SPREADING THE BURDEN

IN DEFENCE OF THE OPERATOR — PART III

The enormous responsibility that goes with using cranes is often misunderstood. In reality it is a responsibility to be shared, not placed solely on one individual, the operator. In this, the third and final article in the present series, James Headley of the Crane Institute of America considers just who should be held responsible, and for what, during the course of a lifting operation.

There is much confusion existing today amongst those involved in the various aspects of a crane operation. The role each person plays and the duties to be fulfilled are often unclear. Most personnel do not fully understand their responsibilities, with regard to the crane, until an accident occurs and the litigation process begins. Perhaps the courts have done more in defining these responsibilities than any other source, but what an incredibly high price to pay for the delineation of duties! In terms of accidents, these ill defined responsibilities have played a major role and may be one of the most overlooked causes underlying crane accidents.

When discussing these responsibilities we must first understand that a crane operation has multiple responsibilities which involve more than one group. If there is a breakdown of responsibility in any one group, the potential success of a lift is greatly diminished. Even though there may be exceptions, depending on the nature of the lift and circumstances involved, most crane operations directly involve three parties: the operators, riggers (or crane users) and supervisors. However, before discussing the responsibility of these parties we must first understand the role management plays.

MANAGEMENT'S ROLE

Planning: there has been a tendency for management to overlook this area, when in reality this is the first step towards ensuring success in any operation involving cranes. Even though large eccentric loads require more attention, planning is required of all lifts. There are times when qualified and experienced supervisors are capable of performing this task, but other situations require the assistance of a competent engineer. Yet whatever type of lift is to be accomplished, management must be involved.

Selection and training of personnel: this is perhaps the most important of all management responsibilities and, sadly, the most neglected. Most safety experts agree that human error accounts for the vast majority of crane accidents. But in the end it is the failure of management to accurately select and train personnel that results in these errors.

A survey conducted recently at the Crane Institute of America revealed that over 90% of operators, riggers and supervisors who were tested for competence before receiving training, failed to qualify in one or more areas. The Institute has also determined that most other crafts such as electricians, mill-wrights, carpenters and pipefitters, receive more technical and skills training than do crane operators and riggers.

Inspection and maintenance: these are the means by which safety and reliability are ensured. Inspections performed on a regular basis will go far in detecting those deficiencies which constitute a safety hazard.

Inspection and maintenance should be performed only by competent individuals who are knowledgeable of the equipment and who understand the requirements set forth in crane safety standards. Additionally, inspection and maintenance personnel must possess the ability to properly evaluate any deficiencies and assess their effects on equipment safety[1].

These three important areas should be comprehensively covered to support a company's crane safety policy. Management should be aware that a failure to fulfill these basic responsibilities directly affects those individuals involved in the crane operation. Moreover, since the crane is the key element in any lift operation, these individuals should have a thorough understanding as to how their responsibilities relate to the crane and its safe operation.

However, before we begin describing the responsibilities of these groups let me say that my objective is not to write specific responsibilities and procedures, but rather to discuss the responsibility of these groups as related to the crane. In doing so I will use as my authority the American Standards Institute (ANSI) B30.5 (1982), a widely referenced consensus Standard on Mobile and Locomotive cranes.

OPERATOR RESPONSIBILITY

A crane operator is somewhat like the quarterback of a football team; when the lift is successful they receive too much credit and when there is an accident they receive too much blame. But the crane operator does have a somewhat different and unique responsibility; for when the load leaves the ground he is left in a rather precarious situation. He realises that the destiny of the lift, and the welfare of himself and others are in his hands. Additionally, if there is an accident he knows that he will probably receive the blame, for when the load leaves the

ground, it, in a sense, leaves with his blessings. But the question remains, 'is it right to expect so much of the operator, and therefore what is his primary responsibility in a lift?' To answer those questions relating to operator responsibility we turn our attention to the ANSI B30.5 Standard. In the sub section *Conduct of Operators*, the Standard states, 'Each operator shall be held responsible for those operations under the operator's direct control.' There has been much confusion as to the meaning of this statement. Many times this statement has been misinterpreted and used as proof text in falsely accusing the operator. To arrive at a correct interpretation we must first identify the operator mentioned here. Is he just anyone who happens to be operating the crane, as most think? The answer is no!

Interpreting Standards is like interpreting any other document. Take a statement out of context and you can make it mean anything you want. When we examine the subject matter immediately preceding this statement we find the 'operator' defined as that individual specifically designated by the employer to operate the crane. In other words, this individual is not simply a lever puller, nor is he just someone who attempts to operate the crane. He is a highly trained and experienced craftsman whose competence and qualifications have been verified by physical, written, and practical examinations.

If management fails in making this determination and there is an accident resulting from the error of an unqualified operator, then they must assume responsibility. You cannot hold an unqualified person accountable for an accident when he was initially ill equipped to perform the task and, furthermore, directed by management to operate the crane. Only when management provides the training and examinations necessary to ensure competence, does the operator assume responsibility.

As noted in ANSI, 'the operator is responsible for those *operations* under his *direct control*.' For the sake of clarification, *direct control* refers to the crane and its operation and not to those responsibilities occurring below the hook. Additionally, although not directly responsible for actually rigging the load, the operator is responsible for 'knowing basic load rigging procedures and ensuring that they are applied.'[2] This is most often neglected in the training of operators but it is a necessary requirement since it is so closely related to the crane operator's responsibility.

RIGGERS AND SUPERVISORS

Even though the crane operator shoulders a tremendous responsibility, he in no way has total responsibility for the lift. Standing alongside him are the riggers who have their own particular area of responsibility. Whereas the operator is directly responsible for the crane, the riggers are primarily responsible for the load. Basic responsibilities include determining the load weight, selecting the appropriate slings and hardware, inspecting and maintaining rigging equipment, and signalling the crane.

As important as these basic responsibilities are, there is an area of responsibility related to the crane itself that has been totally overlooked by both riggers and supervisors. There are times when without them realising it they have assumed total responsibility for the crane. To put this into a better perspective we again refer to ANSI B30.5 where it states, 'the operator shall respond to signals from the person who is directing the lift or an appointed signal person.'

Close examination of this statement reveals that the signal person, whether he be the rigger or someone else in a supervisory capacity, has authority over the crane when he provides the signals. Obviously this does not mean an operator should knowingly obey a signal which could be dangerous. But usually when a signal person is required, the operator is unable to see well enough to operate the crane safely. It is during situations such as this that responsibility for the crane is transferred to the signal person, for in actuality the signal person becomes the operator. But what if the signal person is unqualified to direct the crane? This may surprise many, but signaling a crane involves much more than pointing your finger in a certain direction. Before riggers and supervisors assume these and other responsibilities related to cranes they should have a thorough understanding as to how cranes are rated and a working knowledge of the load chart. For if they are devoid of this information, additional pressure is placed on the operator since he in many cases will be relied upon to perform not only his responsibility, but theirs.

But perhaps the greatest pressure to be placed on an operator occurs when the supervisor is incapable of making the final decision pertaining to safety. Most often these decisions are left with the operator, but according to ANSI, 'whenever there is any doubt as to safety the operator shall consult with the supervisor before handling the loads'.

This does not mean that the supervisor should not confer with the operators and riggers or that he should not take their recommendations. However, it does mean that he has the final decision; and for the outcome — *total responsibility*.

In conclusion, even though each group participating in a crane operation has an individual and distinct responsibility, this responsibility does require for a thorough knowledge of the others' duties. The groups involved must work together as a team, everyone qualified to make his own particular contribution, while at the same time understanding how this contribution relates to the crane. □

[1] *Crane Handbook*, Construction Safety Association of Ontario, 1975, p29.

[2] *Mobile Crane Manual*, Construction Safety Association of Ontario, 1982, p218.

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