ADMINISTRATIVE BULLETIN

NO. AB-023

DATE : January 2009 [This bulletin supersedes AB-023, dated September 18, 2002, revised March 18, 2009, updated January 1, 2011 for code references]

SUBJECT : Plan Review; Permit Process

TITLE : **Crane Site Safety Plan and Building Permits**

PURPOSE : The purpose of this Administrative Bulletin is to detail procedures regarding tower crane safety which comply with the intent of 2010 San Francisco Building Code Section 1704.20.

Implementation of the intent of the code requires that a contractor identify the location of proposed crane operations on a Crane Site Safety Plan and agree to comply with all applicable tower crane safety regulations; to require the presence of a safety representative during tower crane erection, jumping, and dismantling, and to prohibit, without prior agreement with the City and County of San Francisco, the controlling contractor and the crane erector, these operations from taking place during high traffic hours; to require employment of a flag-person to redirect traffic when loads are lifted over public streets and walkways during high traffic hours; and to require the review, approval and permitting by the Department of Building Inspection of the structural elements of tower crane foundations and tie-in attachments.

REFERENCE : 2010 San Francisco Building Code, Section 1704.20
Administrative Bulletin AB-046: Special Inspection and Structural Observation Procedures
Title 8, Occupational Safety and Health Regulations (CAL/OSHA), Chapter 4, Subchapter 7:General Industry Safety Orders, Group 13, Article 90, Cranes and Other Hoisting Equipment.
Title 8, Chapter 4, Subchapter 7: General Industry Safety Orders, Group 13, Article 96, Tower Cranes re: Requirements for erection, dismantling, operation, tests / examination of equipment and accessory gear.

DISCUSSION : Following a tower crane collapse in November 1989, the State of California passed legislation regulating certain tower crane operations. The San Francisco Board of Supervisors approved an ordinance, based on that state legislation that added a section regarding tower crane safety requirements to the San Francisco Building Code (SFBC).

Crane safety remains under the jurisdiction of the California Occupational Safety and Health Administration (Cal/OSHA), which requires an erection permit prior to the construction of foundation, anchorage and the erection of a tower crane. A Cal/OSHA operational permit is also required prior to the crane operation. While the San Francisco Department of Building Inspection (DBI) has no direct authority over, and its employees have no expertise in, the regulation of tower cranes, the following forms and procedures were developed to administer the San Francisco Building Code requirements.

Definitions

For the purposes of this Administrative Bulletin, the following definitions apply:

1. *Contractor* is the building contractor, licensed by the State of California, responsible for tower crane site safety for the project.

2. *High traffic hours* means weekdays from 7:00 AM to 9:00 AM, 4:00 PM to 6:00 PM, excluding holidays.

3. *Tower crane* is a crane in which a boom, swinging (slewing) jib or other structural member is mounted on a vertical mast or tower, and includes the following subcategories as defined by Cal/OSHA General Industry Safety Orders, Article 91, 4885(V)(1-4):

    a. *Tower crane* (*climber*) is a crane that may be raised or lowered to different floors or levels of the building or structure, that is erected upon, near to, and/or supported by a building or other structure.

    b. *Tower crane* (*free standing*) is a crane with a horizontally swinging or luffing boom which may be on a fixed base or mounted on rails and not attached to any other structure.

    c. *Tower crane* (*mobile*) is a tower crane which is mounted on a crawler, truck or similar carrier for travel or transit.

    d. *Tower crane* (*self-erector*) is a mobile tower crane that is truck-carrier mounted and capable of self-erection.

4. *Jumping* (climbing) a crane is the process of increasing or decreasing the height of a tower crane by raising the upper (slewing) section and inserting or removing modular tower sections beneath it.

5. *Safety Representative* shall mean a safety representative of the crane manufacturer, distributor, or a representative of a licensed crane certifier, per Cal/OSHA requirements.

General Requirements

This Administrative Bulletin shall apply to climber tower cranes and to free standing tower cranes; mobile tower cranes and self-erector tower cranes are exempt from these regulations, but must meet all other Cal/OSHA requirements.

A Crane Site Safety Plan and Building Permit Application (Form 3) for the tower crane foundation and tower crane attachments shall be submitted to the DBI Plan Review Services (PRS) Division for review and approval prior to the erection of any such tower crane or the construction of the tower crane foundation, except that the tower crane foundation, tower crane attachments and crane site safety plan may be part of any structural addendum related to the building construction.

Procedure

For the review and approval of the Crane Site Safety Plan Submittal Form and Crane Safety Compliance Agreement; and for the review, approval, and issuance of a building permit for tower crane foundation and tower crane attachments, the following procedure shall be used:

1. The contractor shall submit to DBI two copies of the following:

   - Crane Site Safety Plan Submittal Form and Crane Safety Compliance Agreement (see Attachment A)

   - Plans showing street locations, crane location, path of boom swing, designated loading areas and designated staging areas. Note: A site plan showing which streets will be impacted by the moving, erection, and operation of the tower crane is required by DPW in order to obtain a street use permit for crane erection. That site plan can be used as the Crane Site Safety Plan by adding the additional information noted above.

   - Completed building permit application form (Form 3) for tower crane foundation and tower crane attachments or other permit (see General Requirements above).

   - Plans detailing the tower crane foundation and tower crane attachment details.

   - Structural calculations supporting the design shown on the plans.

2. A DBI plans examiner will review the permit submittal documents to determine that all documents comprising the Crane Site Safety Plan Submittal Form and Crane Safety Compliance Agreement are complete.

3. If the tower crane foundation was not included in the approved building permit or an approved addendum to a site permit, then the contractor shall obtain a separate building permit for the tower crane foundation. The contractor shall submit to DBI for review, drawings and calculations for the tower crane foundation prepared by a licensed design professional in the state of California experienced in such design. If the foundation was included in the approved building permit or the approved addendum to a site permit, the Crane Site Safety Plan shall reference such permit.

4. If the tower crane attachments (tie-ins) are required but not included in the approved building permit or an approved addendum to a site permit, then the contractor shall obtain a separate building permit for the tower crane attachments. The contractor shall submit to DBI for review, drawings and calculations for the tower crane attachments (tie-ins) prepared by a licensed design professional in the State of California experienced in such design. If the tower crane attachments were included in the approved building permit or the approved addendum to a site permit, the Crane Site Safety Plan shall reference such permit.

5. If the submittal documents are in compliance with all applicable codes and this Administrative Bulletin, the plans examiner shall approve both copies of the submitted Crane Site Safety Plan and building permit application documents, where applicable.

6. The contractor shall submit to DBI a copy of a tower crane inspection certificate issued by a Cal/OSHA approved inspection agency following erection of the tower crane and prior to its use. This may be done by mail, fax, or in person. This submittal must indicate the site permit or building permit application number for the project and the building permit application number for the tower crane foundation and tower crane attachment.

7. Special inspection, structural testing, and structural observation requirements, shall be met as required by SFBC and AB-046.

8. All documents submitted to DBI related to the Crane Site Safety Plan and building permit application for tower crane foundation and tower crane attachments shall be archived as part of the approved permit documents.

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Vivian L. Day, C.B.O. Date
Director
Department of Building Inspection

Approved by the Building Inspection Commission September 18, 2002.
Revision approved March 18, 2009.

Attachment A: Crane Site Safety Plan Submittal Form and Crane Safety Compliance Agreement.

ATTACHMENT A

CRANE SITE SAFETY PLAN SUBMITTAL FORM
& CRANE SAFETY COMPLIANCE AGREEMENT
[Attach form to each copy of plans submitted]

Project Address_____ Permit Application No. _____

Name of Applicant _____ Phone_____

☐ A. Attached are two (2) copies of a Crane Site Safety Plan which includes the required information, circled and marked with applicable numbers on the Plan:

1. Location of tower crane on the construction site
2. Path of the boom swing
3. Location of crane-related designated loading areas
4. Location of crane-related designated storage areas
5. Tower crane foundation and attachment design and details, or reference to such design and details on the building site plan, foundation, superstructure addendums, or tower crane supplier drawings. Reference Site Permit Application Addendum No.: _____
6. Special Inspections forms per AB-046.

☐ B. Copy of Cal/OSHA permit for the erection and operation of a crane is attached, **or proof that such permit has been applied for,** and if required, a copy of California crane operator(s) license(s).

☐ C. I will comply with all of the following requirements:

1. Applicable CAL/OSHA safety requirements.
2. Crane manufacturer safety requirements.
3. Safety representative: I shall not allow installing, increasing the height ("jumping"), or dismantling of a crane without a safety representative of the crane manufacturer, distributor, or a representative of a licensed crane certifier being present on site for consultation during all such procedures.
4. Prohibited hours: Without prior agreement with DBI, DPW, MTA, controlling contractor, and erector, I shall not allow installing, increasing the height ("jumping"), or dismantling of a crane during the weekday hours (excluding holidays) of 7:00 AM to 9:00 AM, between the hours of 4:00 PM and 6:00 PM, or prior to 1 hour after sunrise or later than 1 hour before sunset.

5. Flag person: I shall assure that no crane will lift a load over roadways or pedestrian walkways during the hours of 7:00 AM through 9:00 AM and during the hours of 4:30 PM through 7:00 PM without a flag person directing the flow of pedestrian and automobile traffic away from the area where the load is being lifted.

☐ D. I will submit a copy of the Cal/OSHA operational permit to DBI after erection of the crane and prior to its use.

☐ E. I understand that failure to comply with these requirements (Items C 1. through 5.) will result in the notification of Cal/OSHA of such failure and may result in the suspension of the right to operate this crane.

_____ _____
Contractor responsible for Crane Site Safety CA Contractor License No.

_____ Date _____
Contractor representative

Received by: _____ Date _____
DBI Plan Reviewer