

being transported to and from their elevated worksites during chimney construction and repair. The Agency subsequently granted these companies permanent variances based on the proposed alternative (38 FR 8545, 50 FR 40627, and 52 FR 22552).

On June 2, 1999 and January 7, 2000, Oak Park Chimney Corp. and American Boiler & Chimney Co., respectively, applied for a permanent variance from the same hoist-tower and boatswains' chair requirements as the previous companies, and proposed as an alternative to these requirements the same apparatus and procedures approved by OSHA in the earlier variances. The Agency published their variance application in the **Federal Register** on May 23, 2002 (*see* 67 FR 36263), and subsequently extended the period for submitting comments and hearing requests on July 10, 2002 (*see* 67 FR 45767). OSHA received no hearing requests in response to these **Federal Register** notices; however, several states submitted comments on the proposed alternative (see section IV below for a discussion of these comments).

Oak Park Chimney Corporation and American Boiler & Chimney Co. ("the employers") construct, remodel, repair, maintain, inspect, and demolish tall chimneys made of reinforced concrete, brick, and steel. This work, which occurs throughout the United States, requires the employers to transport employees and construction material to and from elevated work platforms and scaffolds located, respectively, inside and outside tapered chimneys. While tapering contributes to the stability of a chimney, it necessitates frequent relocation of, and adjustments to, the work platforms and scaffolds so that they will fit the decreasing circumference of the chimney as construction progresses upwards.

To transport employees to various heights inside and outside a chimney, the employers proposed in their variance application to use a hoist system that lifts and lowers personnel-transport devices that include personnel cages, personnel platforms, or boatswains' chairs. In this regard, the employers proposed to use personnel cages, personnel platforms, or boatswains' chairs solely to transport employees with the tools and materials necessary to do their work, and not to transport only materials or tools on these devices in the absence of employees. In addition, the employers proposed to attach a hopper or concrete bucket to the hoist system to raise or lower material inside or outside a chimney.

The employers also proposed to use a hoist engine, located and controlled outside the chimney, to power the hoist system. The proposed system consisted of a wire rope that: Spools off the winding drum (also known as the hoist drum or rope drum) into the interior of the chimney; passes to a footblock that redirects the rope from the horizontal to the vertical planes; goes from the footblock through the overhead sheaves above the elevated platform; and finally drops to the bottom landing of the chimney where it connects to a personnel- or material-transport device. The cathead, which is a superstructure at the top of a derrick, supports the overhead sheaves. The overhead sheaves (and the vertical span of the hoist system) move upward with the derrick as chimney construction progresses. Two guide cables, suspended from the cathead, eliminate swaying and rotation of the load. If the hoist rope breaks, safety clamps activate and grip the guide cables to prevent the load from falling. The employers proposed to use a headache ball, located on the hoist rope directly above the load, to counterbalance the rope's weight between the cathead sheaves and the footblock.

Additional conditions that the employers proposed to follow to improve employee safety included:

- Attaching the wire rope to the personnel cage using a keyed-screwpin shackle or positive-locking link;
- Adding limit switches to the hoist system to prevent overtravel by the personnel- or material-transport devices;
- Providing the safety factors and other precautions required for personnel hoists specified by the pertinent provisions of § 1926.552(c), including canopies and shields to protect employees located in a personnel cage from material that may fall during hoisting and other overhead activities;
- Providing falling-object protection for scaffold platforms as specified by § 1926.451(h)(1);
- Conducting tests and inspections of the hoist system as required by §§ 1926.20(b)(2) and 1926.552(c)(15);
- Establishing an accident-prevention program that conforms to § 1926.20(b)(3);
- Ensuring that employees who use a personnel platform or boatswains' chair wear a full body harness and lanyard; and
- Securing the lifelines (used with a personnel platform or boatswains' chair) to the rigging at the top of the chimney and to a weight at the bottom of the chimney, to provide maximum stability to the lifelines.

## II. Proposed Variance from § 1926.452(o)(3)

The employers noted in their variance request that it is necessary, on occasion, to use a boatswains' chair to transport employees to and from a bracket scaffold on the outside of an existing chimney during flue installation or repair work, or to transport them to and from an elevated scaffold located inside a chimney that has a small or tapering diameter. Paragraph (o)(3) of § 1926.452, which regulates the tackle used to rig a boatswains' chair, states that this tackle must "consist of correct size ball bearings or bushed blocks containing safety hooks and properly 'eye-spliced' minimum five-eighth ( $\frac{5}{8}$ ) inch diameter first-grade manila rope [or equivalent rope]."

The primary purpose of this paragraph is to allow an employee to safely control the ascent, descent, and stopping locations of the boatswains' chair. However, the employers stated in their variance request that, because of space limitations, the required tackle is difficult or impossible to operate on some chimneys that are over 200 feet tall. Therefore, as an alternative to complying with the tackle requirements specified by § 1926.452(o)(3), the employers proposed to use the hoisting system described above in section I of this notice to raise or lower employees in a personnel cage to work locations both inside and outside a chimney. In addition, the employers proposed to use a personnel cage for this purpose to the extent that adequate space is available, and to use a personnel platform if using a personnel cage was infeasible because of limited space. When available space makes using a personnel platform infeasible, the employers proposed to use a boatswains' chair to lift employees to work locations. The proposed variance limited use of the boatswains' chair to elevations above the last work location that the personnel platform can reach; under these conditions, the employers proposed to attach the boatswains' chair directly to the hoisting cable only when the structural arrangement precludes the safe use of the block and tackle required by § 1926.452(o)(3).

## III. Proposed Variance From § 1926.552(c)

Paragraph (c) of § 1926.552 specifies the requirements for enclosed hoisting systems used to transport employees from one elevation to another. This paragraph ensures that employers transport employees safely to and from elevated work platforms by mechanical means during the construction,