THE EMPLOYER'S DUTY
IN DEFENCE OF THE OPERATOR — PART II

America has recently experienced several serious plane crashes resulting in numerous fatalities. In particular is the one occurring at Denver's Stapleton Airport killing 28 people. An interesting point concerning this crash as opposed to others, is that instead of concentrating on mechanical problems as the possible cause investigators rather focused their attention on the strong possibility of pilot inexperience and incompetency.

Reports went on to state that the co-pilot who was in control of the plane when it took off had only 36 hours piloting DC-9s. He had flown for the company only four months after previously flying smaller planes for a commuter airline. Pilots, however, are required to receive rather extensive training and must meet certain prescribed criteria for qualification. In view of these stringent requirements, the airline company has defended its choice of pilots and has been reluctant in accepting any responsibility. However, if pilot incompetency and inexperience is found as the cause the company will have to shoulder the entire responsibility for the crash.

Had this been a crane accident, the focus instead of being on the requirements for operator qualifications, experience, and training would more likely be placed on the operator himself and finding out just exactly how he erred or if he acted irresponsibly. Assuming that the operator was found at fault, in all likelihood nothing would be mentioned as to the party responsible for determining his qualifications and providing the necessary training.

As in flying, where a pilot's qualifications, experience and training is of utmost importance to safety, in a crane operation this same importance applies to crane operators. In fact, upon closer examination we would probably find that a failure to determine and maintain an operator's qualifications is the underlying cause of most crane accidents. Therefore, it is essential if not mandatory that we identify the party responsible for making such determinations.

Occupational Safety and Health Administration Safety & Health Standards make this the responsibility of the employer, for in the Code of Federal Regulations 1926.20 we read that 'The employer shall permit only those employees qualified by training or experience to operate equipment and machinery.' To provide further basis and authority for determining this responsibility we turn to the American National Standards Institute (ANSI) B30.5 (1982), a widely referenced national consensus standard on mobile and locomotive cranes. Since two fundamental purposes of this standard are to protect workers from injury and death, and provide employers with direction concerning mobile cranes, it therefore is not surprising to find the employer as having the greatest of all responsibilities in lifting.

This standard provides the employer with information that is essential for providing a safe workplace. A failure at this level to utilise this information and fulfill the requirements and expected responsibilities can be the creation of a potentially hazardous situation which over the years can claim numerous lives.

As outlined in this standard an employer has many responsibilities in a lift operation such as equipment selection, maintenance, and inspection, but as suggested none are as important as the selection and training of personnel and in particular the crane operators. I find it interesting that as a prelude to this selection process the standard not only states that only qualified personnel operate cranes but goes on to specify in particular who can operate cranes and in what capacity. In actuality only a designated 'qualified' operator and a trainee under his direct supervision are allowed to operate cranes in a work situation.

To further illustrate the importance of operator selection, the ANSI Standard not only tells us who shall operate cranes but additionally states that not just anyone can enter a crane cab. In fact, for someone other than the operator to do so, he must be authorised, and even then entry must be only as required by his duties and the supervisor's authorisation and the knowledge of the operator.

UNIQUE EXPERIENCE

As discussed in a previous article (Crane Today Dec/Jan 1988, p-4) cranes present special safety problems because of their versatility, possible configurations, and the different variables encountered. Operators are confronted by a multitude of experiences unique only to the crane industry. It takes a highly qualified and perceptive individual to adequately deal with and react to these often unpredictable occurrences. This statement bears significant importance, especially when we consider that the operator is held by many as being responsible for over 80% of all crane accidents. A failure here to verify operator competency can lay waste the best laid job plans. Consequently the selection of qualified operators becomes the first and foremost responsibility of the employer. Yet here is where the confusion lies and the breakdown occurs.

Employers generally feel as if their cranes are operated by competent personnel, but does the employer understand what constitutes a qualified...
operator and the process he must go through to make that determination?

Since Government regulations stop short of providing this information we again find assistance when referring to ANSI B30.5, 1982. Under the heading Qualifications for Operators we read that ‘Operators shall be required by the employer to pass a written or oral examination and a practical operating examination unless able to furnish satisfactory evidence of qualifications and experience. Qualifications shall be limited to the specific type of equipment for which examined. Operators and operator trainees shall meet the following physical qualifications.

Outlined for employers in this portion of the standard are three areas in which an operator must prove competent before he is considered qualified. A failure to demonstrate competency in any one area and the person must be considered by the employer as being unqualified to operate the crane. The first area for examination by the employer pertains to the physical qualifications of the operator. This examination is usually performed by a physician and must take into account such factors as vision, which must be of at least 20/30 in one eye and 20/50 in the other; the ability to distinguish colours; adequate hearing; sufficient strength, coordination and speed of reaction; any evidence of physical defects or emotional instability which could represent a hazard to the operator or others; and the evidence of any susceptibility to seizures or loss of physical control.

The second area to be examined by the employer is an operator’s mental competency. Although an oral examination and evidence of qualifications and experience are allowed by the standard as proof of qualifications, a more verifiable means is the use of written tests. This type of examination, if adequately designed is far more objective and fair. An oral examination generally tends to be subjective and is based solely on an evaluator’s ability to personally determine the operator’s mental qualifications without predetermined criteria.

WRITTEN EXAMINATIONS

Written examinations will reveal to the employer whether the operator possesses adequate technical knowledge and theory of operation required to operate the crane safely. It is crucial at this point for him to demonstrate his ability to make those decisions which will undoubtedly face him in the future.

Having this mental ability has always been important, but perhaps never so much as it is today. Industry demands and increased technology have resulted in crane manufacturers building sophisticated, ‘state-of-the-art’ machines, specifically designed to maximise capability. To achieve this manufacturers have not only changed the original design of cranes, but have also included in their instructions greater technical data and information which must be learned and implemented by the operator.

Also, to assume that this information and data is standard for all cranes is a mistake and unfortunately one commonly made by both employers and operators. Perhaps standardisation of crane information was more the case 20 years ago, but like it or not the crane industry is truly amidst the informational age. The problem is, crane users have not kept up with this rapid rise in technology and as a result of this failure have and are continuing to pay a great price. Additionally, the information required to utilise cranes safely and efficiently is constantly changing and is becoming more difficult to understand, thus requiring a higher level of mental competency.

However, at a time when mental competency has become a necessity we in the USA are experiencing the results of a deteriorating state school system. Jonathan Kozol, author of the best-selling book Illiterate America, states that there are approximately 60 million illiterate adults in the United States. Of this 60 million, 46 million adults are considered functionally illiterate — where they function at about a fifth grade level in basic skills. Additionally, 25 million adults can not read the front page of a newspaper or understand the warnings on a bottle of poison. Is the problem improving? Not according to Kozol, who states that illiteracy is growing at a rate of 2.5 million adults per year.

Does this have an effect on the crane industry? You bet, and we are feeling the results. In fact, illiteracy in our industry is commonplace and has been overlooked as a major cause of accidents by almost everyone — including employers. As previously discussed, the information required to operate cranes safely is more often very technical in nature, being presented by manufacturers in the form of charts as well as manuals with written instructions. A person cannot comprehend and implement this data and be functionally illiterate. To allow an illiterate person to operate cranes forces that person to disregard all written information and operate the crane ‘by the seat of his pants’, which very often results in a misuse of the equipment. This method of operating cranes presents certain dangers to the operator as well as others working around the crane. Invariably an accident will occur and the employer, because he failed to detect this operator deficiency by not requiring written examinations, will become very vulnerable in a lawsuit.

Basically the way an illiterate operator functions on the job is through familiarity. But cranes are not alike and in many cases the differences are not easily distinguished. On many job sites there are a multitude of cranes representing different types from various manufacturers. Operators are often required to operate several different type cranes in a single day, thus going from the familiar to the unfamiliar. Written tests would go far in determining whether the operator had the required mental competency to make such adjustments.

The third area identified by ANSI for examination by the employer is the operator’s practical
CRANE SAFETY

Competency. Having complied with the physical and mental requirements, the operator demonstrates his practical skills in an actual crane operation. Even though simulators are being used sparingly in this type testing, the crane still remains the most popular and economical method utilised.

Compared with the physical and mental area, determining the practical competency of an operator is perhaps the most difficult. This can be especially true if the person performing the evaluation has little or no past experience operating cranes. While extreme care must be taken in maintaining a high degree of objectivity when developing and administering these practical examinations there still remains a certain amount of subjectivity which is based on the evaluator's judgement.

A perfect example of this occurred recently when a crane instructor from our company was given the assignment of evaluating nine operators. It was the employer's policy to re-evaluate these operators on an annual basis. In fact, all nine had received scores above 90% from another company the previous year. However, upon examination, six of these operators proved unqualified, even in the basic skills and none could correctly interpret the load chart. But why had these operators previously been graded so high? The reason is simple — the first evaluator had little crane background and no experience operating cranes. He had no basis for making judgements as to an operator's practical competency, whereas the second evaluator based his valuation on years in the crane industry where he served extensively as a crane operator.

Experience is basically the only way to measure whether the crane is being operated at an adequate speed or if the operator is maximising crane efficiency. Often a slow operating speed is crucial for maintaining safety, but slow operating speeds can also be a sign that the operator lacks confidence and skill.

TWOFOLD PURPOSE

When developing these written and practical examinations we must remember that their purpose is twofold. First, these examinations are designed to determine the overall competency of the operator, for it is possible for an operator to be partially qualified. In other words, he could prove qualified to operate the crane practically, but upon examination, fail to meet the established criteria for mental competency. If operator incompetency is detected through either the practical, written, or physical examination, the safety of everyone involved demands that the operator must be considered by the employer as unqualified.

The second purpose of these examinations is to identify any deficiencies the operator may have so that corrective action can be taken. But whatever action is taken, it must go toward equipping the operator to meet those criteria established to determine his competency as a crane operator.

In conclusion, if an employer deems it necessary to utilise cranes in his operation, he has a moral obligation as well as being required by existing safety standards in allowing only competent and qualified operators to operate his cranes. There are however, other parties involved in a lift operation with responsibilities. In the next article I will discuss these responsibilities as they relate to the operator, rigger and supervisor.

James Headley serves as a member of the ANSI B30.5 Subcommittee on Mobile and Locomotive Cranes. Any interpretations pertaining to this Standard are his and do not necessarily represent those of the ANSI Committee.