

## PAPERWORK REDUCTION ACT SUBMISSION

Please read the instructions before completing this form. For additional forms or assistance in completing this form, contact your agency's Paperwork Clearance Officer. Send two copies of this form the collection instrument to be reviewed, the Supporting Statement, and any additional documentation to: Office of Information and Regulatory Affairs, Office of Management and Budget, Docket Library, Room 101022, 725 17<sup>th</sup> Street, NW, Washington, DC 20503.

<p>1. Agency/Subagency originating request</p> <p style="text-align: center;"><b>Department of Labor Occupational Safety and Health Administration</b></p>	<p>2. OMB control number</p> <p>a. <b>1218 - 0095</b> b. <input type="checkbox"/> None _____ (new)</p>																																		
<p>3. Type of information collection (<i>check one</i>)</p> <p>a. <input type="checkbox"/> New Collection</p> <p>b. <input type="checkbox"/> Revision of a currently approved collection</p> <p>c. <input checked="" type="checkbox"/> Extension of a currently approved collection</p> <p>d. <input type="checkbox"/> Reinstatement, without change, of a previously approved collection for which approval has expired</p> <p>e. <input type="checkbox"/> Reinstatement, with change, of a previously approved collection for which approval has expired</p> <p>f. <input type="checkbox"/> Existing collection in use without an OMB control number</p> <p><i>For b-f, note item A2 of Supporting Statement instructions</i></p>	<p>4. Type of review requested (<i>check one</i>)</p> <p>a. <input checked="" type="checkbox"/> Regular</p> <p>b. <input type="checkbox"/> Emergency - Approval requested by: <u>  </u>/<u>  </u>/<u>  </u></p> <p>c. <input type="checkbox"/> Delegated</p> <p>5. Small entities Will this information collection have a significant economic impact on a substantial number of small entities? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <hr/> <p>6. Requested expiration date</p> <p>a. <input checked="" type="checkbox"/> Three years from approval date?</p> <p>b. <input type="checkbox"/> Other Specify: <u>  </u> / <u>  </u> (month/ year)</p>																																		
<p>7. Title Concrete and Masonry Construction (29 CFR 1926, Subpart Q)</p>																																			
<p>8. Agency form number(s) (if applicable) None</p>																																			
<p>9. Keywords: Construction; Concrete; Formwork; Lift-Slabs</p>																																			
<p>10. Abstract: Construction firms engaged in the erection of concrete formwork are required to post warning signs/barriers in accordance with 29 CFR 1926.701(c)(2) to reduce exposure of non-essential employees to the hazards of post-tensioning operations. Paragraphs 29 CFR 1926.702 (a)(2),(j)(1),(j)(2) are general lockout/tagout measures to protect workers from injury associated with equipment and machinery.</p>																																			
<p>11. Affected public (<i>Mark primary with "P" and all others that apply with "X"</i>)</p> <p>a. <input type="checkbox"/> Individuals or households      d. <input type="checkbox"/> Farms</p> <p>b. <input checked="" type="checkbox"/> Business or other for-profit      e. <input type="checkbox"/> Federal Government</p> <p>c. <input type="checkbox"/> Not-for-profit institutions      f. <input type="checkbox"/> State, Local or Tribal Government</p>	<p>12. Obligation to respond (<i>Mark primary with "P" and all others that apply with "X"</i>)</p> <p>a. <input type="checkbox"/> Voluntary</p> <p>b. <input type="checkbox"/> Require to obtain or retain benefits</p> <p>c. <input checked="" type="checkbox"/> Mandatory</p>																																		
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<p>15. Purpose of information collection (<i>Mark primary with "P" and all others that apply with "X"</i>)</p> <p>a. <input type="checkbox"/> Application for benefits      e. <input type="checkbox"/> Program planning or management</p> <p>b. <input type="checkbox"/> Program evaluation      f. <input type="checkbox"/> Research</p> <p>c. <input type="checkbox"/> General purpose statistics      g. <input checked="" type="checkbox"/> Regulatory or compliance</p> <p>d. <input type="checkbox"/> Audit</p>	<p>16. Frequency of recordkeeping or reporting (<i>check all that apply</i>)</p> <p>a. <input checked="" type="checkbox"/> Recordkeeping      b. <input checked="" type="checkbox"/> Third party disclosure</p> <p>c. <input type="checkbox"/> Reporting</p> <table style="width: 100%;"> <tr> <td>1. <input checked="" type="checkbox"/> On occasion</td> <td>2. <input type="checkbox"/> Weekly</td> <td>3. <input type="checkbox"/> Monthly</td> </tr> <tr> <td>4. <input type="checkbox"/> Quarterly</td> <td>5. <input type="checkbox"/> Semi-annually</td> <td>6. <input type="checkbox"/> Annually</td> </tr> <tr> <td>7. <input type="checkbox"/> Biennially</td> <td>8. <input type="checkbox"/> Other (describe) _____</td> <td></td> </tr> </table>	1. <input checked="" type="checkbox"/> On occasion	2. <input type="checkbox"/> Weekly	3. <input type="checkbox"/> Monthly	4. <input type="checkbox"/> Quarterly	5. <input type="checkbox"/> Semi-annually	6. <input type="checkbox"/> Annually	7. <input type="checkbox"/> Biennially	8. <input type="checkbox"/> Other (describe) _____																										
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<p>17. Statistical methods Does this information collection employ statistical methods?</p> <p><input type="checkbox"/> Yes      <input checked="" type="checkbox"/> No</p>	<p>18. Agency contact (person what can best answer questions regarding the content of this submission) Name: <b>Stewart Burkhammer</b></p> <p>Phone: (202) 693-2020</p>																																		

## 19. Certification for Paperwork Reduction Act Submissions

On behalf of this Federal agency, I certify that the collection of information encompassed by this request complies with 5 CFR 1320.9.

NOTE: The text of 5 CFR 1320.9, and the related provisions of 5 CFR 1320.8 (b)(3), appear at the end of the instructions. *The certification is to be made with reference to those regulatory provisions as set forth in the instructions.*

The following is a summary of the topics, regarding the proposed collections of information, that the certification covers:

- (a) Is necessary for proper performance of the agency's functions and has practical utility;
- (b) It avoids unnecessary duplication;
- (c) It reduces burden on small entities;
- (d) It uses plain, coherent and unambiguous terminology that is understandable to respondents;
- (e) Its implementation will be consistent and compatible with current reporting and recordkeeping practices;
- (f) It indicates the retention periods for recordkeeping requirements;
- (g) It informs respondents of the information called for under 5 CFR 1320.8 (b)(3)
  - (h) Why the information is being collected;
    - (ii) Use of information;
    - (iii) Burden estimate;
    - (iv) Nature of response (voluntary, required for a benefit, or mandatory);
    - (v) Nature and extent of confidentiality; and
    - (vi) Need to display currently valid OMB control number;
  - (h) It was developed by an office that has planned and allocated resources for the efficient and effective management and use of the information to be collected (see note in Item 19 of the Instructions);
- (i) It uses effective and efficient statistical survey methodology; and,
- (j) It makes appropriate use of information technology.

If you are unable to certify compliance with any of these provisions, identify the item below and explain the reason in Item 18 of the Supporting Statement.

Agency Clearance Officer	Date
Todd R. Owen, OSHA Clearance Officer	
Signature of Senior Departmental Official or Designee	Date
Ira L. Mills, Departmental Clearance Officer	

**SUPPORTING STATEMENT FOR  
THE INFORMATION COLLECTION REQUIREMENTS  
OF THE CONCRETE AND MASONRY CONSTRUCTION  
STANDARD (29 CFR PART 1926, SUBPART Q)<sup>1</sup>  
OMB Control Number 1218-0095 (July 2007)**

**JUSTIFICATION**

**1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.**

The main purpose of the Occupational Safety and Health Act (OSH Act) is to “assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources” (29 U.S.C. 651). To achieve this objective, the OSH Act specifically authorizes “the development and promulgation of occupational safety and health standards” (29 U.S.C. 651.) In addition, the OSH Act specifies that “[e]ach employer shall make, keep and preserve, and make available to the Secretary . . . such records . . . as the Secretary . . . may prescribe by regulation as necessary or appropriate for the enforcement of this Act . . . ” (29 U.S.C. 657).

Under the authority granted by the OSH Act, the Occupational Safety and Health Administration (“OSHA” or “the Agency”) published 29 CFR 1926, Subpart Q (“Concrete and Masonry Construction”; hereafter, “Subpart”). The Subpart specifies requirements to protect employees who construct, erect, brace, maintain, remove, or perform similar tasks on concrete or masonry structures. After thoroughly reviewing the standard, OSHA identified a number of collection of information (paperwork) requirements in the Subpart, including the following:

The use of signs and barriers to limit employee access to areas where post-tensioning operations will take place (§1926.701(c)(2)), and two general requirements to use lockout/tagout measures to protect workers from injury associated with equipment and machinery (§1926.702(a)(2) and (j)(1)). Paragraph (j)(2) of 1926.702 requires that tags read “Do Not Start” or similar language to indicate that the equipment is not to be operated.

Paragraph (a)(2) of §1926.703 require employers to make available, at the jobsite, drawings or plans for: the jack layout, formwork (including shoring equipment), working decks, and scaffolds, as well as any revisions to these documents. Paragraph (a) of §1926.705 requires employers engaged in lift-slab operations to have specific designs and plans detailing the lift-slab operation. Drawings, plans and/or designs are developed and kept available at the jobsite as a usual and customary business practice to be used by the various contractors during

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<sup>1</sup>The purpose of this Supporting Statement is to analyze and describe the burden hours and costs associated with provisions of this subpart that contain paperwork requirements; this Supporting Statement does not provide information or guidance on how to comply with, or how to enforce, these provisions.

construction; therefore, OSHA is not requesting clearance under the PRA for the burden associated with preparing drawings, plans or designs and having them at the jobsite.

Section 1926.705 (b) requires that jacks used for lifting operations be marked to indicate their rated capacity. Manufacturers of jacks rated the equipment as a usual and customary practice; therefore, OSHA is not requesting clearance under the PRA for the burden associated with the marking operation.

**2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the Agency has made of the information received from the current collection.**

The warning signs/barriers required by paragraph §1926.701(c)(2) reduce exposure of non-essential employees to the hazards of post-tensioning operations, principally a failed rope or wire striking an employee and causing serious injury. The requirements to lock-out and tag-out ejection systems and other hazardous equipment (e.g., compressors, mixers, screens or pumps used for concrete and masonry construction) specified by paragraphs §1926.702(a)(2), (j)(1), and (j)(2) warn equipment operators not to activate their equipment if another employee enters the equipment to perform a task (e.g., cleaning, inspecting, maintenance, repairing), thereby preventing serious injury or death.

Construction contractors and employees use the drawings, plans, and designs required by paragraphs §1926.703(a)(2), to provide specific instructions on how to construct, erect, brace, maintain, and remove shores and formwork if they pour concrete at the jobsite.

Paragraph §1926.705(b) requires employers to mark the rated capacity of jacks and lifting units. This requirement prevents overloading and subsequent collapse of jacks and lifting units, as well as their loads, thereby sparing exposed employees from serious injury and death.

**3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also, describe any consideration of using information technology to reduce burden.**

Employers may use any available technology to establish and maintain the documents specified by the Subpart. The Agency wrote the paperwork requirements in performance-oriented language, i.e., in terms of what data to collect, not how to record the data.

**4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.**

The information collection requirements of the Subpart are specific to each employer involved and no other source or agency duplicates these requirements or can make the required information available to OSHA (i.e., the required information is available only from employers).

**5. If the collection of information impacts small businesses or other small entities (Item 5 of OMB Form 83- I), describe any methods used to minimize burden.**

The information-collection requirements specified by the Subpart do not have a significant impact on a substantial number of small entities.

**6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.**

Employers need to comply with each paperwork requirement specified by the Subpart only once for each task at a jobsite (e.g., placing warning signs for a post-tensioning operation, tagging a piece of hazardous equipment for entry and repair, developing drawings or plans). Any reduction in frequency would eliminate the requirements entirely, thereby jeopardizing the safety of employees who rely on signs and tags to warn them of hazards or who use drawing, plans, or designs to ensure the structural stability and integrity of the concrete structure.

**7. Explain any special circumstances that would cause an information collection to be conducted in a manner:**

- **Requiring respondents to report information to the agency more often than quarterly;**
- **Requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;**
- **Requiring respondents to submit more than an original and two copies of any document;**
- **Requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records for more than three years;**
- **In connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;**
- **Requiring the use of a statistical data classification that has not been reviewed and approved by OMB;**
- **That includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or**
- **Requiring respondents to submit proprietary trade secret, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

No special circumstances exist that require employers to collect information in the manner or using the procedures specified by this item.

**8. If applicable, provide a copy and identify the date and page number of publication in the Federal Register of the agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the agency in response to these comments. Specifically address comments received on cost and hour burden.**

**Describe efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any),**

and on the data elements to be recorded, disclosed, or reported.

Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 years, even if the collection-of-information activity is the same as in prior periods. There may be circumstances that may preclude consultation in a specific situation. These circumstances should be explained.

As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 2506(c)(2)(A)), OSHA will publish a notice in the **Federal Register** requesting public comment on its proposed extension of the information collection requirements contained in Subpart Q “Concrete and Masonry in Construction.” This notice is part of a preclearance consultation program intended to provide those interested parties the opportunity to comment on OSHA’s request for an extension by the Office of Management and Budget (OMB) of a previous approval of the information-collection requirements found in Subpart Q.

**9. Explain any decision to provide any payment or gift to respondents, other than reenumeration of contractors or grantees.**

The Agency will not provide payments or gifts to the respondents.

**10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy.**

The paperwork requirements specified by the Subpart do not involve confidential information.

**11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reason why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.**

The paperwork requirements specified by the Subpart do not involve sensitive information.

**12. Provide estimates of the hour burden of the collection of information. The statement should:**

- Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. Unless directed to do so, agencies should not conduct special surveys to obtain information on which to base hour burden estimates. Consultation with a sample (fewer than 10) of potential respondents is desirable. If the hour burden on respondents is expected to vary widely because of differences in activity, size, or complexity, show the range of estimated hour burden, and explain the reasons for the variance. Generally, estimates should not include burden hours for customary and usual business practices.

- If this request for approval covers more than one form, provide separate hour burden estimates for each form and aggregate the hour burdens in Item 13 of OMB Form 83-I.

- Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage-rate categories.

The posting of signs, and the use of barriers (tapes with warning messages or messages to prevent entry to specific areas of the jobsite) and locks and tags is a common practice on construction jobs. Information taken from FW Dodge reports and analyzed by the University of Tennessee indicate that for calendar year 2006, estimates the number of active construction worksites (including new construction, additions and alterations - all over \$2,000 - but excluding single-family houses) is 243,000. The estimate of single-family worksites active at some time during 2006 is 2.1 million. OSHA estimates at least 20 percent will involve one instance of posting warnings or the use of locks and tags at jobs covered by this collection.

The Agency determined average wage rates using average hourly earnings. For the relevant occupational categories, OSHA adjusted the mean hourly earnings from the June 2005 *National Compensation Survey by the Bureau of Labor Statistics* to allow for fringe benefits, which comprise about 29.4% of total compensation in the private sector. With wages comprising 70.6% of employee compensation, the Agency multiplied wages by 1.4 (1/0.706) to derive total - hourly employee compensation. Therefore, the costs of labor used in this analysis are estimates of total hourly compensation. These estimates are \$28.23 for a Construction Employee. It typically takes 5 minutes (.08 hour) to post or place the warning signs, locks, tags, etc..

**Burden Hours:** 2.343 million x 20% x .08 hour = 37,488 hours

**Cost:** 37,488 hours x \$28.23 = \$1,058,286

As described in Item 1, OSHA determined that requirements contain §1926.702 (j)(2)<sup>2</sup>, §1926.703(a)(2) and §1926.705(b) of the paperwork requirements specified by the Subpart impose no burden hours or costs as specified by the Paperwork Reduction Act of 1995.

**13. Provide an estimate of the total annual cost burden to respondents or recordkeepers resulting from the collection of information. (Do not include the cost of any hour burden shown in Items 12 and 14).**

· **The cost estimate should be split into two components: (a) a total capital and start-up cost component (annualized over its expected useful life); and (b) a total operation and maintenance and purchase of service component. The estimates should take into account costs associated with generating, maintaining, and disclosing or providing the information. Include descriptions of methods used to estimate major cost factors including system and technology acquisition, expected useful life of capital equipment, the discount rate(s), and the time period over which costs will be incurred. Capital and start-up costs include, among other items, preparations for collecting information such as purchasing computers and software; monitoring, sampling, drilling and testing equipment; and record storage facilities.**

· **If cost estimates are expected to vary widely, agencies should present ranges of cost burdens and explain the reasons for the variance. The cost of purchasing or contracting out information collection services should be a part of this cost burden estimate. In developing cost burden estimates, agencies may consult with a sample of respondent (fewer than 10), utilize the 60-day pre-OMB submission public comment process and use existing economic or regulatory impact analysis associated with the rulemaking containing the**

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<sup>2</sup> Information provided by the Federal government to a recipient for the purpose of disclosure to the public is not a collection of information (5 CFR 1320.3(c)(2)). OSHA believes employers will use the “Do not start” language.

information collection, as appropriate.

· Generally, estimates should not include purchases of equipment or services, or portions thereof, made: (1) prior to October 1, 1995, (2) to achieve regulatory compliance with requirements not associated with the information collection, (3) for reasons other than to provide information or keep records for the government, or (4) as part of customary and usual business or private practices.

The cost determinations made under Item 12 account for the total annual cost burden to respondents or recordkeepers resulting from these collection of information requirements.

**14. Provide estimates of annualized cost to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information. Agencies also may aggregate cost estimates from Items 12, 13, and 14 in a single table.**

The Agency estimates that a compliance officer (GS-12, step 5), at an hourly wage rate of, \$36.26 spends about 15 minutes (.25 hour) during an inspection reviewing signs/barriers and lockout/tagout devices. OSHA determines that its compliance officers will conduct 6,560 inspections during each year covered by this ICR.<sup>3</sup> In making this cost determination, the Agency does not account for other occupational costs (e.g., equipment, overhead, and support staff expenses) because it considers these costs to be normal expenses that would occur without the collection-of-information requirements specified by the Standard. Therefore, the total cost of these paperwork requirements to the Federal government is:

$$\text{Cost: } 6,560 \text{ inspections} \times .25 \text{ hour} \times \$36.26 = \$59,466$$

**15. Explain the reasons for any program changes or adjustments reporting in Items 13 or 14 of the OMB Form 83-I.**

The Agency is requesting a 15,088 hour increase from 22,400 hours to 37,488 hours. The increase is a result of increasing the number of construction worksites from 1.4 million to 2.43 million, and increasing the time to post or place warning signs from 5 minutes to 15 minutes.

**16. For collections of information whose results will be published, outline plans for tabulation, and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection information, completion of report, publication dates, and other actions.**

OSHA will not publish the information collected under the Subpart.

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<sup>3</sup>OSHA determined the number of inspections by calculating an overall inspection rate of 1.4% (0.014) for all employers under its jurisdiction, then applying this percentage to the number of jobsites covered by the Standard (468,600 x .014 = 6,560).



**17. if seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be appropriate.**

There are no forms on which to display the expiration date.

**18. Explain each exception to the certification statement identified in Item 19 per "Certification for Paperwork Reduction Act Submission," of OMB Form 83-I.**

OSHA is not requesting an exception to the certification statement in Item 19.

## SEC. 2. Congressional Findings and Purpose

29 USC 651

(a) The Congress finds that personal injuries and illnesses arising out of work situations impose a substantial burden upon, and are a hindrance to, interstate commerce in terms of lost production, wage loss, medical expenses, and disability compensation payments.

(b) The Congress declares it to be its purpose and policy, through the exercise of its powers to regulate commerce among the several States and with foreign nations and to provide for the general welfare, to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources --

(1) by encouraging employers and employees in their efforts to reduce the number of occupational safety and health hazards at their places of employment, and to stimulate employers and employees to institute new and to perfect existing programs for providing safe and healthful working conditions; (2) by providing that employers and employees have separate but dependent responsibilities and rights with respect to achieving safe and healthful working conditions;

(3) by authorizing the Secretary of Labor to set mandatory occupational safety and health standards applicable to businesses affecting interstate commerce, and by creating an Occupational Safety and Health Review Commission for carrying out adjudicatory functions under the Act;

(4) by building upon advances already made through employer and employee initiative for providing safe and healthful working conditions;

(5) by providing for research in the field of occupational safety and health, including the psychological factors involved, and by developing innovative methods, techniques, and approaches for dealing with occupational safety and health problems;

(6) by exploring ways to discover latent diseases, establishing causal connections between diseases and work in environmental conditions, and conducting other research relating to health problems, in recognition of the fact that occupational health standards present problems often different from those involved in occupational safety;

(7) by providing medical criteria which will assure insofar as practicable that no employee will suffer diminished health, functional capacity, or life expectancy as a result of his work experience;

(8) by providing for training programs to increase the number and competence of personnel engaged in the field of occupational safety and health; affecting the OSH Act since its passage in 1970 through January 1, 2004.

(9) by providing for the development and promulgation of occupational safety and health standards;

(10) by providing an effective enforcement program which shall include a prohibition against giving advance notice of any inspection and sanctions for any individual violating this prohibition;

(11) by encouraging the States to assume the fullest responsibility for the administration and enforcement of their occupational safety and health laws by providing grants to the States to assist in identifying their needs and responsibilities in the area of occupational safety and health, to develop plans in accordance with the provisions of this Act, to improve the administration and enforcement of State occupational safety and health laws, and to conduct experimental and demonstration projects in connection therewith;

(12) by providing for appropriate reporting procedures with respect to occupational safety and health which procedures will help achieve the objectives of this Act and accurately describe the nature of the occupational safety and health problem;

(13) by encouraging joint labor-management efforts to reduce injuries and disease arising out of employment.

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## SEC. 8. Inspections, Investigations, and Recordkeeping

(a) In order to carry out the purposes of this Act, the Secretary, upon presenting appropriate credentials to the owner, operator, or agent in charge, is authorized -- 29 USC 657

(1) to enter without delay and at reasonable times any factory, plant, establishment, construction site, or other area, workplace or environment where work is performed by an employee of an employer; and

(2) to inspect and investigate during regular working hours and at other reasonable times, and within reasonable limits and in a reasonable manner, any such place of employment and all pertinent conditions, structures, machines, apparatus, devices, equipment, and materials therein, and to question privately any such employer, owner, operator, agent or employee.

(b) In making his inspections and investigations under this Act the Secretary may require the attendance and testimony of witnesses and the production of evidence under oath. Witnesses shall be paid the same fees and mileage that are paid witnesses in the courts of the United States. In case of a contumacy, failure, or refusal of any person to obey such an order, any district court of the United States or the United States courts of any territory or possession, within the jurisdiction of which such person is found, or resides or transacts business, upon the application by the Secretary, shall have jurisdiction to issue to such person an order requiring such person to appear to produce evidence if, as, and when so ordered, and to give testimony relating to the matter under investigation or in question, and any failure to obey such order of the court may be punished by said court as a contempt thereof.

(c) (1) Each employer shall make, keep and preserve, and make available to the Secretary or the Secretary of Health and Human Services, such records regarding his activities relating to this Act as the Secretary, in cooperation with the Secretary of Health and Human Services, may prescribe by regulation as necessary or appropriate for the enforcement of this Act or for developing information regarding the causes and prevention of occupational accidents and illnesses. In order to carry out the provisions of this paragraph such regulations may include provisions requiring employers to conduct periodic inspections. The Secretary shall also issue regulations requiring that employers, through posting of notices or other appropriate means, keep their employees informed of their protections and obligations under this Act, including the provisions of applicable standards.

(2) The Secretary, in cooperation with the Secretary of Health and Human Services, shall prescribe regulations requiring employers to maintain accurate records of, and to make periodic reports on, work-related deaths, injuries and illnesses other than minor injuries requiring only first aid treatment and which do not involve medical treatment, loss of consciousness, restriction of work or motion, or transfer to another job.

(3) The Secretary, in cooperation with the Secretary of Health and Human Services, shall issue regulations requiring employers to maintain accurate records of employee exposures to potentially toxic materials or harmful physical agents which are required to be monitored or measured under section 6. Such regulations shall provide employees or their representatives with an opportunity to observe such monitoring or measuring, and to have access to the records thereof. Such regulations shall also make appropriate provision for each employee or former employee to have access to such records as will indicate his own exposure to toxic materials or harmful physical agents. Each employer shall promptly notify any employee who has been or is being exposed to toxic materials or harmful physical agents in concentrations or at levels which exceed those prescribed by an applicable occupational safety and health standard promulgated under section 6, and shall inform any employee who is being thus exposed of the corrective action being taken.

(d) Any information obtained by the Secretary, the Secretary of Health and Human Services, or a State agency under this Act shall be obtained with a minimum burden upon employers, especially those operating small businesses. Unnecessary duplication of efforts in obtaining information shall be reduced to the maximum extent feasible.

(e) Subject to regulations issued by the Secretary, a representative of the employer and a representative authorized by his employees shall be given an opportunity to accompany the Secretary or his authorized representative during the physical inspection of any workplace under subsection (a) for the purpose of aiding such inspection. Where there is no authorized employee representative, the Secretary or his authorized representative shall consult with a reasonable number of employees concerning matters of health and safety in the workplace.

(f) (1) Any employees or representative of employees who believe that a violation of a safety or health standard exists that threatens physical harm, or that an imminent danger exists, may request an inspection by giving notice to the Secretary or his authorized representative of such violation or danger. Any such notice shall be reduced to writing, shall set forth with reasonable particularity the grounds for the notice, and shall be signed by the employees or representative of employees, and a copy shall be provided the employer or his agent no later than at the time of inspection, except that, upon the request of the person giving such notice, his name and the names of individual employees referred to therein shall not appear in such copy or on any record published, released, or made available pursuant to subsection (g) of this section. If upon receipt of such notification the Secretary determines there are reasonable grounds to believe that such violation or danger exists, he shall make a special inspection in accordance with the provisions of this section as soon as practicable, to determine if such violation or danger exists. If the Secretary determines there are no reasonable grounds to believe that a violation or danger exists he shall notify the employees or representative of the employees in writing of such determination.

(2) Prior to or during any inspection of a workplace, any employees

or representative of employees employed in such workplace may notify the Secretary or any representative of the Secretary responsible for conducting the inspection, in writing, of any violation of this Act which they have reason to believe exists in such workplace. The Secretary shall, by regulation, establish procedures for informal review of any refusal by a representative of the Secretary to issue a citation with respect to any such alleged violation and shall furnish the employees or representative of employees requesting such review a written statement of the reasons for the Secretary's final disposition of the case.

(g) (1) The Secretary and Secretary of Health and Human Services are authorized to compile, analyze, and publish, either in summary or detailed form, all reports or information obtained under this section.

(2) The Secretary and the Secretary of Health and Human Services shall each prescribe such rules and regulations as he may deem necessary to carry out their responsibilities under this Act, including rules and regulations dealing with the inspection of an employer's establishment.

(h) The Secretary shall not use the results of enforcement activities, such as the number of citations issued or penalties assessed, to evaluate employees directly involved in enforcement activities under this Act or to impose quotas or goals with regard to the results of such activities.

Pub. L. 105-198 added subsection (h).

### Subpart Q—Concrete and Masonry Construction

**AUTHORITY:** Sec. 107, Contract Work Hours and Safety Standards Act (Construction Safety Act) (40 U.S.C. 333); Secs. 4, 6 and 8 Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, and 657); Secretary of Labor's Order No. 12-71 (36 FR 8754), 8-76 (41 FR 25059), 9-83 (48 FR 35736), or 1-90 (55 FR 9033), as applicable; and 29 CFR part 1911.

**SOURCE:** 53 FR 22643, June 16, 1988, unless otherwise noted.

#### § 1926.700 Scope, application, and definitions applicable to this subpart.

(a) *Scope and application.* This subpart sets forth requirements to protect all construction employees from the hazards associated with concrete and masonry construction operations performed in workplaces covered under 29 CFR part 1926. In addition to the requirements in subpart Q, other relevant provisions in parts 1910 and 1926 apply to concrete and masonry construction operations.

(b) *Definitions applicable to this subpart.* In addition to the definitions set forth in § 1926.32, the following definitions apply to this subpart.

(1) *Bull float* means a tool used to spread out and smooth concrete.

(2) *Formwork* means the total system of support for freshly placed or partially cured concrete, including the mold or sheeting (form) that is in contact with the concrete as well as all supporting members including shores, reshores, hardware, braces, and related hardware.

(3) *Lift slab* means a method of concrete construction in which floor, and roof slabs are cast on or at ground level and, using jacks, lifted into position.

(4) *Limited access zone* means an area alongside a masonry wall, which is under construction, and which is clearly demarcated to limit access by employees.

(5) *Precast concrete* means concrete members (such as walls, panels, slabs, columns, and beams) which have been formed, cast, and cured prior to final placement in a structure.

(6) *Reshoring* means the construction operation in which shoring equipment (also called reshores or reshoring equipment) is placed, as the original

forms and shores are removed, in order to support partially cured concrete and construction loads.

(7) *Shore* means a supporting member that resists a compressive force imposed by a load.

(8) *Vertical slip forms* means forms which are jacked vertically during the placement of concrete.

(9) *Jacking operation* means the task of lifting a slab (or group of slabs) vertically from one location to another (e.g., from the casting location to a temporary (parked) location, or from a temporary location to another temporary location, or to its final location in the structure), during the construction of a building/structure where the lift-slab process is being used.

[53 FR 22643, June 16, 1988, as amended at 55 FR 42328, Oct. 18, 1990]

#### § 1926.701 General requirements.

(a) *Construction loads.* No construction loads shall be placed on a concrete structure or portion of a concrete structure unless the employer determines, based on information received from a person who is qualified in structural design, that the structure or portion of the structure is capable of supporting the loads.

(b) *Reinforcing steel.* All protruding reinforcing steel, onto and into which employees could fall, shall be guarded to eliminate the hazard of impalement.

(c) *Post-tensioning operations.* (1) No employee (except those essential to the post-tensioning operations) shall be permitted to be behind the jack during tensioning operations.

(2) Signs and barriers shall be erected to limit employee access to the post-tensioning area during tensioning operations.

(d) *Riding concrete buckets.* No employee shall be permitted to ride concrete buckets.

(e) *Working under loads.* (1) No employee shall be permitted to work under concrete buckets while buckets are being elevated or lowered into position.

(2) To the extent practical, elevated concrete buckets shall be routed so that no employee, or the fewest number of employees, are exposed to the hazards associated with falling concrete buckets.

(f) *Personal protective equipment.* No employee shall be permitted to apply a cement, sand, and water mixture through a pneumatic hose unless the employee is wearing protective head and face equipment.

[53 FR 22643, June 16, 1988, as amended at 59 FR 40730, Aug. 9, 1994]

**§ 1926.702 Requirements for equipment and tools.**

(a) *Bulk cement storage.* (1) Bulk storage bins, containers, and silos shall be equipped with the following:

- (i) Conical or tapered bottoms; and
- (ii) Mechanical or pneumatic means of starting the flow of material.

(2) No employee shall be permitted to enter storage facilities unless the ejection system has been shut down, locked out, and tagged to indicate that the ejection system is not to be operated.

(b) *Concrete mixers.* Concrete mixers with one cubic yard (.8 m<sup>3</sup>) or larger loading skips shall be equipped with the following:

- (1) A mechanical device to clear the skip of materials; and
- (2) Guardrails installed on each side of the skip.

(c) *Power concrete trowels.* Powered and rotating type concrete troweling machines that are manually guided shall be equipped with a control switch that will automatically shut off the power whenever the hands of the operator are removed from the equipment handles.

(d) *Concrete buggies.* Concrete buggy handles shall not extend beyond the wheels on either side of the buggy.

(e) *Concrete pumping systems.* (1) Concrete pumping systems using discharge pipes shall be provided with pipe supports designed for 100 percent overload.

(2) Compressed air hoses used on concrete pumping system shall be provided with positive fail-safe joint connectors to prevent separation of sections when pressurized.

(f) *Concrete buckets.* (1) Concrete buckets equipped with hydraulic or pneumatic gates shall have positive safety latches or similar safety devices installed to prevent premature or accidental dumping.

(2) Concrete buckets shall be designed to prevent concrete from hanging up on top and the sides.

(g) *Tremies.* Sections of tremies and similar concrete conveyances shall be secured with wire rope (or equivalent materials) in addition to the regular couplings or connections.

(h) *Bull floats.* Bull float handles, used where they might contact energized electrical conductors, shall be constructed of nonconductive material or insulated with a nonconductive sheath whose electrical and mechanical characteristics provide the equivalent protection of a handle constructed of nonconductive material.

(i) *Masonry saws.* (1) Masonry saws shall be guarded with a semicircular enclosure over the blade.

(2) A method for retaining blade fragments shall be incorporated in the design of the semicircular enclosure.

(j) *Lockout/Tagout Procedures.* (1) No employee shall be permitted to perform maintenance or repair activity on equipment (such as compressors, mixers, screens or pumps used for concrete and masonry construction activities) where the inadvertent operation of the equipment could occur and cause injury, unless all potentially hazardous energy sources have been locked out and tagged.

(2) Tags shall read *Do Not Start* or similar language to indicate that the equipment is not to be operated.

**§ 1926.703 Requirements for cast-in-place concrete.**

(a) *General requirements for formwork.*

(1) Formwork shall be designed, fabricated, erected, supported, braced and maintained so that it will be capable of supporting without failure all vertical and lateral loads that may reasonably be anticipated to be applied to the formwork. Formwork which is designed, fabricated, erected, supported, braced and maintained in conformance with the Appendix to this section will be deemed to meet the requirements of this paragraph.

(2) Drawings or plans, including all revisions, for the jack layout, formwork (including shoring equipment), working decks, and scaffolds, shall be available at the jobsite.

(b) *Shoring and reshoring.* (1) All shoring equipment (including equipment used in reshoring operations) shall be



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inspected prior to erection to determine that the equipment meets the requirements specified in the formwork drawings.

(2) Shoring equipment found to be damaged such that its strength is reduced to less than that required by § 1926.703(a)(1) shall not be used for shoring.

(3) Erected shoring equipment shall be inspected immediately prior to, during, and immediately after concrete placement.

(4) Shoring equipment that is found to be damaged or weakened after erection, such that its strength is reduced to less than that required by § 1926.703(a)(1), shall be immediately reinforced.

(5) The sills for shoring shall be sound, rigid, and capable of carrying the maximum intended load.

(6) All base plates, shore heads, extension devices, and adjustment screws shall be in firm contact, and secured when necessary, with the foundation and the form.

(7) Eccentric loads on shore heads and similar members shall be prohibited unless these members have been designed for such loading.

(8) Whenever single post shores are used one on top of another (tiered), the employer shall comply with the following specific requirements in addition to the general requirements for formwork:

(i) The design of the shoring shall be prepared by a qualified designer and the erected shoring shall be inspected by an engineer qualified in structural design.

(ii) The single post shores shall be vertically aligned.

(iii) The single post shores shall be spliced to prevent misalignment.

(iv) The single post shores shall be adequately braced in two mutually perpendicular directions at the splice level. Each tier shall also be diagonally braced in the same two directions.

(9) Adjustment of single post shores to raise formwork shall not be made after the placement of concrete.

(10) Reshoring shall be erected, as the original forms and shores are removed, whenever the concrete is required to support loads in excess of its capacity.

(c) *Vertical slip forms.* (1) The steel rods or pipes on which jacks climb or by which the forms are lifted shall be—

(i) Specifically designed for that purpose; and

(ii) Adequately braced where not encased in concrete.

(2) Forms shall be designed to prevent excessive distortion of the structure during the jacking operation.

(3) All vertical slip forms shall be provided with scaffolds or work platforms where employees are required to work or pass.

(4) Jacks and vertical supports shall be positioned in such a manner that the loads do not exceed the rated capacity of the jacks.

(5) The jacks or other lifting devices shall be provided with mechanical dogs or other automatic holding devices to support the slip forms whenever failure of the power supply or lifting mechanism occurs.

(6) The form structure shall be maintained within all design tolerances specified for plumbness during the jacking operation.

(7) The predetermined safe rate of lift shall not be exceeded.

(d) *Reinforcing steel.* (1) Reinforcing steel for walls, piers, columns, and similar vertical structures shall be adequately supported to prevent overturning and to prevent collapse.

(2) Employers shall take measures to prevent unrolled wire mesh from recoiling. Such measures may include, but are not limited to, securing each end of the roll or turning over the roll.

(e) *Removal of formwork.* (1) Forms and shores (except those used for slabs on grade and slip forms) shall not be removed until the employer determines that the concrete has gained sufficient strength to support its weight and superimposed loads. Such determination shall be based on compliance with one of the following:

(i) The plans and specifications stipulate conditions for removal of forms and shores, and such conditions have been followed, or

(ii) The concrete has been properly tested with an appropriate ASTM standard test method designed to indicate the concrete compressive strength, and the test results indicate that the concrete has gained sufficient

strength to support its weight and superimposed loads.

(2) Reshoring shall not be removed until the concrete being supported has attained adequate strength to support its weight and all loads in place upon it.

APPENDIX TO § 1926.703(a)(1)

GENERAL REQUIREMENTS FOR FORMWORK

*(This Appendix is non-mandatory.)*

This appendix serves as a non-mandatory guideline to assist employers in complying with the formwork requirements in § 1926.703(a)(1). Formwork which has been designed, fabricated, erected, braced, supported and maintained in accordance with Sections 6 and 7 of the American National Standard for Construction and Demolition Operations—Concrete and Masonry Work, ANSI A10.9-1983, shall be deemed to be in compliance with the provision of § 1926.703(a)(1).

[53 FR 22643, June 16, 1988, as amended at 61 FR 5510, Feb. 13, 1996]

**§ 1926.704 Requirements for precast concrete.**

(a) Precast concrete wall units, structural framing, and tilt-up wall panels shall be adequately supported to prevent overturning and to prevent collapse until permanent connections are completed.

(b) Lifting inserts which are embedded or otherwise attached to tilt-up precast concrete members shall be capable of supporting at least two times the maximum intended load applied or transmitted to them.

(c) Lifting inserts which are embedded or otherwise attached to precast concrete members, other than the tilt-up members, shall be capable of supporting at least four times the maximum intended load applied or transmitted to them.

(d) Lifting hardware shall be capable of supporting at least five times the maximum intended load applied or transmitted to the lifting hardware.

(e) No employee shall be permitted under precast concrete members being lifted or tilted into position except those employees required for the erection of those members.

[53 FR 22643, June 16, 1988, as amended at 54 FR 41088, Oct. 5, 1989]

**§ 1926.705 Requirements for lift-slab construction operations.**

(a) Lift-slab operations shall be designed and planned by a registered professional engineer who has experience in lift-slab construction. Such plans and designs shall be implemented by the employer and shall include detailed instructions and sketches indicating the prescribed method of erection. These plans and designs shall also include provisions for ensuring lateral stability of the building/structure during construction.

(b) Jacks/lifting units shall be marked to indicate their rated capacity as established by the manufacturer.

(c) Jacks/lifting units shall not be loaded beyond their rated capacity as established by the manufacturer.

(d) Jacking equipment shall be capable of supporting at least two and one-half times the load being lifted during jacking operations and the equipment shall not be overloaded. For the purpose of this provision, jacking equipment includes any load bearing component which is used to carry out the lifting operation(s). Such equipment includes, but is not limited, to the following: threaded rods, lifting attachments, lifting nuts, hook-up collars, T-caps, shearheads, columns, and footings.

(e) Jacks/lifting units shall be designed and installed so that they will neither lift nor continue to lift when they are loaded in excess of their rated capacity.

(f) Jacks/lifting units shall have a safety device installed which will cause the jacks/lifting units to support the load in any position in the event any jack/lifting unit malfunctions or loses its lifting ability.

(g) Jacking operations shall be synchronized in such a manner to ensure even and uniform lifting of the slab. During lifting, all points at which the slab is supported shall be kept within 1/2 inch of that needed to maintain the slab in a level position.

(h) If leveling is automatically controlled, a device shall be installed that will stop the operation when the 1/2 inch tolerance set forth in paragraph (g) of this section is exceeded or where there is a malfunction in the jacking (lifting) system.

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(i) If leveling is maintained by manual controls, such controls shall be located in a central location and attended by a competent person while lifting is in progress. In addition to meeting the definition in §1926.32(f), the competent person must be experienced in the lifting operation and with the lifting equipment being used.

(j) The maximum number of manually controlled jacks/lifting units on one slab shall be limited to a number that will permit the operator to maintain the slab level within specified tolerances of paragraph (g) of this section, but in no case shall that number exceed 14.

(k)(1) No employee, except those essential to the jacking operation, shall be permitted in the building/structure while any jacking operation is taking place unless the building/structure has been reinforced sufficiently to ensure its integrity during erection. The phrase "reinforced sufficiently to ensure its integrity" used in this paragraph means that a registered professional engineer, independent of the engineer who designed and planned the lifting operation, has determined from the plans that if there is a loss of support at any jack location, that loss will be confined to that location and the structure as a whole will remain stable.

(2) Under no circumstances, shall any employee who is not essential to the jacking operation be permitted immediately beneath a slab while it is being lifted.

(3) For the purpose of paragraph (k) of this section, a jacking operation begins when a slab or group of slabs is lifted and ends when such slabs are secured (with either temporary connections or permanent connections).

(4) Employers who comply with appendix A to §1926.705 shall be considered to be in compliance with the provisions of paragraphs (k)(1) through (k)(3) of this section.

(l) When making temporary connections to support slabs, wedges shall be secured by tack welding, or an equivalent method of securing the wedges to prevent them from falling out of position. Lifting rods may not be released

until the wedges at that column have been secured.

(m) All welding on temporary and permanent connections shall be performed by a certified welder, familiar with the welding requirements specified in the plans and specifications for the lift-slab operation.

(n) Load transfer from jacks/lifting units to building columns shall not be executed until the welds on the column shear plates (weld blocks) are cooled to air temperature.

(o) Jacks/lifting units shall be positively secured to building columns so that they do not become dislodged or dislocated.

(p) Equipment shall be designed and installed so that the lifting rods cannot slip out of position or the employer shall institute other measures, such as the use of locking or blocking devices, which will provide positive connection between the lifting rods and attachments and will prevent components from disengaging during lifting operations.

APPENDIX TO § 1926.705—LIFT-SLAB OPERATIONS

*(This Appendix is non-mandatory.)*

In paragraph 1926.705(k), OSHA requires employees to be removed from the building/structure during jacking operations unless an independent registered professional engineer, other than the engineer who designed and planned the lifting operation, has determined that the building/structure has been sufficiently reinforced to insure the integrity of the building/structure. One method to comply with this provision is for the employer to ensure that continuous bottom steel is provided in every slab and in both directions through every wall or column head area. (Column head area means the distance between lines that are one and one half times the thickness of the slab or drop panel. These lines are located outside opposite faces of the outer edges of the shearhead sections—See Figure 1). The amount of bottom steel shall be established by assuming loss of support at a given lifting jack and then determining the steel necessary to carry, by catenary action over the span between surrounding supports, the slab service dead load *plus* any service dead and live loads likely to be acting on the slab during jacking. In addition, the surrounding supports must be capable of resisting any additional load transferred to them as a result of the loss of support at the lifting jack considered.

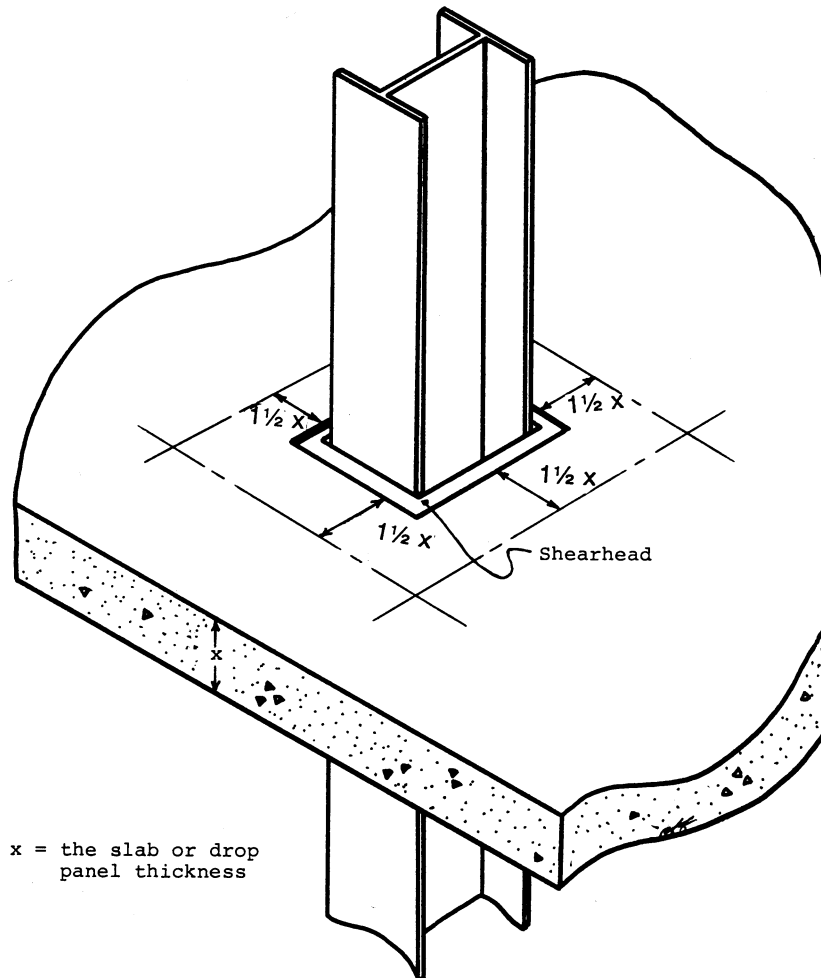


Figure 1--Column Head Area

[55 FR 42328, Oct. 18, 1990]

**§ 1926.706 Requirements for masonry construction.**

(a) A limited access zone shall be established whenever a masonry wall is being constructed. The limited access zone shall conform to the following.

(1) The limited access zone shall be established prior to the start of construction of the wall.

(2) The limited access zone shall be equal to the height of the wall to be

constructed plus four feet, and shall run the entire length of the wall.

(3) The limited access zone shall be established on the side of the wall which will be unscaffolded.

(4) The limited access zone shall be restricted to entry by employees actively engaged in constructing the wall. No other employees shall be permitted to enter the zone.