPARATUS	HUMAN FACTOR: SAFETY DEVICES REMOVED/INOPER.		
PART-OF-BODY: HIP(S)	HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED		

1FATJAY 08/05/2003- 7:50 AM

INTERNAL REPORT

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 SELECTED FATALITY INSPS IN SIC 1791
 01/01/03 THROUGH 06/03/03

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ESTABLISHMENT INSPECTED ADDRESS CITY COUNTY (NAME/STATE)	REPORT ID OPEN DATE CLOSE DATE CASE CLAS	ACTIVITY INSP TYPE OPT REPT PREV ACT	CSHO CATEGORY SCOPE UNION	SIC1/SIC2 OWNERSHIP CLASS	SUNHRS ENPIHSP ENPCNTRL	PREP	TRAV	ONSIT	TECSP	KEPRT	OCCHF	LITIG	DENIAL
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STANDARD	CITATION TYP IDENT	GR RE VC	ISSUANCE DATE	ABATE DATE	ABF CMP CDE	INITIAL DOLLARS	CURRENT DOLLARS	INITIAL P-T-A DOLLARS	CURRENT P-T-A DOLLARS	C SETTLM-T N DISPOS-N SUBS T /FINORDT CODE
W.D. GRUBB STEEL ERECTION, INC 300 PONDEROSA ROAD Sandston Henrico	0555111-S 5/24/00 7/19/00 087	303260970 UN-FATCAT 145-00 (NONE)	T6797-C SAFETY PARTIAL UNION	1791 9940 PRIV SEC SPG-CONST		22.5 11 11 260	6.0 11 11 (DOLLARS PAID)	6.0 11 11 (DOLLARS PAID)	10.5 11 11 (DOLLARS PAID)	
N-01 303260974 N-08 X N-14 FOCUS S										
1926.550 AOP	S 01001		11/06/00	11/09/00	I	1300	845	0	0	INFORMAL
1926.105 A	R 02901		11/06/00	11/09/00	I	14000	9100	0	0	INFORMAL
1926.453 B02 1V	O 03901		11/06/00	11/09/00	I	0	0	0	0	INFORMAL
						TOTAL DOLLARS	15300	9945	0	0

**** ACCIDENT DATA ****

SUMMARY# 200920270 DATE: 5/24/00 KEYWDS: (UNAVAIL) DESCRIP: FALL FROM ELEVATION
 ABSTRACT: On May 24, 2000, at approximately 4:30 p.m., employee #1 was helping two other employees install metal decking on the 42 ft. high roof. Employees were using a metal cable, which had been secured to points on the roof, to secure their lanyards to. Prior to placing decking over a 25 ft. long by 6 ft. wide opening in the roof, the foreman instructed an employee to remove the cable because it was lying over the opening creating an obstruction. While placing the first piece of decking over the opening, employee #1 accidentally stepped into the opening and fell approximately 42 ft. to the ground which resulted in his death. ---[ABSTRACT NOT REVIEWED]

VICTIM: 001 AGE: 24 SEX: M OCCUP: Structural metal workers
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : FRACTURE ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE : WORKING SURFACE HUMAN FACTOR: SAFETY DEVICES REMOVED/INOPER.
 PART-OF-BODY: MULTIPLE HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

HARROLD & SONS, INC. 5100 BRAINBRIDGE BLVD. Chesapeake Chesapeake	0355112-G 12/07/93 5/26/04 550	123673709 UR-FATCAT SAFETY 013-04 A360303713	L6984-C SAFETY COMPREH NONUNION	1791 9975 PRIV SEC SPG-CONST		138.0 10 10 10	1.0 10 10 10	18.0 10 10 10	9.0 10 10 10	104.0 10 10 10	5.0 10 10 10	1.0 10 10 10
S-04 4040.00 N-98 X												
1926.059 E01	S 01001A 03		5/26/94	7/01/94	X	750	355	0	0	Y Y-082694		
1926.059 B08	S 01001B 03		5/26/94	7/01/94	X	0	0	0	0	Y Y-082694		
1926.059 H	S 01001C 03		5/26/94	7/01/94	X	0	0	0	0	Y Y-082694		
1926.404 F06	S 01002 10		5/26/94	6/02/94	X	2000	960	0	0	Y Y-082694		
1926.451 A08	S 01003 10		5/26/94	6/02/94	X	7000	3340	0	0	Y Y-082694		
1926.451 A10	S 01004 10		5/26/94	6/02/94	X	2000	960	0	0	Y Y-082694		
1926.451 A12	S 01005 10A		5/26/94	6/02/94	X	7000	3340	0	0	Y Y-082694		
1926.451 H02 I	S 01006 10A		5/26/94	6/02/94	X	2000	960	0	0	Y Y-082694		
1926.451 H06	S 01007 10A		5/26/94	6/02/94	X	7000	3340	0	0	Y Y-082694		
1926.401 B02	O 02001 01		5/26/94	6/02/94	X	300	150	0	0	Y Y-082694		
1FATJAY	08/05/2003- 7:50 AM										INTERNAL REPORT	

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 SELECTED FATALITY INSPS IN SIC 1791
 01/01/83 THROUGH 08/05/03

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ESTABLISHMENT INSPECTED REPORT ID ACTIVITY# CSNO SIC1/SIC2 SUMMRS PREP TRAV OWSLT TECSP REPRIT OCCNT LITIG DENIAL
 ADDRESS OPEN DATE INSP TYPE CATEGORY \$REMITTED ENPESTAB
 CITY STATE ZIP CLOSRCNF OPT REPT# SCOPE OWNERSHIP EMPINSP LMDI
 COUNTY (NAME/CODE) CASE CLS# PREY ACT UNION CLASS EMPCNTRL
 RFLTD ACT

STANDARD	CITATION	GR	BE	ISSUANCE	ARATE	CMP	INITIAL	CURRENT	INITIAL	CURRENT	C	SETTLM-T	BAZD

HARRILO & SONS, INC.	0355112-S	123673799					*** CONTINUED ***						
1926.550 A04	0 02002	01	5/26/94	6/02/94	X	300	150	0	0	Y	Y	082694	
1926.550 A06	0 02003	01	5/26/94	6/06/94	X	300	150	0	0	Y	Y	082694	
1926.550 A14	0 02004	01	5/24/94	6/02/94	X	300	150	0	0	Y	Y	082694	
1926.550 B02	0 02005	01	5/26/94	6/02/94	X	300	150	0	0	Y	Y	082694	
							TOTAL DOLLARS	29250	14015	0	0		

**** ACCIDENT DATA ****

SUMMARY# 000955443 DATE:12/06/93

DESCRIP: Employee died in fall from scaffold

KEYWDS: FALL/CONSTRUCTION/SCAFFOLD/WORK RULES/UNSECURED

ABSTRACT: At approximately 12:30 p.m. on December 6, 1993, Employee #1 walked around a tank on a bracket scaffold to retrieve a hammer. He stepped on a section of the scaffold that had been accidentally detached from the tank. The scaffold moved away from the tank and Employee #1 fell approximately 50 feet. He was killed. --- (ABSTRACT WAS REVIEWED)

VICTIM: 001 AGE: 40 SEX: M OCCUP: Not reported
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : OTHER ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE : WORKING SURFACE HUMAN FACTOR: DEFECTIVE EQUIPMENT IN USE
 PART-OF-BODY: MULTIPLE HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

JACK KENNEDY WELDING & FABRICA 0355112-S 003591744 L6986-C 1791 44.0 13.0 8.5 19.5 3.0
 5300 BAINBRIDGE BLVD. 2/14/86 UN-FATCAT SAFETY 420 32 EMPLOYEE INTERVIEW
 Chesapeake VA 25329 2/21/86 014/86 PARTIAL PRIV SEC 32
 Chesapeake 550 5/19/86 (NONE) NONUNION SPG-CORP 32 (DOLLARS PRIID)
 A360605406

1926.250 B09	0 01001	R	4/16/86	4/21/86	X	420	420	0	0
ARM.035 A	0 02001		4/16/86	4/20/86	X	0	0	0	0
ARM.036 A	0 02002		4/16/86	4/20/86	X	0	0	0	0
ARM.037 A	0 02003		4/16/86	4/20/86	X	0	0	0	0
1926.050 F	0 02004		4/16/86	4/20/86	X	0	0	0	0
1926.152 A01	0 02005		4/16/86	4/20/86	X	0	0	0	0

**** ACCIDENT DATA ****

SUMMARY# 000602178 DATE: 2/07/86

DESCRIP: Employee killed when crushed against pipeline

KEYWDS: CONSTRUCTION/PIPELINE/UNSECURED/CAUGHT BETWEEN/CRUSHED/WORK RULES/WELDING/

ABSTRACT: At approximately 4:00 p.m. on February 7, 1986, Employee #1 and coworkers were between line #3 and line #4 of a pipe being welded. The 30 in. pipes were 50 ft long and were being welded into 500 ft sections. Checking on line #3 pipe came loose, crushing Employee #1 against pipeline #4 and killing him. --- (ABSTRACT WAS REVIEWED)

1FATJAY 08/05/2003 - 7:50 AM

INTERNAL REPORT

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 SELECTED FATALITY INSRPS IN SIC 1791
 01/01/83 THROUGH 08/05/03

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ESTABLISHMENT INSPECTED REPORT ID ACTIVITY# CSHD SIC1/SIC2 SUMHRS PREP TRAV OMSIT TECSP REPT DCONF LITIG DENIAL
 ADDRESS OPEN DATE INSP TYPE CATEGORY ADMITTED EMPSTAB
 CITY STATE ZIP CLOSECONF OPI REPT# SCOPE OWNERSHIP EMPINSP LUDI
 COUNTY (NAME/CODE) CASE CLSD PREV ACT UNION CLASS EMPONTRL
 BELTS ACT

GR ABT INITIAL CURRENT C SETTLM-T HADD
 CITATION RE ISSUANCE ABATE CMP INITIAL CURRENT F-T-A F-T-A N DISPOS-N SUBS
 STANDARD TYP IDENT VC DATE DATE CODE DOLLARS DOLLARS DOLLARS DOLLARS T /FINORBT CODE

 JACK KENNEDY WELDING & FABRICA 0355112-S 003301744 *** CONTINUED ***

VICTIM: 001 AGE: 47 SEX: M OCCUP: Not reported
 DISPOSITION : FATALITY EVENT-TYPE : CAUGHT IN OR BETWEEN
 INJ NATURE : OTHER ENVIR FACTOR: MATERIALS HANDLG EQUIP./METHOD
 INJ SOURCE : METAL PRODUCTS HUMAN FACTOR: MALRWIC IN SECURING/WARNING OP
 PART-OF-BODY: CHEST HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

 VIRGINIA STEEL ERECTORS INC. 0355112-S 11240924 640B2-C 1791 282.5 2.0 49.0 47.0 117.5 67.0
 P.O. BOX178 7/12/91 UN-FATCAT SAFETY 1000 20 EMPLOYEE INTERVIEW
 Franklin VA 23815 7/12/91 043-91 PARTIAL PRIV SEC 20
 Franklin 620 1/13/92 (NONE) NONUNION SPO-COIST 33 (DOLLARS PAID)
 A360303143

1926.750 801 III \$ D1001 10 12/11/91 12/14/91 X 1000 1000 0 0
 1926.150 A01 0 D2001 12/11/91 12/13/91 X 0 0 0 0

**** ACCIDENT DATA ****

SUMMARY# 000955294 DATE: 7/12/91

DESCRIP: Employee killed in fall from fourth floor of building

KEYVDS: CONSTRUCTION/METAL DECKING/WALKING SURFACE/WORK RULES/INATTENTION/FALL PROTECTION/
 FALL/HEAD/NECK/CHEST

ABSTRACT: At approximately 11:50 a.m. on July 12, 1991, Employee #1 was on the fourth floor of a five-story structural steel building under construction, looking up for bolts that he had missed while bolting up steel for the roof. A towerlter above, who had been bolting up steel for the fifth floor, was pointing bolts out to Employee #1. Temporary metal decking had been on the fourth floor for three or four weeks but had been removed from the north end about an hour earlier, leaving an opening to the ground. Static lines consisting of 1/2 in. wire rope had been installed around the perimeter of the fourth floor and were being used along with safety belts and lanyards for fall protection. Employee #1 was walking toward the north end of the fourth floor when he walked off the metal decking and fell 89 ft to the ground. He died of massive head, neck, and chest injuries. --- (ABSTRACT WAS REVIEWED

VICTIM: 001 AGE: 25 SEX: M OCCUP: Not reported
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : OTHER ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: MISJUDGMENT, HAZ. SITUATION
 PART-OF-BODY: MULTIPLE HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 SELECTED FATALITY (NSPS IN SIC 1791
 01/01/83 THROUGH 08/05/03

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ESTABLISHMENT INSPECTED REPORT ID ACTIVITY# CSNO SIC1/SIC2 SUMRS PREP TRAY UNSIT TECSF REPRF OCONF LITIG DENIAL
 ADDRESS OPEN DATE INSP TYPE CATEGORY SREMITTED EMPSTAR
 CITY STATE ZIP CLOSECONF OPT REPT# SCOPE OWNERSHIP ENFINSP LUDI
 COUNTY (NAME/CODE) CASE CLSD PREV ACT UNION CLASS ENPCNTRL
 RELTD ACT

STANDARD CITATION RE ISSUANCE ABATE CMP INITIAL CURRENT F-T-A F-T-A N DISPOS-N SUBS
 TYP IDENT VC DATE DATE CDE DOLLARS DOLLARS DOLLARS DOLLARS T /FIWORD CODE

 B & B STEEL ERECTORS INC. 0355114-S 105721179 58419-C 1791 306.0 5.5 34.5 75.5 97.5 03.0
 15A SHANNON DRIVE 4/25/90 UN-FATD1 SAFETY 0 EMPLOYEE INTERVIEW
 Fredericksburg VA 22401 4/27/90 025/90 COMPRESH PRIV SEC 6
 Fredericksburg 030 10/02/94 A360299564 NONUNION SPG-CONST 7 (DOLLARS WAIVED)
 A360299564

B-01 105721179 \$-03 50000.00

STANDARD	CITATION	RE	ISSUANCE	ABATE	DATE	CMP	INITIAL	CURRENT	F-T-A	F-T-A	N	DISPOS-N	SUBS
TYP	IDENT	VC	DATE	DATE	CDE	DOLLARS	DOLLARS	DOLLARS	DOLLARS	T	/FIWORD	CODE	
1926.021 B02	S 01001	09	10/05/90	10/23/90	X	900	900	0	0	Y	1-082291		
1926.350 A01	S 01002	07	10/05/90	10/09/90	X	700	700	0	0	Y	1-082291		
1926.350 A09	S 01003	07	10/05/90	10/09/90	X	700	700	0	0	Y	1-082291		
1926.350 J	S 01004	07	10/05/90	10/09/90	X	700	700	0	0	Y	1-082291		
51.001 A	W 02001	10	10/05/90	10/09/90	X	10000	10000	0	0	Y	1-082291		
51.001 A	W 03001	10	10/05/90	10/09/90	X	10000	10000	0	0	Y	1-082291		
1926.028 A	W 03002	09	10/05/90	10/09/90	X	9000	9000	0	0	Y	1-082291		
1926.350 B02	W 03003	09	10/05/90	10/09/90	X	9000	9000	0	0	Y	1-082291		
1926.402 C01	VI W 03004	00	10/05/90	10/09/90	X	9000	9000	0	0	Y	1-082291		
1926.152 A01	O 04001		10/05/90	10/09/90	X	0	0	0	0	Y	1-082291		
1926.404 F06	O 04002		10/05/90	10/09/90	X	0	0	0	0	Y	1-082291		
TOTAL DOLLARS						50000	50000	0	0				

**** ACCIDENT DATA ****

SUMMARY# 00089+147 DATE: 4/25/90 DESCRIP: CMA employee killed, others injured in fall from roof
 KEYLBS: CONSTRUCTION/FALL/BRACINGS/BEAM/COLUMN/HIGH WIND/STEEL BEAM/BOLTING/WORK RULES/
 FALL PROTECTION

ABSTRACT: Employees #1 through #4 were sitting on steel roof beams while bolting beams to columns and connecting roof purlins to beams. Employees #1 and #2 were bolting beams to columns and Employees #3 and #4 were sitting on the beams to connect roof purlins when a gust of wind came up and the columns fell in domino fashion. Employee #3 fell approximately 25 feet to his death. Employees #1, #2 and #4 fell and were hospitalized. Temporary and permanent bracing were not used extensively. ---(ABSTRACT WAS REVIEWED

VICTIM: 001 AGE: 16 SEX: M OCCUP: helpers, construction trades
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : FRACTURE ENVIR FACTOR: WEATHER, EARTHQUAKE, ETC.
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: RISK/JUDGMENT, HAZ. SITUATION
 PART-OF-BODY: CHEST HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
SELECTED FATALITY INSPS IN SIC 1791
01/01/83 THROUGH 08/05/83

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ESTABLISHMENT INSPECTED	REPORT ID	ACTIVITY#	CSHO	SIC1/SIC2	SUMRIS	PREP	TRAV	ONSIT	TEGSP	REPR	OCNF	LITIC	DENIAL
ADDRESS	OPEN DATE	INSP TYPE	CATEGORY	SUBMITTED	ENPESTAB								
CITY	STATE ZIP	CLOSEDCNF	OPT REPT#	SCOPE	OWNERSHIP	ENPINSF		LVDI					
COUNTY (NAME/CODE)	CASE CLSD	PREV ACT	UNION	CLASS	ENPCNTL								
	RELFD ACT												

		OR		ABT				INITIAL	CURRENT	C	SETTLN-T	HAZD	
STANDARD	CITATION	RE	ISSUANCE	ABATE	OMP	INITIAL	CURRENT	F-T-A	F-T-A	N	DISPOS-N	SUBS	
	TYP	IDENT	VC	DATE	DATE	CODE	DOLLARS	DOLLARS	DOLLARS	DOLLARS	T	/FINORDI	CODE

*****	COMMERCIAL ERECTORS, INC.	0355114-S	304534605	D9407-C	1791		154.4	21.7	14.6	114.6	2.5	1.0
	1910 ORACLE WAY	5/12/01	UN-FATCAT	SAFETY			75	EMPLOYEE INTERVIEW				
	Reston	VA 20190	11/08/01	054-01	PARTIAL	PRIV SEC	16					
	Fairfax	059	(OPEN)	(NONE)	NONUNION	SPG-CONST	110					
			A362308892									

	N-20 PER						N-98 K					
	1926.105 A	W 01001	10A	11/08/01	11/15/01	70000	70000	0	0	Y		
	1926.750 801 III	S 01002		11/08/01	11/12/01	4040	4000	0	0	Y		
	1926.752 J	S 01005	A	11/08/01	11/12/01	4000	4000	0	0	Y		
				TOTAL DOLLARS		78080	78000	0	0			

**** ACCIDENT DATA ****

SUMMARY# 000898767 DATE: 5/12/01 KEYWDS: (UNAVAIL) DESCRIP: FALL FROM HEIGHT
 ABSTRACT: Commercial Erectors, Inc. - sic: 1791 on May 12, 2001 at approximately 12:05 pm, employee was assisting foreman in installing guardrail on partially decked sixth floor of a building under construction. They ran out of u-bolts and the foreman went to get more. While he was doing that, the employee went to drag decking to help finish the deck. The employee was not wearing his fall protection at the time, nor were safety nets installed on the three floor, 40' open construction to the concrete floor of the third level. Employee was dragging one of the last pieces of decking for the floor when he stepped across a 35" opening that the decking was to go in. Employee fell through hole to third floor below and died from skull fracture. --- (ABSTRACT NOT REVIEWED)

VICTIM: 001	AGE: 26	SEX: M	OCCUP: Structural metal workers
DISPOSITION : FATALITY	EVENT-TYPE : FALL (FROM ELEVATION)		
INJ NATURE : FRACTURE	ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND		
INJ SOURCE : WORKING SURFACE	HUMAN FACTOR: INSUF/LACK/PROTCV WRK CLTHG/EQUIP		
PART-OF-BODY: HEAD	HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED		

*****	PHALANX ENTERPRISES	0355114-S	125447680	88419-C	1791		140.5	1.1	13.0	13.5	94.0	33.5	5.0
	25201 PLEASANT VALLEY ROAD	9/23/96	UN-FATCAT	SAFETY			11	EMPLOYEE INTERVIEW					
	Charlottesville	VA 22821	9/23/96	094-97	COMPREH	PRIV SEC	11						
	Fairfax	059	(OPEN)	(NONE)	NONUNION	SPG-CONST	14						
			A362637365										

	N-01 125447680						N-20 PER					
	1926.021 802	R 01001	10A	3/17/97	3/24/97	14000	14000	0	0	Y		
	1926.105 A	W 02001	10A	3/17/97	3/24/97	70000	70000	0	0	Y		
				TOTAL DOLLARS		84000	84000	0	0			

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 SELECTED FATALITY INSP# IN SIC 1791
 01/01/83 THROUGH 08/05/83

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ESTABLISHMENT INSPECTED REPORT ID ACTIVITY# CSHD SIC1/SIC2 SUNHRS PREP TRAV ONBIT TEDSP REPR# OCOMP LITIG DENIAL
 ADDRESS OPEN DATE INSP TYPE CATEGORY \$REMITTED EMPSTAB
 CITY STATE ZIP CLOSETONF OPT RPT# SCOPE OWNERSHIP EMPINSP LWDI
 COUNTY (NAME/CODE) CASE CLED PREV ACT UNION CLASS EMPCHTL
 RELTD ACT

GR ABT INITIAL CURRENT C SETTLM-T SAZD
 CITATION RE ISSUANCE ABATE CMP INITIAL CURRENT P-T-A P-T-A N DISPOS-W SUBS
 STANDARD TYP IDENT VC DATE DATE CODE DOLLARS DOLLARS DOLLARS DOLLARS T /FINDOBT CODE

 PALANK ENTERPRISES 0355114-S 125447680 *** CONTINUED ***

**** ACCIDENT DATA ****

SUMMARY# 000948422 DATE: 9/23/96

DESCRIP: Employee killed in fall through roof

KEYWDS: CONSTRUCTION/ROOF/FALL/FRACTURE/WORK RULES/FALL PROTECTION/WAREHOUSE/
 SINGLE STORY

ABSTRACT: Employee #1 and a coworker were laying steel decking on the roof of a one-story warehouse. Employee #1 walked away from the work area and fell approximately 25 ft between two roof joists, landing on the floor. He sustained multiple fractures and died seven days later. ---ABSTRACT WAS REVIEWED

VICTIM: 001 AGE: 33 SEX: M OCCUP: Welders and cutters
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : FRACTURE ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE : WORKING SURFACE HUMAN FACTOR: MISJUDGMENT, HAZ. SITUATION
 PART-OF-BODY: MULTIPLE HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

 PALANK ENTERPRISES INC 0355114-S 125464123 SD419-C 1791 61.5 7.0 10.5 33.0 10.0 1.0
 3051 OLD BRIDGE RD 12/08/94 UN-FATCAT SAFETY 7000 6 EMPLOYEE INTERVIEW
 Woodbridge VA 22192 12/12/94 D13-P5 COMPREN PRIV SEC 6
 Prince William 153 10/09/96 A362310658 NONUNION BPG-COHSB 20 (DOLLARS PAID)
 A362310658

N-01 125464123

N-98 K

1926.021 B02 S D1001 10A 5/31/95 6/06/95 X 7000 3500 0 0 Y Y-092095
 1926.500 B01 S D1002 10A 3/31/95 6/06/95 X 7000 3500 0 0 Y Y-092095
 TOTAL DOLLARS 14000 7000 0 0

**** ACCIDENT DATA ****

SUMMARY# 00090100 DATE:12/08/94

DESCRIP: Employee killed in 39 foot fall from steel beam

KEYWDS: CONSTRUCTION/FALL/ROOF/LOST BALANCE/BEAM/HEAD/FALL PROTECTION/WORK RULES/

ABSTRACT: At approximately 2:15 p.m. on December 8, 1994, Employee #1 and a coworker were working on a metal roof, placing metal decking on a steel joist. While standing on a steel beam, Employee #1 reached down and picked up a sheet of 3 foot by 27 foot decking. He dropped the sheet, lost his balance, and fell backward through the steel joist. Employee #1 fell 39 feet to the concrete floor. He died from severe head and body injuries. ---ABSTRACT WAS REVIEWED

VICTIM: 001 AGE: 31 SEX: M OCCUP: Structural metal workers
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : FRACTURE ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE : WORKING SURFACE HUMAN FACTOR: WATER-BANDLES PROCED. INAPPROPR
 PART-OF-BODY: MULTIPLE HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

1FATJAT 08/05/2003- 7:50 AM

INTERNAL REPORT

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ESTABLISHMENT INSPECTED ADDRESS CITY COUNTY (NAME/CODE)	REPORT ID OPEN DATE CITY STATE ZIP CITY COUNTY (NAME/CODE)	ACTIVITY# CLOSECONF OPT BEPT# SCOPE PREV ACT UNION RELTD ACT	CSHD CATEGORY SCOPE OWNERSHIP CLASS	SIC1/SIC2 SIC1/SIC2 CLASS	SUMHRS SREMITTED EMPINSP EMPENR	PREP LMDI	TRAV ONBIT	TECSP REPRY	OCOHF CONF	LITIG LITIG	DENIAL DENIAL
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STANDARD	CITATION	GR RE	ISSUANCE DATE	ABATE DATE	AST CMP CDE	INITIAL DOLLARS	CURRENT DOLLARS	INITIAL F-T-A DOLLARS	CURRENT F-T-A DOLLARS	C SETTLM-T N DISPOS-N T /FINORDT	HAZD SUBG CODE
V.D.GRUBB STEEL ERECTION CORP. 10900 BIRCHWOOD DR. Leakston King George	0355114-3 10/20/94 VA 22547 099	123600042 UN-FATCAT SAFETY 013-93 A362310724 UNION	E9060-C SAFETY COMPREH 10724	1791 PRIV SEC SPG-CONST	174.3 33 33 160	1.0 4.5 19.0 122.0	4.3 25.0 3.0	EMPLOYEE INTERVIEW			
	N-01 121686842 8-98 X										
DEL-1926.751 A	S 01001	10A	3/09/95	3/15/95	7000						Y Y-101095

**** ACCIDENT DATA ****

SUMMARY# 000900068 DATE: 10/19/94
 DESCRIP: Employee dies in 172 ft fall from girt
 KEYS: CONSTRUCTION/FALL/LANYARD/WORK RULES/INATTENTION
 ABSTRACT: At approximately 3:57 p.m. on October 19, 1994, Employee #1 was on a steel girt at the roof line of the fuel cell area, replacing connector bolts with permanent bolts. He had his safety lanyard looped around the girt that he was working on. He loosened the only nut and bolt holding the girt in place. The girt swung away from the building, pulling Employee #1 off the beam. His safety lanyard then slid off the end of the girt, causing him to fall 172 ft to the ground. Employee #1 died.
 --- (ABSTRACT WAS REVIEWED)

VICTIM: 001
 AGE: 26
 SEX: M OCCUP: Structural metal workers
 DISPOSITION: FATALITY
 INJ NATURE: FRACTURE
 INJ SOURCE: BUILDINGS/STRUCTURES
 PART-OF-BODY: MULTIPLE
 EVENT-TYPE: FALL (FROM ELEVATION)
 ENVIR FACTOR: OTHER
 HUMAN FACTOR: MALFUNC IN SECURING/WARNING OP
 HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

DEAN STEEL ERECTORS, INC. LEASE BLDG. 3 BROOKS RD., FF. Winchester Winchester	0355115-6 5/14/96 VA 22603 840	126631159 UN-FATCAT SAFETY 031-96 A360296115 NONUNION	U9090-C SAFETY COMPREH SPG-CONST	1791 SAFETY PRIV SEC 50	79.0 4 4 50	.5 4 4 50	3.5 4.0 60.5 10.3	EMPLOYEE INTERVIEW			
	N-01 126631159										

**** ACCIDENT DATA ****

SUMMARY# 000902030 DATE: 5/14/96
 DESCRIP: Employee dies after suspected fall from ladder or roof
 KEYS: FALL/ABRASION/CONSTRUCTION/EXTENSION LADDER/ROOF/FALL PROTECTION/WORK RULES/
 ABSTRACT: On May 14, 1996, Employee #1 asked three coworkers to bring him back a sandwich when they left a job site to get some lunch. Upon returning, the coworkers found Employee #1 lying face down approximately 7 ft from the base of a metal ladder that was extended approximately 32 ft to the roof. He did not respond when addressed and there was no discernible pulse or respiratory activity. A trickle of blood was coming from the employee's nose and he had minor elbow abrasions, but there was very little evidence of trauma consistent with having fallen from the ladder or the roof.
 --- (ABSTRACT WAS REVIEWED)

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STANDARD CITATION RE ISSUANCE ABATE ABT INITIAL CURRENT INITIAL CURRENT C SETTLM-T HAZD
 TYP IDENT VC DATE DATE CDE DOLLARS DOLLARS DOLLARS DOLLARS M DISPOS-U SUBS I /FINCORD CODE

DEAN STEEL ERECTORS, INC. 0355115-S 126631159 *** CONTINUED ***

VICTIM: 001 AGE: 40 SEX: M OCCUP: Not reported
 DISPOSITION : FATALITY EVENT-TYPE : OTHER
 INJ NATURE : BRUISE/CONTUS/ABRAS ENVIR FACTOR: OTHER
 INJ SOURCE : OTHER HUMAN FACTOR: OTHER
 PART-OF-BODY: MULTIPLE HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

BRILEY CONSTRUCTION CO 0355117-S 015217417 K0129-C 1701 42.5 .5 2.3 0.5 31.0
 1/4 MILE OFF ST RT 24 EAST OF 10/12/84 UN-FATCAT SAFETY 140 5 EMPLOYEE INTERVIEW
 Evinston VA 26550 10/15/84 047-84 COMPREH PRIV SEC 5
 Campbell 031 1/04/85 (NONE) NONUNION SPQ-COMST 5 (DOLLARS PAID)
 A360637873

H-01 015217417

1926.550 E	S 01001A	A 11/01/84	11/04/84 X	140	140	0	0
1926.021 802	S 01801B	A 11/01/84	11/04/84 X	0	0	0	0
ARM.036 A	O 02901	A 11/01/84	11/04/84 N	0	0	0	0

**** ACCIDENT DATA ****
 SUMMARY# 014463311 DATE:10/04/84
 DESCRIP: FALL - LOAD LINE FAILED
 KEYWDS: FALL/TOWER/COMMUNICATION TOWER /LOAD LINE/GIN POLE/DERRICK TRUCK/FALL PROTECTION/
 LANYARD/TELECOM WORK/CONSTRUCTION

ABSTRACT: AN EMPLOYEE WAS WORKING AT ABOUT THE 200-FOOT LEVEL OF A STEEL COMMUNICATIONS TOWER UNDER CONSTRUCTION. A SECTION OF THE TOWER, 20 FEET BY 37 FEET, WEIGHING ABOUT 4000 POUNDS, WAS BEING HOISTED BY A WINCH TRUCK AND GIN POLE. THE SECTION HUNG UP ON THE TOWER FRAME. THE EMPLOYEE, WHO WAS NEARBY, CLIMBED ONTO THE STEEL SECTION IN AN ATTEMPT TO FREE IT. HE HAD HOOKED HIS SAFETY BELT LANYARD TO THE LOAD LINE OF THE HOISTING EQUIPMENT. BECAUSE OF THE PRESSURE BEING APPLIED BY THE THE WINCH TRUCK ON THE WIRE ROPE LOAD LINE, THE GIN POLE BENT AND SWAPPED. THIS CAUSED SLACK IN THE LINE. THE TOWER SECTION CAME LOOSE AND BOTH EMPLOYEE AND TOWER SECTION STARTED TO FALL. WHEN THE SLACK IN THE LINE WAS TAKEN UP, THE SUDDEEN JERK BROKE THE LINE, CAUSING THE EMPLOYEE, WHO WAS TIED TO IT, TO FALL TO THE GROUND. THE TOWER SECTION HIT THE GROUND AND FELL OVER ONTO THE EMPLOYEE'S CHEST. THE EMPLOYEE DIED OF HIS INJURIES. --- (ABSTRACT WAS REVIEWED)

VICTIM: 001 AGE: 20 SEX: M OCCUP: Structural metal workers
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : OTHER ENVIR FACTOR: MATERIALS HANDLE EQUIP./METHOD
 INJ SOURCE : HOISTING APPARATUS HUMAN FACTOR: INSUFF/LACK/WRITH WRK PRAC PROC.
 PART-OF-BODY: CHEST HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

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ESTABLISHMENT INSPECTED REPORT ID ACTIVITY# CSHD SIC1/SIC2 SUNHRS PRÉP TRAY ONSIT TECSP REPT OCCNF LIFIG DENIAL
 ADDRESS OPEN DATE INSP TYPE CATEGORY PERMITTED EMPSTAB
 CITY STATE ZIP CLOSECONF OPT REP1# SCOPE OWNERSHIP EMPINSP LUBI
 COUNTY (NAME/CODE) CASE CLSD PREV ACT UNCON CLASS EMPCTRL
 BELTD ACT

STANDARD	CITATION		OR	ABT	INITIAL	CURRENT	INITIAL	CURRENT	C SETTLM-T	HAID		
	TYP	IDENT	VC	DATE	DATE	CODE	DOLLARS	DOLLARS	F-T-A	F-T-A	N DISPOD-N	CODE

COMMERCIAL STEEL ERECTION INC	0355117-S	123695306	RA700-C	1791		274.0	12.5	78.5	63.5	13.0	101.5	5.0
ST. RT. 626	4/28/94	UN-FATCAT	SAFETY			18						EMPLOYEE INTERVIEW
Crystal Hill	VA 24539	5/12/94	041-94	CONPRES	PRIV SEC	14						
Halifax	083	9/19/94	(HOME)	NONUNION		120						
				A364301873								
	N-01	123695306										
	1926.752	D01		0	D1001	01	8/25/94	8/24/94	X	0	0	0

*** ACCIDENT DATA ***

SUMMARY# 000950188 DATE: 4/27/94

DESCRIP: Employees injured, one killed in structure collapse

KEYWDS: CONSTRUCTION/COLLAPSE/STRUCK BY/STEEL COLUMN/CRUSHED/CHEST/HIGH WIND/
 STEEL/WAREHOUSE

ABSTRACT: At approximately 3:20 p.m. on April 27, 1994, Employees #2, #3, #4, #8, and #9, iron workers, were working 35 ft above the ground on top of a single-story steel warehouse that was under construction. Employees #1, #5, #6, and #7 were working on the structure's ground level. Dark clouds appeared in the distance to the west of the construction site. Employees #2, #3, #4, #8, and #9 were instructed to come down from the structure because a storm was approaching. Suddenly, a strong gust of wind hit the structure and it collapsed. Employee #1 was struck by a vertical steel column, which crushed his chest, killing him. Employees #2 through #9 received various minor and serious injuries. Employee #7 was hospitalized overnight.

--- (ABSTRACT WAS REVIEWED)

VICTIM: D01 AGE: 36 SEX: M OCCUP: Structural metal workers
 DISPOSITION : FATALITY EVENT-TYPE : STRUCK BY
 INJ NATURE : OTHER ENVIR FACTOR: WEATHER, EARTHQUAKE, ETC.
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: OTHER
 PART-OF-BODY: CHEST HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

VICTIM: D02 AGE: 34 SEX: M OCCUP: Structural metal workers
 DISPOSITION : NONHOSPITALIZED INJURY EVENT-TYPE : STRUCK AGAINST
 INJ NATURE : BRUISE/CONTUS/ABRAS ENVIR FACTOR: WEATHER, EARTHQUAKE, ETC.
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: OTHER
 PART-OF-BODY: UPPER ARM HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

VICTIM: D03 AGE: 20 SEX: M OCCUP: Structural metal workers
 DISPOSITION : NONHOSPITALIZED INJURY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : STRAIN/SPRAIN ENVIR FACTOR: WEATHER, EARTHQUAKE, ETC.
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: OTHER
 PART-OF-BODY: FOOT/ANKLE HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

VICTIM: D04 AGE: 18 SEX: M OCCUP: Structural metal workers
 DISPOSITION : NONHOSPITALIZED INJURY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : BRUISE/CONTUS/ABRAS ENVIR FACTOR: WEATHER, EARTHQUAKE, ETC.
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: OTHER
 PART-OF-BODY: CHEST HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

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ESTABLISHMENT INSPECTED	REPORT ID	ACTIVITY#	CSHO	SIC1/SIC2	SUMRIS	PREP	TRAV	ONSIT	TECSP	REPR	OCOMF	LITIC	DENIAL
ADDRESS	OPEN DATE	INSP	TYPE	CATEGORY	PERMITTED	ENPESTAB							
CITY	STATE	ZIP	CLOSECDNF	OPT	REPT#	SCOPE	OWNERSHIP	EMPINSP	LWDI				
COUNTY (NAME/PODE)	CASE CLSD	PREV ACT	UNION	CLASS	ENPCNTBL								
	RELTD	ACT											

STANDARD	CITATION	GR	RE	ISSUANCE	ABATE	OMP	INITIAL	CURRENT	INITIAL	CURRENT	C SETTLM-T	HAZD
TYP	IDENT	VC	DATE	DATE	CODE	DOLLARS	DOLLARS	DOLLARS	F-T-A	F-T-A	N DISPOS-N	BUS
									DOLLARS	DOLLARS	T /FINORDY	CODE

 COMMERCIAL STEEL ERECTION INC 0555117-5 123695306 *** CONTINUED ***

VICTIM: 005 AGE: 25 SEX: M OCCUP: Structural metal workers
 DISPOSITION : NONHOSPITALIZED INJURY EVENT-TYPE : STRUCK BY
 INJ NATURE : DISLOCATION ENVIR FACTOR: WEATHER, EARTHQUAKE, ETC.
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: OTHER
 PART-OF-BODY: BACK HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

VICTIM: 006 AGE: 26 SEX: M OCCUP: Structural metal workers
 DISPOSITION : NONHOSPITALIZED INJURY EVENT-TYPE : FALL(SAME LEVEL)
 INJ NATURE : STRAIN/SPRAIN ENVIR FACTOR: WEATHER, EARTHQUAKE, ETC.
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: OTHER
 PART-OF-BODY: FINGER(S) HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

VICTIM: 007 AGE: 26 SEX: M OCCUP: Structural metal workers
 DISPOSITION : HOSPITALIZED INJURY EVENT-TYPE : STRUCK BY
 INJ NATURE : BRUISE/CONTUS/ABRAS ENVIR FACTOR: WEATHER, EARTHQUAKE, ETC.
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: OTHER
 PART-OF-BODY: CHEST HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

VICTIM: 008 AGE: 19 SEX: M OCCUP: Structural metal workers
 DISPOSITION : NONHOSPITALIZED INJURY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : BRUISE/CONTUS/ABRAS ENVIR FACTOR: WEATHER, EARTHQUAKE, ETC.
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: OTHER
 PART-OF-BODY: LEGS HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

VICTIM: 009 AGE: 19 SEX: M OCCUP: Structural metal workers
 DISPOSITION : NONHOSPITALIZED INJURY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : BRUISE/CONTUS/ABRAS ENVIR FACTOR: WEATHER, EARTHQUAKE, ETC.
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: OTHER
 PART-OF-BODY: LEGS HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

 A. A. RYAN ORNAMENTAL IRONWORK 0355118-5 003355757 04070-C 1701 14.0 1.0 1.0 4.0 8.0
 TEXAS STREET 8/06/85 UN-FAFCA7 SAFETY 6 EMPLOYEE INTERVIEW
 Salem VA 24153 8/06/85 D82-85 PARTIAL PREV SEC 6
 Salem 775 11/08/99 A360784813 NONUNION SPG-CONST 35 (DOLLARS WAIVED)
 A360784813

S-01 01/27/87

1926.550 A09 S 01001 A B/30/85 Q/02/85 X 300 300 0 0

11A7JAY 08/05/2003- 7:50 AM

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 ADDRESS OPEN DATE INSP TYPE CATEGORY 3REMITTED EMPSTATS
 CITY STATE ZIP CLOSECONF OPT REPT# SCOPE OWNERSHIP EMPINSP LW01
 COUNTY (NAME/CODE) CASE CLSF PREV ACT UNION CLASS EMPQNTL
 RELTD ACT

GR AST INITIAL CURRENT C SETTLM-T BAID
 CITATION RE ISSUANCE ABATE CMP INITIAL CURRENT F-T-A F-T-A N DISPOS-N SUBS
 STANDARD TYP IDENT VC DATE DATE CODE DOLLARS DOLLARS DOLLARS DOLLARS T /FINDRDT CODE

A. A. RYAN ORNAMENTAL IRONWORK 0355118-1 003353737 *** CONTINUED ***

*** ACCIDENT DATA ***

SUMMARY# 014291518 DATE: 8/05/85

DESCRIP: CAUGHT BETWEEN COUNTERWEIGHT AND DECK OF CRANE

KEYWORDS: CRANE/CRUSHED/CRANE CARRIAGE/CRANE COUNTERWEIGHT

ABSTRACT: EMPLOYEE #1 WAS ON THE LEFT SIDE OF A CRANE. HE WAS STANDING WITHIN THE SWING RADIUS OF THE COUNTERWEIGHT OF THE AMERICAN 80 TON RUBBER LINED CRANE, SERIAL NUMBER 1077. THE COUNTERWEIGHT STRUCK HIM, PINNING HIM AGAINST THE CRANE DECK. HE WAS CRUSHED TO DEATH. --- (ABSTRACT WAS REVIEWED)

VICTIM: 001 AGE: 24 SEX: M OCCUP: Miscellaneous material moving equipment operators
 DISPOSITION: FATALITY EVENT-TYPE: STRUCK BY
 INJ NATURE: BRUISE/CONTUS/ABRAS ENVIR FACTOR: SQUEEZE POINT ACTION
 INJ SOURCE: MATERIALS HANDLG ED. HUMAN FACTOR: MISJUDGMENT, HAZ. SITUATION
 PART-OF-BODY: CHEST HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

AVIS CONSTRUCTION COMPANY, INC 0355118-5 126605039 17074-C 1791 125.5 9.0 17.0 41.0 8.0 50.5
 2300 PROSPECT DR. 2/07/96 UN-FATCAT SAFETY 2500 10 EMPLOYEE INTERVIEW
 Christiansburg VA 24173 6/07/96 026-96 PARTIAL PRIV SEC 10
 Montgomery 121 1/20/94 (NONE) NONUNION SPQ-CONST 80 (DOLLARS PAID)
 A360787154

1926.028 A \$ 01001 10A 4/10/96 6/16/96 X 7040 2500 0 0 Y T-072197

*** ACCIDENT DATA ***

SUMMARY# 000954988 DATE: 2/07/96

DESCRIP: Employee killed in 16 ft fall from roof

KEYWORDS: CONSTRUCTION/FALL/WALKING BACKWARD/ROOF/FALL PROTECTION/WORK RULES

ABSTRACT: At approximately 1:30 p.m. on February 7, 1996, Employee #1 was on a roof moving skylight roof panels. He stepped backward and fell 16 ft through the structural steel to the concrete floor. He was killed. --- (ABSTRACT WAS REVIEWED)

VICTIM: 001 AGE: 32 SEX: M OCCUP: Supervisors, n.e.c.
 DISPOSITION: FATALITY EVENT-TYPE: FALL (FROM ELEVATION)
 INJ NATURE: FRACTURE ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE: METAL PROBLETS HUMAN FACTOR: MISJUDGMENT, HAZ. SITUATION
 PART-OF-BODY: HEAD HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

CAPITAL ERECTOR CO INC 0355118-5 003353331 04979-C 1791 40.0 1.0 12.0 13.0 14.0
 RIVERSIDE AVE & SHORT ST 5/17/85 UN-FATCAT SAFETY 420 5 EMPLOYEE INTERVIEW
 Cloverdale VA 24426 5/31/85 052-85 PARTIAL PRIV SEC 5
 Botetourt 023 7/12/85 (NONE) UNION SPQ-CONST 30 (DOLLARS PAID)
 A360605877

1926.750 B01 II \$ 01001 A 6/18/85 6/21/85 X 420 420 0 0

11A1JAY 08/05/2005- 7:30 AM

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ADDRESS	OPEN DATE	INSP TYPE	CATEGORY	\$REMITTED	ENPESTAB								
CITY	STATE ZIP	CLOSECONF	OPT	RESP#	SCOPE	OWNERSHIP	ENPINSP				LMD1		
COUNTY (NAME/CODE)	CASE CLSD	PREV ACT	UNION	CLASS	ENPCNTRL								
	RELTG ACT												

	GR	AST	INITIAL	CURRENT	C SETTLM-T HAZD								
STANDARD	CITATION	RE ISSUANCE	ARATE	CRP INITIAL	CURRENT	INITIAL	CURRENT	C SETTLM-T HAZD					
	TYP	IDENT	VC	DATE	DATE	COE.	DOLLARS	DOLLARS	DOLLARS	DOLLARS	N DISPOS-N SUBS	T /FINDRPT	CCDF

 CAPITAL ERECTOR CO INC 0355118-S 003353331 *** CONTINUED ***

**** ACCIDENT DATA ****

SUMMARY# 014225929 DATE: 5/16/85 KEYWDS: (UNAVAIL) DESCRIP: FALL FROM STEEL STRUCTURE
 ABSTRACT: ON MAY 16-1985 AT APPROXIMATELY 11:15 EMPLOYEES #1 WAS IN PROCESS OF CONNECTING STEEL PEARLING TO TRUSS. HAVING ONE END BELTED MOVING ACROSS PEARLING TO OTHER SIDE PEARLING TWISTED CAUSING EMPLOYEE #1 TO FALL APPROX 45 FEET TO HIS DEATH.
 --- (ABSTRACT NOT REVIEWED)

VICTIM: 001 AGE: 28 SEX: M OCCUP: Structural metal workers
 DISPOSITION : FATALITY EVENT-TYPE : FALL(FROM ELEVATION)
 INJ NATURE : OTHER ENVIR FACTOR: MATERIALS HANDLG EQUIP./METHOD
 INJ SOURCE : BUILDINGS/STRUCTURES HUMAN FACTOR: WATER-HANDLG PROCED. INAPPROPR
 PART-OF-BODY: HEAD HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

HAWKES & COX, INC.	0355118-S	103702898	04979-C	1791	6.0	1.0	5.0
LAKE DRIVE PLAZA, R1. 26	7/13/88	PR-PLANND	SAFETY		1	EMPLOYEE INTERVIEW	
Vinton VA 24179	7/13/88	084-88	CONPREP	PRIV SEC	1		
Roanoke 161	8/30/88	(HOME)	NDMUNION	SPG-COVS	20		
N-01 105702906							
1926.550 A12	0 01001	7/26/88	7/30/88	M	0	0	0

**** ACCIDENT DATA ****

SUMMARY# 014291793 DATE: 7/13/88 DESCRIP: ELECTRIC SHOCK - CONTACT WITH OVERHEAD LINE THRU METAL ROD
 KEYWDS: ELECTRICAL/ELECTROCUTED/OVERHEAD POWER LINE /METAL WIRZ/E G I C
 ABSTRACT: An ironworker was sitting on a beam about 24.4 meters (80 feet) above the ground, installing 3.3-meter-long (10.9-foot-long), 13-millimeter-diameter (0.5-inch-diameter) sag rods. A 19.9-kilovolt overhead power line was located about 2.7 meters (9 feet) above him. A sag rod that the employee was installing contacted the power line, and the employee was electrocuted. (He also fell to the ground.)
 --- (ABSTRACT WAS REVIEWED)

VICTIM: 001 AGE: 33 SEX: M OCCUP: Structural metal workers
 DISPOSITION : FATALITY EVENT-TYPE : SHOCK
 INJ NATURE : ELECTRIC SHOCK ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE : ELEC APPARAT/WIRING HUMAN FACTOR: MALFUNC IN SECURING/WARNING DP
 PART-OF-BODY: MULTIPLE HAZ SUBSTANCE: ELECTRICAL SHOCK

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
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ESTABLISHMENT INSPECTED	REPORT ID	ACTIVITY#	CSHO	SIC1/SIC2	SUMHS	PREP	TRAV	ONSIT	TECSP	REPR	OCNF	LITIG	DENIAL
ADDRESS	OPEN DATE	INSP	TYPE	CATEGORY	PERMITTED	EMPESTAB							
CITY	CLOSECONF	OPT	REPT#	SCOPE	OWNERSHIP	EMPIHSP	LUDI						
COUNTY (NAME/CODE)	CASE	CLBO	PREV	ACT	UNION	CLASS	EMPCRTL						
	RELTD	ACT											
	GR				ABT								
STANDARD	CITATION	RE	ISSUANCE	ABATE	OMP	INITIAL	CURRENT	INITIAL	CURRENT	C	SETTLM-T	HAZD	
	TYP	IDENT	VC	DATE	DATE	CDR	DOLLARS	DOLLARS	DOLLARS	DOLLARS	T	/FINORST	CODE
L R WILLCOX & SONS INC	0355132-8	012605267	84471-C	1791			72.0	8.0	21.0	17.0	16.0	10.0	
1624 TRAP ROAD	7/26/83	UN-FATCAT	SAFETY				13						
Vienna	VA 22180	8/25/83	510204703	PARTIAL			13						
Fairfax	059	8/25/83	(NONE)	NORUNION	SPG-COENR		13						
			A350043063										
N-00			IV										

**** ACCIDENT DATA ****

SUMMARY# 000045963 DATE: 7/26/83 KEYS: (UNAVAIL) DESCRIP: (UNAVAIL)

ABSTRACT: An ironworker was sitting on a beam about 24.4 meters (80 feet) above the ground, installing ---(ABSTRACT NOT REVIEWED)

VICTIM: 001 AGE: 00 SEX: OCCUP: Not reported
 DISPOSITION : FATALITY EVENT TYPE : FALL(FROM ELEVATION)
 INJ NATURE : CONCUSSION ENVIR FACTOR: WORK-SURFACE/FACIL-LAYOUT COND
 INJ SOURCE : BODILY MOTION HUMAN FACTOR: NO PERSONAL PROTECTIVE EQ USED
 PART-OF-BODY: BODYSYSTEM HAZ SUBSTANCE: NO SUBSTANCE IMPLICATED

Total Inspections listed: 25

DOL-OSHA-OROS
(KSCHECAR)

U. S. DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

2003/08/05

INIS REPORT
KEEP THIS PAGE WITH THIS REPORT.
IT CONTAINS IMPORTANT INFORMATION ABOUT
THE WAY CASES WERE SELECTED

TYPE OF REPORT: SCAN

USER SELECTION NAME: 1FATJAY

DATE OF REPORT: 2003/08/05

REQUESTOR: OSH522

REPORT TITLE: SELECTED FATALITY (NSPS IN SIC 17)

***** SELECTION CRITERIA *****

OPEN DATE FROM 19830101 TO 20030805

REPORT ID: 03351

18(B) STATE ONLY

SORT ORDER: DISTRICT ESTAB NAME

ABSTRACT OPTION: :

STATE SPECIFIED: VA

SIC CODE RANGE(S): 1791 TO 1791

INSPECTION SCOPE(S): A B C

INSPECTION FATALITIES: Y