

## LBNL Arboricultural Operation Safety Requirements

Only when a tree cannot be safely accessed by climbing or the use of aerial devices, a qualified tree worker may be hoisted into position by using an approved tree worker's saddle secured to a crane's hook that shall be closed with a positive locking device. The tree worker's saddle shall also be secured to an independent line attached above the crane hook, and the following criteria shall be met:

		No	Yes
<b>General</b>			
G 1	Name of the responsible competent person or site safety representative who shall remain on site at all times during tree removal operations:		
G 2	Has a visual inspection of tree(s) to be pruned or removed been performed?		
a.	Name of (qualified tree worker) inspector:		
b.	Inspector Qualifications:		
G 3	Has a safe method of tree entry been determined?		
G 4	Can the tree be safely accessed by climbing?		
G 5	Can the tree be safely accessed by the use of an aerial device?		
G 6	Will a qualified tree worker be hoisted into position in the tree using an approved tree worker's saddle secured to the crane hook?		
	<b>IF ANSWER TO G6 IS YES, PROVIDE THE BASIS FOR THIS DETERMINATION: (Attach additional documents as necessary)</b>		
G 7	Will one individual have the responsibility to maintain surveillance for dangerous weather conditions or other impending danger, order the tree worker be lowered safely to ground, and issue the order that work be discontinued?		
a.	Name of individual:		
b.	Qualifications of individual:		
<b>Electrical</b>			
E 1	Have electrical conductors and equipment in the immediate and surrounding vicinity of the work to be performed been identified?		
a.	If yes, list the hazards here:		
b.	Height of tree:		
c.	Distances from tree base to electrical conductor / equipment / other:		
d.	Spatial relationship of tree service support equipment, subject trees, and electrical conductors, equipment, other (written description and map) attached?		
e.	Are abatement procedures to remove/reduce the electrical hazard risk attached?		
E 2*	Has this condition been reviewed with LBNL Facilities Electric Shop (6023)?		
*	<b>IF THE ANSWER TO 3E WAS NO, STOP THIS WORK ACTIVITY AND CONTACT FACILITIES ELECTRIC SHOP</b>		
a.	Name of LBNL individual consulted?		

		No	Yes
<b>Training</b>			
T 1	Has each qualified tree worker involved in tree work utilizing a crane to position personnel into a tree under the provisions of Section 3427(a)(1)(A) received instruction and training on such work and been recognized by <u>[provide name of company officer in space below]</u> to be competent in the following areas:		
a.	Safe work procedures and knowledge of the hazards applicable to tree work involving the use of cranes.		
b.	The use of personal protective equipment required for tree work.		
c.	The inspection and safe use of all climbing equipment, lines and rigging.		
d.	Crane signals and communication requirements with the crane operator as provided in Section 5001.		
e.	Instructions regarding electrical hazards as described in Section 3423.		
f.	The safe use of chain saws in tree work.		
g.	The conditions and criteria necessary to permit the use of a crane to provide access into a tree.		
h.	The handling of loads as described in Section 4999 and rigging techniques for tree work.		
i.	Effective means for controlling pedestrian and vehicular traffic.		
T 2	Is documentation of the above employee training maintained as prescribed by T8 CAC Section 3203, Injury and Illness Prevention Program?		
<b>Crane and Rigging Use</b>			
<i>The requirements for hoisting employees by crane in a personnel platform contained in Sections 5004(d)(2), (4), (5), (6), and 5004(e) shall apply to the hoisting of a qualified tree worker suspended in an approved tree worker saddle.</i>			
C 1	Has the annual crane certification been submitted to LBNL or is it on site and available for LBNL to review?		
C 2	Does the crane hook have a positive locking device?		
C 3	At what point above the hook or on the boom is the independent line securing the arborist's saddle attached? Explain here.		
C 4	Do all climbing equipment, lines and rigging shall have a minimum breaking strength of at least 5,000 pounds?		
C 5	Will the crane boom and load line be moved in a slow, controlled, cautious manner with no sudden movements when the qualified tree worker is attached to the crane?		
C 6	Is the crane used for this tree work equipped with a functional load indicating device?		
C 7	Is the crane operator familiar with the potential hazards and operational techniques encountered in tree work?		
a.	List the crane operator's qualifications:		
C 8	Will the qualified tree worker being hoisted be in continuous direct visual/audible communication with the crane operator?		
C 9	Will signals be relayed by a qualified signal person as provided in T8CCR 5001?		
a.	If answer to C 8 is YES, provide name of qualified signal person:		
C 10	Will the crane operator remain at the controls at all times while the qualified tree worker is attached to the crane?		
C 11	Will the qualified tree worker be detached from the crane while the load is hoisted?		
C 12	Do the superintendent, crane operator and crew have a green log weight chart at the work location?		
C 13	Will the supervisor document the weight of the load being lifted as determined by the crane operator and qualified tree worker to prevent the crane from being overloaded?		

		No	Yes
C 14	Will load lines be capable of supporting, without failure, at least seven times the maximum intended load, except that where rotation resistant rope is used, the lines shall be capable of supporting without failure, at least ten times the maximum intended load. <i>(The required design factor is achieved by taking the current safety factor of 3.5 [require under section 4884(b) of these Orders] and applying the 50 percent de-rating of the crane capacity which is required by section 5004(d)(5) of these Orders).</i>		
C 15	Will the crane be uniformly level and located on firm footing?		
C 16	Will cranes equipped with outriggers have them all fully deployed following manufacturer's specifications, insofar as applicable, when hoisting employees.		
C 17	Will the total weight of the worker, saddle, and related rigging not exceed 50 percent of the rated capacity for the radius and configuration of the crane or derrick?		
C 18	Will the contractor use a machine with a live boom (booms in which lowering is controlled by a brake without aid from other devices which slow the lowering speeds)? Note this is prohibited.		
C 19	Will cranes and derricks with variable angle booms be equipped with a boom angle indicator, readily visible to the operator?		
C 20	Does the crane to be used for hoisting personnel have a telescoping boom?		
C 21	Is it equipped with a device to indicate clearly to the operator, at all times, the boom's extended length?		
C 22	Will an accurate determination of the load radius to be used during the lift be made prior to hoisting personnel?		
C 23	Is the crane equipped with a positive acting device which deactivates the hoisting action before damage occurs in the event of a two-blocking situation (two block damage prevention feature)?		
C 24	Does the load line hoist drum have a system or device on the power train, other than the hoist brake, which regulates the lowering rate of speed of the hoist mechanism (controlled load lowering)?		
C 25	The crane operator acknowledges that FREE FALL IS PROHIBITED?		
<b>Tree Worker</b>			
W 1	Will the climbing line be crotched as soon as practical after the employee is aloft? Will a taut line-hitch be used and checked prior to tension being transferred?		
W 2	Will tying-in be in accordance with the following? <i>The climbing rope shall be passed around the main leader or a major upright branch of the tree as high as necessary using branches with a wide crotch to prevent any binding of the safety rope. The crotch selected for tying-in shall be over the work area as nearly as possible, but located in such a way that a slip or fall would not permit the employee to come in contact with any electrical conductor, equipment or other hazard. The rope shall be passed around the main leader or an upright branch, using a limb as a stop. Feet, hands, and ropes should, where possible, be kept out of tight-V-shaped crotches.</i>		
W 3	While working aloft, will the employee wear tree worker's saddle and tie-in with an approved safety strap or rope?		
W 4	Unless it is necessary to recrotch, will the employee remain tied in until the work is completed and they have returned to the ground?		
<b>LBNL</b>			
L 1	Has LBNL received and reviewed training documentation referenced in T 2?		
L 2	Has LBNL received and reviewed crane certification documents?		
L 3	Safety Plans (Electrical hazards, Traffic Control/Pedestrian Safety) received and reviewed?		
L 4 <sup>1</sup>	Are additional sections G and E attached (page 1) for each additional tree?		
L 5	Does LBNL authorize work to commence?		
Comments:			

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 LBNL Authorization Signature

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 Date

<sup>1</sup> A separate Section G and Section E must be attached for each tree requiring use of crane for hoisting personnel