

DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
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Juliann Sum, Chief

April 3, 2015

Frank Dillon
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Delivered by Email

Re: Title 8 Section 1715 Tilt-Up Concrete Panel Construction

Dear Mr. Dillon;

This letter is provided in response to your inquiry to the Division of Occupational Safety and Health (Cal/OSHA) regarding tilt-up concrete panel construction. The content and conclusions of this letter are based only on the facts described below and responsive only to the initial requester. They may not be construed as a statement of general Division policy or general interpretation of the regulations referenced in this letter.

Question:

While lifting, we usually use a face attachment location that holds the panel in a semi-erect position (leaning in one direction). If the panel is leaning away from men and supporting equipment, the risk of injury is minimized. But if the panel is leaning towards men and supporting equipment the risk greater. In the industry, the term being under the panel refers to the leaning side as the danger area. But it is constantly ignored due to poor planning, ignorance or complacency.

Men and supporting equipment are at risk when lifting a panel leaning toward them, this is referred to as an inverted or suicide panel.

The risk of a catastrophic failure is increased many times as we continue to put men and supporting equipment under loads.

Clarification is needed for item (5), that states that the inverted side of tilt up panel is an area considered to be under the load and unacceptable for men or supporting equipment to occupy. Is the inverted side of tilt-up panel considered to be an area under the load and unacceptable for men or supporting equipment to occupy?

Response:

Yes, it is unacceptable for employees or the lifting crane to be in the area under a tilt-up panel where the panel would fall if released.

Employers engaged in tilt-up concrete panel construction need to comply with the requirements of California Code of Regulations (CCR), Title 8, Construction Safety Orders, section 1715. In regards to the lifting methods and procedures, subsection (d)(5) states:

1715(d)(5). Tilt-Up Concrete Panel Construction. Lifting methods and procedures shall be such that employees are not at risk of being struck by the panel or other supporting equipment.

The standard does not prescribe specific lifting methods and procedures to use for tilt-up concrete panel construction. However, it requires lifting to be done in a manner that does not put employees at risk of being struck by the panel or other supporting equipment. During the tilt-up operation, a crane and employees must be positioned so that if a lift component fails, the panel or supporting equipment will not strike the crane or employees.

Employers must also comply with provisions in CCR Title 8 section 1616.4 during tilt-up operations which states in part:

1616.4(e)(1). Overhead Loads. During a tilt-up or tilt-down operation:
(1) No employee shall be directly under the load.
(2) Only employees essential to the operation are permitted in the fall zone (but not directly under the load)...

Title 8 section 1610.3 defines “*directly under the load*” and “*fall zone*” as:

Directly under the load. A part or all of an employee is directly beneath the load.

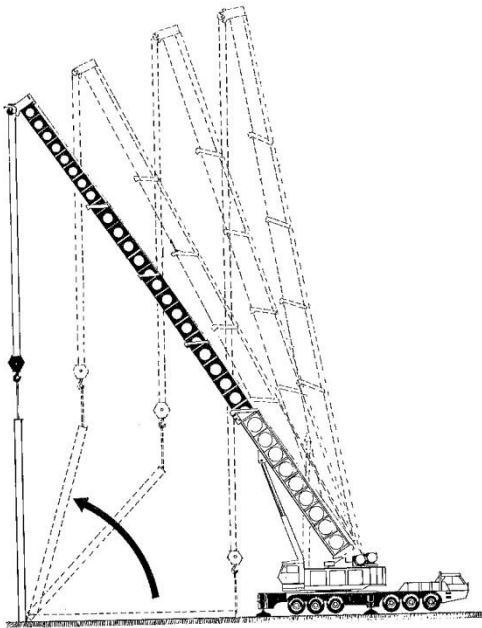
Fall zone. The area (including but not limited to the area directly beneath the load) in which it is reasonably foreseeable that partially or completely suspended materials could fall in the event of an accident

The area under a tilt-up panel where the panel would fall if released is considered directly under the load. Employees must never be located directly under the load. In tilt-up operations, the crane itself must never be located such that it would be struck if the panel were released.

The photograph you provided and shown to the right is an example of a crane which is directly under the tilt-up panel load in violation of 1616.4(e)(1) and in violation of 1715(d)(5) because it puts an employee (crane operator) at risk of being struck by the panel. If the panel were to fall and strike the crane, it is also likely that the crane would collapse and strike other nearby workers in the fall zone.



The illustration and picture below shows methods of lifting a tilt-up panel without putting the crane and crane operator directly under the tilt-up load. The crane can be located outside the direct drop zone of the panel as shown in the illustration or the crane can be off to the side and out of the drop zone of the panel as shown in the photograph.



Regardless of the lifting method and procedures utilized, the employer must address hazards to employees during the tilt-up concrete panel construction. It is the employer's responsibility to assess the dangers posed by tilt-up operation at the worksite prior to the commencement of panel erection and to take appropriate action to protect employees.

We hope this provides you with information you need. If you have any further questions regarding this or related safety concerns, please contact me at 925-270-9791 or eberg@dir.ca.gov.

Sincerely,

Eric Berg

Eric Berg
Principal Safety Engineer