



**AMERICAN NATIONAL STANDARDS
ACCREDITED STANDARDS COMMITTEE**

**ASC A92 – AERIAL WORK PLATFORMS
INTERPRETATIONS**

1986 - 2022

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Foreword

This publication provides summaries of pertinent interpretations to ASC A92 Aerial Work Platform Standards.

The Scaffold & Access Industry Association, Inc. (SAIA) does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this publication, and does not undertake to insure anyone utilizing a standard or interpretation against liability for infringement of any applicable Letters Patent, nor assume any such liability. Readers are expressly advised that the determination of the validity of any such patent rights, and the risk of the infringement of such rights, is entirely their own responsibility.

The primary objective of these interpretations is to prevent accidents associated with the use of Aerial Work Platforms through clarification of the language used to address the issues of design, manufacture, maintenance, performance, use and training contained in the standards.

Only formal requests for interpretation received in writing will receive a response. All such inquiries should be directed to the Secretariat, A92 Committee, Scaffold & Access Industry Association, 400 Admiral Boulevard, Kansas City, Missouri 64106. The A92 Committee shall approve the interpretation before the submission to the inquirer. No one but the A92 Committee is authorized to provide any interpretation of the standards.

The standards will be revised from time to time where necessary or desirable, as demonstrated by the experience gained from the application of the standards. The A92 Committee solicits comments and criticism regarding the content and wording of the standard as it relates to all issues and entities addressed. Proposals for improvement of these standards are welcome. Proposals should be as specific as possible: citing the standard, paragraph number(s), proposed wording and a detailed rationale including any pertinent documentation.

The Scaffold & Access Industry Association does not “approve”, “rate” or “endorse” any item, construction, proprietary device or activity.

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A92.2-1979

Question:

1. Should an inspector checking for “proper markings of ... instructions” under Section 6.3.1.3(13) point out the manufacturer has not provided “band of arrow” decals?

Response:

1. *Section 4.10, Markings does not specifically state that an insulation aerial device must have a “band of arrows” decal, and in fact many of these devices are not so equipped. Note that paragraph 4.10.6 does list some specific electrical markings which must be provided, and “band of arrows” is not included as a requirement. This paragraph also recognizes that users may wish to designate specific markings for their devices. If a purchaser designates the “band of arrows” be furnished on his machines and includes it on his company’s inspection check list, then an inspector would be responsible to note if it was missing.*

A92.2-1990

Question:

1. May I modify the bottom of the fiberglass platforms on our insulated aerial lifts by installing a ¼” hole in the bottom, closed with a nylon hex head bolt to drain the water on rainy days?
2. What responsibility does a dealer or installer have (if any) to obtain written approval of the manufacturer prior to making a modification?
3. Why was this provision placed under the Owners responsibilities?
4. What constitutes “hydraulic integrity”? What are the factors involved in “hydraulic integrity”? What are examples of actions which would violate hydraulic integrity”?
(8.5 Modifications. No modifications or additions which affect the stability, mechanical, hydraulic, or electrical integrity or the safe operation of the aerial device shall be made without the written approval of the manufacturer. If such modifications or changes are made, the capacity, operation and maintenance instruction markings shall be changed accordingly. In no case shall the safety factors be reduced below those specified in this standard or below the manufacturer’s design safety factors, whichever are greater. Should the original manufacturer no longer exist, an equivalent entity may approve required modification.)

Response:

1. *Section 4.9.7 does not address how a manufacturer may close a hole or passage in fiberglass platforms on insulated aerial devices. Section 8.5 requires that no modifications which affect electrical integrity or the safe operation of the aerial device shall be made without the written approval of the manufacturer.*
2. *Despite the fact that this provision appears in the owners and users section, it includes all sections of this standard.*
3. *The provision appears in the owners and users section because modifications are typically requested by this group. Dealers and installers usually are not the final owners and as such major changes should not be made by an intermediate party*

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without the consent of the owner. Dealers and installers may approve modifications in the absence of the manufacturer only if they qualify as an equivalent entity.

4. *Hydraulic integrity used in Section 8.5 refers only to those systems and components that directly affect the safety of personnel and protect the equipment from extensive damage. Among the items that would fall under this are (1) the system of holding valves that prevent the booms from dropping should there be a power or line failure; (2) the dielectric characteristics of oil and insulating hose; (3) the ability to control the various functions to position the platform; (4) the resistance to bursting of critical components under pressure; and (5) the provision for the lower controls to override the upper controls.*

Question:

1. ...It is my understanding that the meaning of the work line is hose, tubing, or any other conduit for hydraulic fluid. In other words, this requirement for appropriate devices to be present within the hydraulic system to prevent unrestricted motion of the aerial device is intended to address the possible failure of specific hydraulic system components. An alternative interpretation, which I believe is incorrect, has been offered that suggests that the word line is intended to have a more comprehensive meaning, namely, that it means the entire hydraulic system. This interpretation would require that appropriate devices be installed to guard against the failure of any and all components that comprise the entire hydraulic system...(4.8 **System Protection.** Where the operation of the aerial device is accomplished by hydraulic means, the system shall be equipped with appropriate devices to prevent motion of the platform(s) or material lifting device, or both in the event of hydraulic line failure.)

Response:

1. *Based on general usage by users and manufacturers of utility vehicle equipment, lines specifically refer to fluid conduits such as hoses and tubing used to transport hydraulic fluid, within a hydraulic system and not the entire system itself. Consider the following definitions from publications that are widely accepted in the industry:*

*Line - A tube, pipe or hose which acts as a conductor of hydraulic fluid
-Vickers Mobile Hydraulics Manual, 1979*

*Line - A tube, pipe, or hose which acts as a conductor of fluid
-Fluid Power Controls, Pippenger and Koff*

Further definition is provided from early standards established by United States of America Standards Institute, now call ANSI. They symbolically identify the components or building blocks of all hydraulic systems as either: Pumps, motors (rotary or linear), valves or lines. From these components any complex system can be constructed. Viewed as a system there is no question that a line is a component, albeit an important one, and does not include any other component(s) of the system.

Question:

1. Is the design of an upper boom without an insulated cover over the jib boom cylinder and bracket an "other hazard" to be inspected for under Section 6.3.1.3(14)?

(8.2.4(15) of ANSI/SIA A92.2-1990. If the aerial device is rated and used as an insulated device, the electrical insulating components and system(s), after a thorough inspection for lack of cleanliness and other hazards, shall be tested for compliance

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with the rating of the aerial device in accordance with one of the applicable methods and procedures as outlined in section 5.4.3 of this standard.

Response:

1. *Item (14) lists the accepted methods for checking the insulating integrity of a rated aerial device. The introductory portion simply instructs the inspector to properly prepare the aerial device for an insulation inspection by removing or correcting those things that could adversely affect the test, such as dirt (which is likely to be conductive), defective hoses, insulation cracks or damage and the likes. The tests described in (14) would not be influenced by the presence or non-presence of the insulated cover referenced. The phrase "other hazards" was not a good choice of words. A better description would have been "and other conditions that compromise insulation."*

Question:

1. In my opinion the ANSI standard regarding vehicle mounted elevating and rotating aerial devices are deficient since there are no requirements for non-conductivity between dual buckets on this type of equipment. In addition, the requirement for the over-ride control should be more stringent. The lower override control should be capable of lowering the buckets even if the upper control is destroyed.

Response:

1. Insulated aerial devices manufactured in accordance with A92.2-1979 are designed and tested to provide electrical protection from phase to ground along the length of the boom. At the platform end of the aerial device, the operator should consider the platform, its controls and all attachments to be electrically connected together. Paragraph 4.10.6 in A92.2-1979 states that "Instructional marking shall be provided for: (1) Electrical hazards involved in the operation of the machine to warn that an aerial device does not provide protection to the operator from contact with or in proximity to an electrically charged conductor when he is in proximity to another conductor." Protection of the operator against these electrical hazards required the use of established industry work practices.

Paragraph 4.5.1 of A92.2-1979 states the "Lower controls shall be easily accessible and shall provide for overriding the upper controls." This requirement implies that the control system must be intact. To require that the lower controls override the upper controls even if the upper controls are destroyed would prohibit the use of open center hydraulic systems which are and have been used by a large number of manufacturers for many years without problem.

Question:

1. What does the term "bridging" mean as that term is used in Section 3.3.4? (3.3.4 **Insulated Systems.** All components bridging the insulated portions of the aerial device shall have electrical insulating values consistent with the design voltage rating of the upper boom, and, when provided, of the lower insulator.)

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Response:

1. *Bridging is defined in part by Webster's New Collegiate dictionary as "a means of connection." Specifically applied to 3.3.4 it is the connecting of one non-insulated portion of an aerial device to another non-insulated portion across an insulating section which electrically isolates the two non-insulated portions. Any object that crosses or "bridges" the insulated section must of necessity have an insulating at least equal to the insulated section itself in order to maintain insulating integrity of the insulated section. If the insulation level of the bridge is not realized, then an alternative electrical path around the insulated section will be provided. Typical systems that bridge and insulating section in a boom(s) are: operating controls, platform leveling systems, hydraulic tools circuits and hydraulic hoses.*

Question:

1. Regarding ANSI/SIA A92.2-1990:
 - a) How can a company determine if aerial devices presently owned should be considered insulated or non-insulated?
 - b) Is it possible to have an aerial device with some components that have dielectric characteristics, but yet use and label it as a non-insulated device and consider it as such?
 - c) What authority and responsibility does the manufacturer have in determining whether an aerial device is insulated or non-insulated?
 - d) Is there a need to acoustically test a non-insulated unit? (Note that ASTM Standard F914-85 did not give consideration for AE testing of non-insulated units)
 - e) What types of testing would be recommended for non-insulated units only?
 - f) What type of certification would be required for an individual or company claiming to be qualified to test aerial devices?
 - g) Is there an approved list of independent testing companies that are known to be qualified and recommended?
 - h) In an effort to interpret and clarify standard and regulations as they apply to aerial work platforms, we would appreciate a definition of the term, "Self-Leveling Platform".
 - i) What should be the proper procedure for testing a truck labeled Category B manufactured in January 1004 that does not have a lower test electrode system?
 - j) Why is the meter receptacle illustrated in Figure 2 on page 29 and Figure 2A on page 30 not specified?

Response:

1. Regarding ANSI/SIA 92.2.1990:
 - a) *Paragraph 6.5.2 requires that the manufacturer provide a marking to indicate whether the unit is "Insulated or Non-Insulated". Examine the nameplates on the aerial devices you presently own to determine how they should be considered.*
 - b) *A common example of this are buckets which are made of plastic with dielectric characteristics yet are considered non-insulating. The A92.2 standard does not specify the materials to be used in the manufacture of an aerial device. If the device is to be considered insulated, certain electrical tests on the completed unit are specified in the standard.*

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- c) *Paragraph 6.5.2 requires that the manufacturer provide a marking to indicate whether the unit is "Insulated or Non-Insulated".*
- d) *Paragraph 8.2.4 of A92.2-1990 details the minimum inspections and tests that shall be performed during intervals ranging from 1 to 12 months. Acoustic testing is not specifically mentioned in this paragraph.*
- e) *Paragraphs 8.2.3 and 8.2.4 state the minimum requirements for inspection and test.*
- f) *The definition of a "qualified person" in A922-1990 does not mention any type of required certification. Your company will have to make the determination whether the individual or company is qualified using the definition as a guide and your own judgment.*
- g) *It is outside the scope of this committee to make such a list or recommend specific companies. We suggest that you contact the manufacturers of the aerial devices you own and other users for this information.*
- h) *The term "self leveling" is ambiguous. The term means different things to different people. Platforms may be gravity leveled, positive leveled, power leveled, hydraulically leveled or mechanically leveled. We recommend that you not use the term "self leveling". If the term "self leveling" has been used by someone else, we suggest that you contact them to get the term clarified.*
- i) *An aerial device manufactured in 1994 labeled as Category B that does not have a lower test electrode system does not meet the A92.2 criteria for a Category B machine. It is not within the charter of the A92 committee to direct you on how to proceed.*
- j) *Figure 2A is labeled as illustrative only. Standards such as A922 can refer to commercially available products only in a generic sense. Some companies utilize a seven pin socket which allows the operator to perform continuity checks of the test circuits before use. The illustration indicates that the cable from the lower test electrode system can be single "Insulated conductor or multiple conductor cable".*

Question:

1. Does paragraph 4.3.4 mandate a mechanical device that would by-pass all hydraulic fluid before it enters the directional control valves?
2. Is this intended to be part of the start/stop system or a function to stop the flow of hydraulic oil?

(4.3.4 Emergency Stop. A control shall be provided at the platform to effect an emergency stop of platform movement. This control shall not require continuous actuation for a stop condition.)

Response:

1. *ANSI/SIA A92.2-1990 is not a design standard, but is instead a performance standard. The intent of paragraph 4.3.4 is to give the operator the ability to stop the aerial device from moving in an emergency situation due to malfunction in the operating mechanisms whether they may be hydraulic, electric, pneumatic, fiber-optic, etc. The method to obtain the final objective is left to the designer of the unit.*
2. *ANSI/SIA A92.2-1990 is not a design standard, but is instead a performance standard. The intent of paragraph 4.3.4 is to give the operator the ability to stop the aerial device from moving in an emergency situation due to malfunction in the*

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operating mechanisms whether they may be hydraulic, electric, pneumatic, fiber-optic, etc. The method to obtain the final objective is left to the designer of the unit.

Question:

1. [Regarding 4.3.5 Outrigger Controls] Does this necessarily imply the duplication of outrigger controls – i.e. one panel mounted on each side of the vehicle – or is a rear mounted location considered acceptable?
2. Does an outrigger control meet the intent of this standard, if the outrigger can be seen by a person operating the control when he positions himself in one position, even though the operator may choose to position himself in a place where he cannot see the outrigger as he operates the control?

(4.3.5 Outrigger Controls. When an aerial device is equipped with outrigger controls, these controls shall be guarded to protect against inadvertent operation and shall return to neutral when released by the operator. These controls shall be located so that the operator can see the outriggers being operated.)

Response:

1. *The standard intends that the movement of all outriggers be visible from the location that controls the movement of the specific outriggers. If the requirements can be met at one control location, then all controls can be placed at the one location and satisfy the intent of the standard.*
2. *The position of the outrigger control meets paragraph 4.3.5 of ANSI/SIA A92.2-1990, provided the operator need not assume an unreasonable position in order to observe the operation of the outrigger.*

Question:

1. Is a lower winch control also required for a removable material handling winch inside the platform designed for use only by platform personnel to lift light tools and equipment without lowering the boom (capacity: 330 lb.)?

(4.3.6 Winch Control. If the aerial device is equipped with a material handling system winch at the upper boom, it shall have both upper and lower controls to operate the winch.)

Response:

1. *This section addresses the controls of any winch which is part of an aerial lift device and requires both upper and lower controls. This requirement does not apply to small capacity winches which are manually operated or powered by a self-contained source.*

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Question:

1. [Regarding 4.4.3 Platform Security] This one is very brief and could be interpreted many ways. My recommendation would be to construct a shock absorbing support for the platform to rest on during travel.

(4.4.3 **Platform Security.** Platforms shall be designed to withstand vibration and shock loading during travel.)

Response:

1. *This section states an end point requirement and leaves the decision of how to conform to the designer. There is absolutely no need to provide shock absorbing platform supports on all aerial lifts. Those with long booms may well need such "shock absorbing supports". The method to obtain the final objective is left to the designer of the unit.*

Question:

1. Assume the case of a vehicle mounted platform whose configuration includes the mandatory placement of outriggers for stability purposes. Does the stability test have to be performed after the outriggers have been placed so as to correct and level the mandated 5% test slope? In other words, is it satisfactory to prove that the outriggers are in fact capable to enable leveling on a slope of 5%, with an applied test load of 133%, or must the unit be stable on a 5% slope regardless of outrigger placement?
2. Is the machine to be placed on a 5 degree slope and then leveled as indicated in the second paragraph? Is the machine to be placed on a 5 degree slope; the outriggers extended but not used to level the lift? Does the second paragraph simply provide detailed instructions to be used in order to properly conduct the test?
3. Are the first and second paragraphs under 4.5.2 indicating two separate tests, i.e. one test on a 5 degree slope where the outriggers cannot be used and a second test on a 5 degree slope where the outriggers can be used?
4. Does paragraph 4.5.2, stability, require the vehicle to rotate 360 degrees at all angles of elevation, if capable, while on a 5 degree side slope? Specifically does the standard require the vehicle to be capable of lifting the test load towards the downward slope in the direction most likely to cause overturning?
5. If we restrict lifting to the high side of the vehicle, can we consider that to be within the definition of the specific configuration?
6. Can we restrict the use of the vehicle to level ground only and would that be considered within the definition of the specific configuration?
7. Does this require the load to be lifted in the direction of the downward slope, the direction that is most likely to cause overturning?

(4.5.2 **Stability on Slopes.** Each aerial device, when mounted on a vehicle meeting the manufacturer's minimum vehicle specifications without readily removable tools and material and used in a specific configuration, shall comprise a mobile unit capable of sustaining a static load one and one-third times its rated load capacity in every position in which the load can be placed within the definition of the specific configuration when the vehicle is on a slope of 5 degrees downward in the direction most likely to cause overturning. The load shall be applied at one and one-third times the platform(s) rated load at the center of the platform, simultaneously with one and one-third times the lifting device rated load at the point of load application in its

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position of maximum overturning moment when so equipped. If having the outriggers extended to a firm footing is part of the definition of the configuration, they shall be extended to provide leveling for the purpose of determining whether the mobile unit meets the stability requirements. If other facilities, such as a means of turntable leveling are provided to minimize the effect of the sloping surface, then those facilities shall not be utilized for the purpose of determining whether the mobile unit meets the stability requirements.

The simultaneous application of material load and platform load shall be done only on the aerial devices that are designed to be used in service with both loads applied simultaneously. Vertical towers designed specifically for operation only on a level surface shall be excluded from this requirement.)

Response:

1. *If it is mandatory that the outriggers be placed during all work operations, then the stability check can and should be made with the outriggers in place. Please note that the slope is specified at 5 degrees not 5 percent.*
2. *The answer to these questions depend upon the "Definition of Configuration" that the manufacturer will publish with the machine. If the configuration requires that the machine always be leveled prior to use, then the stability test on the 5 degree slope is performed by extending the outriggers, if so equipped for leveling. The uphill side where the outriggers do not extend fully may be the most unstable position. If the manufacturer wishes to publish a second set of ratings with outriggers simply contacting the ground (machine not leveled), he may also do this. The important issue is that the published stability be clearly identified as to the configuration in which the machine was tested.*
3. *Paragraph 4.5.2 requires only one test on a 5 degree slope for each "Definition of Configuration".*
4. *The paragraph does not require the turret to be capable of rotating 360 degrees. It does require that the stability requirements be met for all positions into which it can be rotated.*
5. *No. The stability test cannot be restricted to the high side of the vehicle. Vehicles are often reassigned or sold to second parties, and when doing conventional work could then become unstable.*
6. *No. The stability test cannot be restricted to the high side of the vehicle. Vehicles are often reassigned or sold to second parties, and when doing conventional work could then become unstable.*
7. *Yes. The load must be applied in the position in which the vehicle is most likely to overturn. Due to unsymmetrical weight distribution of the final installation or variations in the chassis components, the stability of the vehicle may vary from one side of the chassis to the other. Thus the stability of the final installation may have to be tested by the installer on all sides of the chassis to determine which side is the least stable.*

Question:

1. Do the words "open holes or passages" include a top down "U" shape exit/entry 18" wide by 20" high with safety strap?
2. Do the words "open holes or passages" include a water drain hole in the bottom of the bucket with a double trap?

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3. We have had customer requests to provide cutouts in the side of fiberglass platforms to allow operators to enter and exit without climbing over the top. Will a platform built this way meet the intentions of this section?
4. The specific issue in question is whether this statement is intended to prohibit access openings in fiberglass platforms on insulated aerial lifts. Insulated aerial lifts used for streetlight maintenance have historically used fiberglass platforms with access openings.
5. At present we are supplying polyethylene liners with all basket units. There have been holes drilled in the lip of the line and the basket and a nylon bolt inserted to keep the liner from coming out of the basket during travel. Pin-on baskets on digger/derricks give us the most problems because some of these stow in the horizontal position. I have no problem with these holes, I do agree holes in any other area should not be allowed.
6. May I modify the bottom of the fiberglass platforms on our insulated aerial lifts by installing a 1/4" hole in the bottom, closed with a nylon hex head bolt to drain the water on rainy days?

(4.9.7 **Fiberglass Platforms.** There shall be no open holes or passages in fiberglass platforms on insulated aerial devices.)

Response:

1. *"Open holes or passages" do not include exit/entry openings which are not closed with a door or cover.*
2. *"Open holes or passages" so include water drain holes that are open and not closed with a door or plug.*
3. *The section states "There shall be no open holes or passages on fiberglass platforms on insulated aerial devices." "Open holes or passages" do include exit/entry openings which are not covered with a door or cover.*
4. *The section states "There shall be no open holes or passages in fiberglass platforms on insulated aerial devices." "Open holes or passages" do include exit/entry openings which are not covered with a door or cover. The prohibition of "open holes or passages" does not apply to platforms on insulated aerial devices constructed from material other than fiberglass and does not apply to fiberglass platforms on non-insulating aerial devices. Aerial devices marked as "non-insulating" on the instruction plate(s) may be constructed using non-conductive materials.*
5. *The section prohibits "open" holes in the fiberglass bucket. Holes in overlapping lips of a line and basket are not open, providing they are occupied by bolts and nuts. Be aware that paragraph 8.5 Modifications, prohibits modifications such as holes which effect the electrical integrity of the aerial device without the written approval of the manufacturer. Digger derricks are covered under ANSI A10.31 and are not covered by A92.2.*
6. *Section 4.9.7 does not address how a manufacturer may close a hole or passage in fiberglass platforms on insulated aerial devices. Section 8.5 requires that no modifications which affect electrical integrity or the safe operation of the aerial device shall be made without the written approval of the manufacturer.*

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Question

1. For a Category B aerial device, at what voltage, if any, are conductive shields for lower test electrode systems and/or gradient control devices required?
2. Is the sole criteria distinguishing a category B aerial device from a category C aerial device the fact that a category B is equipped with a "lower test electrode system"?
3. If so, are aerial lifts manufactured prior to July 1991 (which have a lower test electrode system) required to meet the standard of 60 microamps or less at 60 kVAC?
4. If these older units are not required to meet the 60 microamp at 60 kVAC standard, at what voltage and what leakage are they required to meet?

(5.1.2 **Insulating Aerial Device Categories. (2) Category B.** Aerial devices which are designed and manufactured for work in which the boom is not considered as primary insulation, but secondary, such as that using insulating (rubber) gloves. Isolation or bonding of the conductive components at the platform is not a requirement. These shall be equipped with a lower test electrode system (Figure 2A).

Response:

1. *The manufacturer of a Category B device rated 138kV or higher is likely to equip it with gradient control device(s) in order to pass the Qualification Test listed in Table 1. When any aerial device is equipped with gradient control device(s), Paragraph 5.2.4.2 states it "shall have the lower test electrode system equipped with a conductive shield or an equivalent to reduce the capacitive coupling effect and to improve indication of resistive current." Neither paragraph 5.2.4.1, Gradient Control Devices, nor paragraph 5.2.4.2, Conductive Shield(s), list voltages or aerial device categories.*
2. *From the electrical testing point of view, the criteria distinguishing a category B aerial device from a category C aerial device is that a category B is equipped with a complete "lower test electrode system". Neither category B nor category C use the boom insulation as primary insulation. The second criteria, which does not affect electrical testing, is that all category b devices must be equipped with a vacuum prevention system. Only category C devices with a platform height greater than 50 feet must be equipped with a vacuum prevention system.*
3. *Machines manufactured prior to July 1991 having a lower test electrode system are required to meet the test criteria in the edition of ANSI/SIA A92.2 that was current at the time of manufacture. The older standards did not provide a procedure or leakage criteria using a permanent lower test electrode system when it was installed on a unit rated 69 kV and below.*
4. *These machines must meet whatever test criteria was applied prior to 1991. For aerial lifts rated 69 kV and below, the older standards provided a wide range of acceptable voltage levels for periodic testing. For example, the A92.2-1989 standard provided a minimum AC periodic test voltage of line-to-ground exposure in paragraph 6.3.1.3 (14)(c) and a maximum AC periodic test voltage of 100 kVAC with 1mA current in paragraph 5.2.2.1.*

Question:

1. Does this mean all aerial lifts without the lower test electrodes should be treated as a 46 kV lift and tested at 40 kV with a maximum leakage of 400 microamps? I ask this because I test many older lifts that have marking nameplates stating the lift is rated

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- at 69 kV yet it does not have a lower test electrode system. My dilemma is, do I test this truck at 60 kV or 40 kV?
2. It has been suggested to me that lifts manufactured prior to July 2, 1991 have been “grandfathered in under the old standards”. If this is true, what does the term “grandfathered in” mean in this case? Does it mean that I continue testing them as under the old standard, or does it possibly mean that there is a less stringent allowable leakage?
 3. If a unit is rated as a Category C aerial device, does this mean that it automatically carries a 46 kV rating? Can it be rated at some lessor voltage such as 34.5 kV? Do the design and periodic test voltages decrease per the notes under Table 1 and Table 2 or do they remain the same if the unit was a 46 kV unit?

(5.1.2 Insulating Aerial Device Categories. (3) Category C. Aerial Devices which are designed and manufactured for work in which the boom is not considered primary insulation, but secondary.

Isolation or bonding of the conductive components at the platform is not a requirement. These aerial devices are not equipped with a lower test electrode system and are designed for 46 kV and below.

Response:

1. *These machines must be tested using voltage and leakage limits that meet the requirements listed in the edition of ANSI/SIA A92.2 that was current at the time of manufacture.*
2. *Grandfathered simply means that the units manufactured prior to July 1991 are not required to be tested by this 1990 revision. You may continue to test them under the old standard.*
3. *The lowest level of insulation recognized by ANSI/SIA A92.2-1990 for insulating aerial devices is 46 kV for use on rated line voltages 46 kV and below. The interpretations committee is not empowered to write new sections to the standard or to approve new voltage ratings.*

Question:

1. We would like to know if the statement “conductive shields or equivalent to reduce the capacitive coupling effect and improve indication of resistive current” applies to Category A aerial lifts qualified for above and below 138 kV. More specifically, our attention is focused on the “or equivalent” statement, which appears in Section 5.2.4.2. but is not mentioned in 5.1.2(1) Category A.

Based on our experience, the use of shields or equivalent devices is not linked to the need for corona rings. Basically, they serve a different function and are independent from each other. Also, an equivalent device to the shield can be used in place of the shield on all Category A aerial lift devices, regardless of the use voltage.

(5.2.4.2 Conductive Shield(s). Insulating Aerial devices equipped with gradient control devices shall have the lower test electrode system equipped with a conductive shield (See Figure 2A) or an equivalent to reduce the capacitive coupling and to improve indication of resistive current.

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Response:

1. *Category A insulating aerial devices require a conductive shield or equivalent for all voltage ratings. The “or equivalent” as applied to the conductive shield is not affected by the voltage rating of the aerial device.*

Question:

1. If bucket liners are not needed for dielectric strength purposes, do they have to be tested, or can we label each liner indicating that “this liner does not provide dielectric protection and is not being tested”?

(5.4.3.5 Test Procedures for Insulating Liners. One of the following test shall be performed: (1) Platform liners used for insulation shall be tested in a conductive liquid. The liquid level around both the inner and outer surfaces of the liner shall be within 6 inches of the top of the liner. The liner shall withstand a minimum of 35 kV 60 Hz for 1 minute or 100 kV DC for 3 minutes without flashover or break-down through the material. (2) Alternate test method for platform liners is as follows: The four sides and the bottom of liner may be tested one side at a time on a test table with wet cellulose sponge, cloth towels or metal foil used as electrodes. The electrodes shall adhere closely to the entire surface inside and outside to within 6 inches of the top of the liner. Make certain that the area on all corners is tested. The bottom may be tested with approximately 2 inches of water inside and wet cellulose sponge outside. The liner shall withstand a minimum 35 kv 60 Hz for 1 minute, or 100 kV DC for 3 minutes without flashover or puncture of liner wall.)

Response:

1. *The interpretations committee could not reach a consensus response to your question. OSHA Standards should be consulted.*

Question:

1. ...Most manufacturers' weight limits are 300 pounds for the bucket. Some manufacturers include the liner (single bucket approximately 43 pounds), others do not. Let's look at a manufacturer who does include the liner in the following hypothetical case:

A 45' bucket has a manufacturer's weight limit of 300 pounds with liner, no problem. But wait a minute, a 250-pound lineman now enters the bucket, and takes a normal compliment of tools, conservatively, 123 pounds. We no longer have a safe working environment, because you have 373 pounds in a bucket designed with a manufacturer's weight limit of 300 pounds. Now let's limit the amount of tools a lineman is allowed to take up in the bucket. The lineman can only carry 49 pounds of tools, so that he can stay within the limits. Let's assume we have a job to hang an 8' cross arm. As long as it weighs less than 1 pound, you're all right, but, if it weighs 2 pounds or more, you would be over the manufacturer's weight limit of 300 pounds.

Although the scenario presented above may stretch the factors to the limit, there is a distinct possibility it could happen.

The bottom line is, we are not safety engineers, and we are not about to sit here and second guess the procedures and parameters used in developing standards.

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However, we do need a clarification on the figures cited in terms of “HOW ARE THEY TO BE INTERPRETED?”

(6.2.2.2 **CAPACITY.** Rated load is of two distinct types: (1) The Platform load consisting of the weight of personnel and all items carried on or in the platform, such as the platform liner. (2) Supplemental loads which may be fixed directly to the boom(s), or to load carrying attachments on the aerial device. The capacity rating in either case shall be designated with boom or booms and load carrying attachments extended to the position of maximum overturning moment attainable throughout full rotation. Capacities of the aerial device in other positions shall be specified separately. The manufacturer shall state all applicable ratings in the manual and on placards affixed to the aerial device. It shall indicate if these capacity ratings are based on some fixed conditions of the load carrying attachments.)

Response:

1. *Paragraph 6.2.2.2 requires the aerial device manufacturer to state in the manual and on the aerial device the “Rated Load Capacity”. Paragraph 6.2.2.2 states that one type of rated load capacity is “The platform load consisting of the weight of personnel and all items carried on or in the platform, such as the platform liner.” The user should consider the weight of personnel and all items carried on or in the platform to ensure that the total weight is in accordance with the manufacturer’s rated load capacity.*

Question:

1. We sold 36 trucks and we have a purveyor of cranes FEHSA group, certainly we do not sell cranes, but we have to give full service to the customer in all their equipment. Those 36 units were sold with Category “C” ANSI 92.2-1990. Our customer (LYFC) told us that the cranes don’t pass the test of the Aerial Devices for 46 kv Category “C”/ANSI Norm, they done the test to the two booms (up boom and down boom) but we have a copy of the ANSI Norm and have not founding specifically in where is established that we have4 to proof the Down Boom? So should we have to apply the test in the down boom or only in the up boom?

Response:

1. *Various sections of A92.2-1990 (see 5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.3.5) and in ANSI A92.2-2001 (see the same numbered sections as in A92.2-1990) call for dielectric testing of the insulating upper boom of insulating aerial devices. There also requirements in A92.2-1990 (5.4.2.4) and A92.2-2001 (5.4.2.4) that call for dielectric testing of chassis insulating systems if they are present. Neither the A92.2-1990 nor A92.2-2001 requires that insulating aerial devices have chassis insulating systems. [See Section 5.2.5 in both the 1990 and 2001 editions to gain this understanding; we quote ‘aerial devices **with** (emphasis added) a chassis insulating system...’ We note that the drawing attached to the email communication was a facsimile of Figure 3A in the A92.2-1990 standard (and similarly in A92.2-2001) that is an optional test configuration for Category C aerial devices. We assume this illustration was for purposed of explanation of what the questioner was calling the ‘Up’ and ‘Down’ boom. It should be noted that Figure 3 and Figure 3A either can be used for testing of the upper boom of the aerial device and Figure 4 is illustrative of the test*

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positions for testing of units with the chassis insulating systems that are in most cases a part of the 'lower' boom.

Question:

1. I am concerned with the visual and/or audible safety warning devices which would tell an operator/user that one of the outriggers had been taken up and would preclude the hydraulic/electrical system from allowing the boom to be lifted into the air. I believe this type of system can either be accomplished through a hydraulic bypass, flashing lights or an audible sounding system device that would either preclude movement or warn of unstable condition.

(6.3.1.2 Frequent Inspection and Test. Items such as, but not limited to, the following shall be inspected for defects at intervals as defined in 6.3.1.1(2)(a) or as specifically indicated, including observation during operation, for any defects which might appear between regular inspections. These tests and inspections may be performed by the operator; any suspected items shall be carefully examined and determination made by a qualified person as to whether they constitute a safety hazard. All unsafe items shall be corrected before further use. (3) Visual and audible safety devices for malfunction.)

Response:

1. *Paragraph 6.3.1.2(3) which you referenced in a part of the maintenance section. Its purpose is to remind maintenance forces that audible alarms and shutdown devices can and do fail, and as such, must be checked on an ongoing, scheduled basis.*

You are correct that any number of visual or audible "safety" warning devices can be placed on an aerial lift, with or without associated system shutdown devices. Design and installation of such systems are readily accomplished, and in fact, when considered as a part of the entire machine, are inexpensive from an initial cost point of view. Obviously then, there are concerns other than cost that account for the relatively few machines equipped with extensive numbers of warning devices of the type you described.

At the present time, there are no rules in A92.2 that mandate such devices on either boom or outriggers. To date, the committee has received no strong signals to alter the posture of the A92.2 regarding alarms of the type you describe in your letter. The committee is following a more fundamental approach to assuring personnel safety by being more explicit and stringent in outlining the duties of the operators and maintenance forces. It is felt by most that concentrating on these two areas will provide more effective long term safety for the operator than reliance upon electromechanical devices which often act as crutches and generate a sense of security which, in reality, does not exist. The safest environment appears to be the well-trained operator using a well-maintained machine that is unencumbered by redundant alarms.

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Question:

1. What qualifications are required of the person training trainees? What records must owners and users keep of such training?

(8.12 Training of Operators. Each trainee shall be instructed in the safe and proper operation of the aerial device utilizing the manufacturer's operator's manual, the user's work instructions and the appropriate standards referenced in Section 2. Such training shall include "hands-on" use to successfully demonstrate the trainee's proficiency to the satisfaction of the qualified person designated to administrate the user's training program.)

Response:

1. A92.2-1990 does not address the qualifications of the trainer or the maintenance of records. OSHA Standards should be consulted for all such requirements. For electric utilities see OSHA 1910.269 ELECTRICAL POWER GENERATION, TRANSMISSION AND DISTRIBUTION.

Question:

1. **Section 4.8 System Protection.** Where the operation of the aerial device is accomplished by hydraulic means, the system shall be equipped with appropriate devices to prevent motion of the platform(s) or material lifting device, or both, in the event of hydraulic line failure. This requirement does not apply to properly guarded metallic tubing installed between a holding device and the cylinder.

My interpretation would be that some device is required to prevent the platform from moving even a small amount upon rupture of a hydraulic line. It further seems to indicate this is generally accomplished with a valve, attached to the cylinder with guarded metallic lines, which establishes a hydraulic lock on the cylinder if a rupture occurs. The Section 4.8 requirement does not seem to be met by a mechanical stop, which limits the drop of the platform to a distance of two ladder rungs (approximately 28 inches) or less.

Response:

1. We do not normally issue interpretations on older versions of the Standard when a newer version is in existence. However, as your letter predates the publication of A92.2 2009 we will respond to your request.

Your request contained two questions related to section 4.8 System Protection.

You asked whether "some device is required to prevent the platform from moving even a small amount upon rupture of a hydraulic line."

For a hydraulic powered device, Section 4.8 requires the system shall be equipped with appropriate devices to prevent motion of the platform.

As you mentioned in your letter, a cylinder mounted hydraulic holding valve is one type of appropriate device envisioned by the standard. Such systems may allow a small amount of platform motion that was not meant to be prohibited.

You also asked if this requirement can "be met by a mechanical stop, which limits the drop of the platform to a distance of (approximately 28 inches) or less."

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This requirement can be met with a mechanical stop. Given the limited amount of information available we cannot provide an interpretation of the distance "28 inches or less"

Question:

1. In the A92.2-2001 standard, paragraph 4.3.4 states that an additional control shall be provided at the platform and the lower controls to effect an emergency stop of the powered upper control functions.

We have several aerial devices that are covered by this standard that do not have the emergency stop feature on the platform. These trucks were also manufactured prior to the standards release date. In the A92.2-2001 standard the second page states that "The design and manufacturing requirements of this standard apply to all aerial platforms manufactured on or after the effective date. All other provisions of this standard apply to both and new existing units delivered by sale, lease, rental or for any form of beneficial use on or after the effective date".

Since the requirements in question are in the design section, should we apply them to older aerial platforms. Were the design requirements of paragraph 4.3.4 in previous revisions? Some of the aerial platforms we inspect that are covered by A92.2-2001 were manufactured in the late 1970's.

Response:

1. *As stated in Section 1.4, the 2001 revision was intended to apply only to aerial devices manufactured after the effective date of that revision. In any case, the design requirements which include Section 4.3.4 "apply only to aerial devices manufactured after the effective date of this revision." Consequently, the requirement for an additional control at the platform and lower controls to effect an emergency stop of the powered upper control function exists only for aerial devices manufactured after the effective date of the 2001 revision of A92.2. The 1990 revision of the standard required a control at the platform to effect an emergency stop of platform movement. Prior revisions had no requirement for an emergency stop control.*

A statement inadvertently placed in the "boilerplate" inside cover of the A92.2-2001 conflicted with Section 1.4 in the normative portion of the Standard. Application was, and remains addressed in Section 14. For information, later A92 standards have removed this point of confusion as will the next revision of A92.2.

Question:

1. ANSI A92.2 Section 8.2.3 (Frequent Inspection and Test) "Items determined by the owner in accordance with the manufacturer's recommendations for each specific aerial device shall be inspected for defects.

The following test and inspections shall be performed by the operator once daily, prior to first use: At our company we have combined the daily inspection of the chassis as mandated by DOTFMCSR and the daily inspection of the aerial device into one inspection form.

The question was raised if we complete this once daily inspection of the chassis and aerial device at the end of the day; will this satisfy the ANSI A92.2 requirements stated above? In other words, can the operator for the next day begin to use the aerial device

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based on the prior days end of day inspection, assuming the aerial device was not used between those two times?

Response:

1. *Section 8.2.3 of the ANSI A92.2-2001 concerning frequent inspection and test of aerial devices does not address the time of day an inspection prior to use is made. The Standard is not interested in the time when the inspection is made, only in the intervals between inspections. The following is excerpted for that section: "...once daily prior to use." Since "prior" is not prefaced with the word "just", no time constraint seems intended.*

Question:

1. Section 4.8 of the ANSI/SIA A92.2 Standard covers System Protection. In this section there are requirements for system protection relating to hydraulic failure for hydraulic actuating systems and electrical failure for electrical actuating systems but I cannot locate any mention of the requirements for system protection relating to mechanical actuating systems. Does the standard address this issue? If yes, where?

Response:

1. *A92.2 does not contain equivalent requirements for mechanical actuating systems as it calls for in Section 4.8 for hydraulic or electrical actuating systems. Section 4.8 was crafted out of concern for uncontrolled motion in the event of damage or failure of control lines, supply lines or circuits.*

Question:

1. Upon inspection of a newly purchased boom truck at maximum basket capacity with the lower boom vertical and the upper boom at 90 degrees, we noticed that the upper boom would drift down several inches over a period of an hour.

Since our work is usually around vital antenna dishes, we have other boom trucks that do the same work and have no drift. Is there a standard through ASME that specifically spells out that no downward drifting is allowed when this equipment is utilized?

Response:

1. *A92.2-2001 does not specifically address allowable "drift" of a boom. Section 8.2.4 (9) in the A92.2-2001 requires a periodic inspection or test be conducted (of) **"Hydraulic and pneumatic cylinders and holding valves for malfunction and visible damage"**. Likewise A92.2-1990, that could conceivably be the standard in effect for the subject machine, had the same requirement in Section 8.4.4 (8).*

Question

1. 4.2
Max. 50% of minimum yield strength of material. Is this the case for the stress appearing from the load of proper weights and admissible load in the basket (without further additional loads)?

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When setting up the lift on a 5-degree slope, is it then permissible to align the lift as much as possible by the stabilizers?

4.5.1

This is clearly for lifts with identical, admissible load in the complete working area. If the lift is a telescopic lift with load torque limitation, is it then permissible to load the basket with 25% overload, carry out the dynamic test, then place the basket into the worst position and finally load the remaining 25% overload?

Response:

1. The 2001 Standard quoting from its Purpose (Section 1.2) 'applies to the establishment of criteria for design, manufacture, testing, inspection, maintenance, use, training, and operation of vehicle-mounted aerial devices'; it is not a comprehensive design guide for the designers and manufacturers of such aerial devices. In reply to the specific questions we advise:

As to Section 4.2

For ductile material, the calculated design stress shall not be more than 50% of yield or 20% of ultimate for brittle material and fiber reinforced plastic based on the following:

- The rated load capacity of the platform and material carrying attachments (if applicable)*
- The weight of the support structure*
- Stress concentrations*
- Dynamic loading including those produced during travel or mobile operation (if permitted)*
- Operation on a 5 degree slope.*

The calculated design stress during operation on a 5 degree slope may consider the use stabilizers to level the aerial device if their use is required by the manufacturer.

As to Section 4.5.1

This section defines a proof test to be performed on every completed aerial device. A load of 1.5

times the platform load plus 1.5 times any lifting attachment supplemental capacity shall be applied for each specific configuration. These loads may vary for each specific configuration as defined by the manufacturer and certainly vary if a load torque or moment control system is utilized. The test must be performed based on the load resulting in the highest overturning moment and rotated through the least stable position. The test sequence(s) are immaterial and accordingly are not specified in 4.5.1.

Question:

1. My question pertains to paragraph 6.9 of ANSI/SIA A92.2-2001 "...All welds whose failure could result in motion of the platform(s) shall meet the structural welding code ANSI/AWS D1.1 and D1.2". Does this include the hydraulic cylinders as well as the structure? ANSI/AWS D1.1 states very clearly that the code does not apply to pressure vessels or pressure piping. Hydraulic cylinders are considered a pressure device whether it is a vessel or piping is yet to be determined, but the cylinders are under pressure when in use.

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Response:

1. It is **not** the intent of A92.2 to apply the ANSI/AWS D1.1 and D1.2 welding standards to hydraulic cylinders as a pressure vessel. These two welding standards are essentially construction standards applicable to structural components used in the manufacturing of a final product, which, in this case, is a vehicle mounted rotating and elevating aerial device.

It is the intent of A92.2 to apply ANSI/AWS D1.1 and D1.2 to the attachment points on a hydraulic cylinder, which may be welded to the rod and/or blind end of the cylinder. These structural welds are essentially unrelated to the cylinder as a pressure vessel. Welds may be subject to loads as a pressure vessel and/or as a structural component. Consequently, a variety of standards may be applicable to a hydraulic cylinder to address all aspects of concern. Additional Requirements for hydraulic cylinders are provided in ANSI/SIA A922-2001, Sections 4.6 and 4.7, the latter also referencing Section 4.2.

***A92 is not for cylinder design. It is up to the cylinder manufacturer to know the appropriate standards.*

Question:

1. We have bought from ANSI Website the official document, but we have yet some doubts. We have made the necessary burst test (section 4.6 bursting safety factors) but we don't understand how to qualify our hoses for the electrical requirements (Section 5) because the document explains how to qualify the entire device, not each component. We have read the section 5 and the related tables and appendix and then we have some questions for you:
 - Is it possible (and necessary) to qualify an hydraulic hoses for electrical requirements in the A92.2 -2001 standard or the standard concerns only the entire device?
 - Our hoses meet SAE J517 standard: leakage current < 50 microampere when 75 KV / feet (250 KV/meter) are applied. Is this sufficient? If this is not sufficient:
 - How do we perform a test for our hoses? (Length of the sample, V(rms) applied, time of test, etc.). Is it necessary to use the same parameters of the entire device test?
 - Do you know laboratory that performs these tests?

Response:

1. The ASC Subcommittee does not approve products for compliance to the A92.2 Standard further the A92.2-2001 Standard is silent on the requirements of the dielectric qualities of the hydraulic hose used in insulating aerial devices only specifying requirements for completed aerial devices.

Question:

1. "Regarding A92.2-2001: Clarification is needed as to whether both AC and DC tests are required for routine maintenance testing of category 'C' Aerial Devices"; the interpretation committee of the A92.2 Subcommittee has crafted the following response:

Response:

1. "Section 8, Responsibilities of Owners in 8.2.2 (2) delineates that there are to be periodic inspections and tests that take place at one to twelve month intervals. In Section

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8.2.4 (16) there are outlined requirements for dielectric testing of components of aerial devices that are used as insulating aerial devices, in particular that section says, "the electrical components and systems shall be tested in accordance with **one [emphasis added]** of the applicable methods and procedures outlined in Section 5.4.3....". Further in Section 5.4.3 a test according to Table Two is outlined as a possibility. Table Two then allows a test using either AC or DC current. Accordingly we conclude that the use of either AC or DC tests outlined in Table Two meet the requirements of 8.2.4 (16) and that both tests are not required."

A92.2-2009

Question:

1. The lower controls of the insulating aerial devices shall be designed in such a manner that an operator is not placed in the electrical path between the aerial device and the ground. Does this mean that the controls can't be physically touched or operated from the ground and thus cannot be an umbilical cord lower controls? Can you give us an example?

Response:

1. *The Standard Section 4.3.3 does not prohibit umbilical cord lower controls. However when provided they "shall be designed in such a manner that an operator is not placed in the electrical path between the aerial device and the ground*

Question:

I am an Equipment Engineer with the California Department of Transportation. I am looking for an official interpretation of a section of ANSI A92.2 for aerial devices. My questions are regarding section 4.3.5 - Outrigger Controls, which states "The controls shall be located so that the operator can see the outrigger being operated."

1. Is looking beneath the vehicle to the outrigger on the opposite side of the unit considered a sufficient view?
2. Can mirrors be installed and used to indirectly "see the outrigger being operated"??
3. Can the requirement be satisfied by the use of a signalperson who can "see the outrigger being operated" and signal to the operator at the controls?

Response:

1. *A92.2 2009 States:*

4.3.5 Outrigger Controls. *When the aerial device is equipped with outrigger controls, these controls shall be guarded to protect against unintentional operation, and shall return to neutral when released by the operator. The controls shall be located so that the operator can see the outrigger being operated.*

The language in this section requires that the operator can see the outrigger being operated from the controls. Mounting the outrigger controls in a location that then requires an operator to look beneath a typical motor vehicle

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to the outrigger on the opposite side would not meet the intent of the standard.

1. *Depending on how the vehicle and unit are designed, permanently installed mirrors or other remote vision devices may be aids through which the operator can see the outrigger being deployed. If the design uses such devices to meet the requirement, they would be subject to **6.6 Mechanical Tests and Inspection. 6.6.1 Operational Tests.** during Manufacture and **8.2.3 Frequent Inspection and Test.** during Use.*
2. *As **4.3.5** requires the operator see the outrigger being deployed, and the Section is within **4. Design Requirements, 4.3 Controls.**, a signal person would not meet the intent of the standard.*

Question:

1. Accept this as our official request for interpretation on ANSI/SIA A92.2 – 2009 Section 4.3, sub-section 4.3.3 as it relates to the lower controls of an insulated aerial device and the placement of ground accessible controls. Our concern is that by providing ground accessible controls, there is still a possibility that an operator could access them without standing on an isolation platform. Under that scenario, do the ground accessible controls need to be placed so that they cannot be accessed from the ground? In other words, placed high enough that an average height person could not reach-up and utilize the controls.

Response:

1. *With reference to your question regarding A92.2 2009 section 4.3.3 Lower Controls “as it relates to the lower controls of an insulated aerial device and the placement of ground accessible controls.”*

You asked do such controls “need to be placed so that they cannot be accessed from the ground? In other words, placed high enough that an average height person could not reach-up and utilize the controls?”

*The Standard Section 4.3.3 does not require ground accessible controls. Readily accessible lower controls are required, and on insulated aerial devices they “shall be designed in such a manner that an operator **is not placed in the electrical path** between the aerial device and the ground”. The standard does not require that such controls be designed so that they are inaccessible from the ground.*

A92.2-2015

Question:

1. With regard to ANSI A92.2 Section 4.2 you asked: When considering the effects of the above mentioned factors, does the standard require that the effects of some or all of the above factors be additive?

and,

Does consideration of the effects of the listed factors add to or

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subtract from the structural safety factor "based on the combined rated load capacity and weight of the support structure."

Response:

1. *Some of the mentioned factors are loads the effect of which must be considered in addition to the combined rated load capacity and weight of the support structure. Some are conditions to be assumed or considered during the analysis. After considering or including the effects of the mentioned loads and conditions in the analysis, the calculated design stress shall be as stated in the standard.*

Question:

1. **7.6 Ingress/Egress.** Do the requirements of section 7.6 apply to the aerial device itself, or only to the structures to which an aerial device would be mounted?

Response:

2. *Section 7.6 Ingress/Egress is found in Section 7. Responsibilities of Dealers and Installers. It is not contained in the aerial device design portion of the Standard, section 4. Design Requirements. The Ingress/Egress section is, more specifically, not contained in section 4.9 Platforms. Thus, according to A92.2 2015, this section does not apply to the platform itself. It applies to the installation of the aerial device, to allow ingress/egress to and from the platform access location and areas required for operation of the aerial device such as lower controls.*

Question:

Is Tutus correct that "as a company, does not directly interact with aerial devices," there are "no duties or responsibilities imposed by the A92.2 Standard" on the company?

- a. If not, how is the company classified as an entity with regards to the "requirements mandated in the Standard?"¹

Response:

Whenever an individual or organization adopts or performs any requirement(s) set forth in A92 standards for manufacturers any entity (i.e. manufacturer, dealer, owner, user, operator, lessor, lessee and Broker) they assume those responsibilities.

Question

2) What are the criteria / qualifications for defining and determining "an equivalent entity" to issue a "written approval ... [for] required modification?"¹

¹ Ibid., §8.5 – Modifications.

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Answer

*Equivalent Entity is a defined term in **Section 3, Definitions** of the A92.2 Standard as set forth below:*

Equivalent Entity. *An organization, agency, or individual who, by possession of an appropriate technical degree, certificate, professional standing, or skill, and who, by knowledge, training, and experience, has demonstrated the ability to deal with the problems relating to the subject matter, the work, or the project.*

Question

3) Since the ability of “an equivalent entity” to “approve required modification,” is contingent on the question of if “the original manufacturer no longer exists,”² is an “original manufacturer” obligated to respond to inquiries requesting “the written approval of the manufacturer”³ for “a required modification?”⁴

a. If so obligated, what are the:

i. requirements ensure objective determinations, i.e. does a rejection have to include:

1. state the testing procedures utilized in the determination,
2. identifying which of the “stability, mechanical, hydraulic, or electrical integrity or the safe operation of the aerial device”⁵ is being affected,
3. specify how the modification is affecting the aerial platform,
4. quantify or qualify the effects, and the acceptable tolerance range.

ii. designations of limits acceptable for responding with a timely determination,

iii. enforcement mechanism and penalties preventing non-compliance, and/or oversight committees/agencies for disputes/appeals.

b. If not so obligated:

i. Which entities have authority to provide a response to an inquiry for “a written approval of a required modification?” and

ii. When would such authority transfer from a non-responsive “original manufacturer?”

iii. To what degree is such transfer of authority permanent, i.e. is it with respect to:

1. all authority of the original manufacturer, as if the non-responsive manufacturer no longer exists for approval purposes under the Standard,

² Ibid.

³ Ibid.

⁴ OSHA 29 CFR 1926.5029(j)

⁵ ANSI A92.2, §8.5 **Modification** – No modifications or additions that affect the stability, mechanical, hydraulic, or electrical integrity or the safe operation of the aerial device shall be made

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2. only authority concerning the approval category for which the manufacturer was non-responsive, i.e. any modification or alteration approval,
3. only authority for the particular issue with respect to the non-responsive manufacturer, i.e. any similar modification or alteration, or
4. only for the single inquiry to the non-responsive manufacturer, i.e. only the specific approval requested can now be addressed by another entity, or
5. some other determination / criteria, i.e. manufacturer must implement ASC approved procedures preventing future non-responsiveness before approval authority will be re-vested?

Answer

With respect to Section 7.5 Installations, Section 8.4.2 Welds and Section 8.5 Modifications, the use of an "equivalent entity" is predicated upon the original manufacturer no longer existing. The Standard does not place any obligations upon a manufacturer to respond to requests for written approval of modifications to MEWP. Nor does it place any obligations on the form of a response, when one is made by a manufacturer.

The Standard does not contain language passing authority from an existing manufacturer to an equivalent entity in the event that manufacturer is not responsive.

Section 8.2.1 Initial Inspection and Test is the only section which contains provisions for an equivalent entity, without predication on the original manufacturer no longer existing. In that section an equivalent entity can provide Certification that a new or modified MEWPS has been inspected and tested to ensure compliance with the provisions of the Standard. However, the provisions of the Standard include the requirements of Section 8.5 Modifications.

Question

Under section 8.2.4(16), the standard states that it is the responsibility of the owner to inspect electrical insulating components and systems when devices are rated as being insulating. It then goes on to state that "these components and system(s) shall be tested for compliance with the rating of the aerial device in accordance with one of the applicable methods and procedures as outlined in section 5.4.3 of this standard".

- o Does this mean that performing only one of the following tests satisfies the conditions of this requirement, no matter how many insulating components said device may have? ▪ 5.4.3.1 – Test Procedures for Category A and B Insulating Aerial Devices
- ▪ 5.4.3.2 – Test Procedures for Category C, D, and E Aerial Devices
- ▪ 5.4.3.3 – Test Procedures for Aerial Ladders and Vertical Towers with Insulating Boom Sections
- ▪ 5.4.3.4 – Test Procedures for Chassis Insulating Systems
- ▪ 5.4.3.5 – Test Procedure for Insulating Liners
- ▪ 5.4.3.6 – Test of Upper Control Components with High Electrical Resistance
- ▪ 5.4.3.7 – Test Procedures for Extensible Boom Aerial Devices without Permanent Electrodes or with Electrodes and Tested as a Category C Device
-

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Answer

No. As you note in your question, the standard requires “these components and system(s) shall be tested for compliance” which is plural. Thus, each of the components or systems shall be tested in accordance with the requirements of 5.4.3 as the unit was manufactured.

Question

Can a unit that has been labelled as a Category B device by the manufacturer, but without being equipped with a lower test electrode, be electrically tested as a Category C device and satisfy any electrical testing requirements set forth by section 5.4.3.2, or any other requirements described within this standard?

Answer

*No. Per the requirements of the standard, Category B. aerial devices which **are** equipped with a lower*

test electrode system and shall be tested consistent with 5.4.3.1 Test Procedures for Category A and B Insulating Aerial Devices. The requirements of 5.4.3.2 are for Category C aerial devices and the aerial device is stamped Category B. The aerial device will require the lower test electrode replaced/installed and qualified as a Category B per 5.4.2.1 Table 1, then subsequent periodic tests per 5.4.3.1. It is possible the aerial device could be rerated and qualified to 5.4.2.2 as a Category C or D without a lower test electrode system and tested per 5.4.3.2 for subsequent periodic tests. If modified to a Category C or D, refer to sections 5.1.2(3) Category C, 5.1.2(4) Category D, 4.10 Covers, and 8.5 Modifications.

Question

It is not described in any of the test methods under sections 5.4.3.1 or 5.4.3.2 that if a unit is equipped with an Insulating Platform Liner, the liner shall be in place while testing is being performed; but, it does describe in section 5.4.3.1 that a non-conductive platform for Category A devices shall have the metal liner installed and bonded prior to test. Please clarify as to whether an Insulating Platform Liner shall be in place before electrical testing of the upper boom is conducted; or, whether removing this liner negates the validity of this electrical test.

Answer

The standard does not require an insulating liner be in place while performing a dielectric test. When an aerial device is equipped with an insulating liner it is subject to the requirements of 5.4.3.5 Test Procedures for Insulating Liners.

Question

When the wording “All conductive material at the upper end of the insulating boom shall be electrically bonded during the test” is used in sections 5.4.3.1 and 5.4.3.2, does this mean that any hand tools (i.e. open end/box end wrenches, screwdrivers, manual/battery operated crimping tools, etc.) used by operators during normal line work that may be present during time of testing shall also be electrically bonded during the test; or, shall these tools be removed from the platform before testing begins?

ASC A92.2 Vehicle-Mounted Elevating and Rotating Devices

Answer

Tools in the platform are not specifically covered by the standard. So, the conductive tools should be removed or bonded as the standard states, "All conductive material at the upper end of the insulating boom shall be electrically bonded during the test"

Question

When performing a periodic di-electric test on the upper boom of a category A or B Aerial Lift Device, is it acceptable to attach a current return cable, shielded or not, to the bulkhead or test band on the upper boom, and still meet the requirements of section 5.4.3.1?

Answer

No. 5.4.3.1 states (9) The current meter receptacle shall be connected through a shielded cable to a current meter (when used) and then to ground.

Question

Is it required to use the meter receptacle to derive the current leakage in the testing of the upper boom, when testing in accordance with sect. 5.4.3.1(11)(a) or 5.4.3.1(11)(b)?

Answer

Yes. 5.4.3.1 (11) (a) and (b) are alternative test procedures performed after the requirements of 5.4.3.2 (1)-(10) are met and test connections follow Figure 1-Dielectric Test Configuration for Category A&B Aerial Devices.

ASC A92.3 Manually Propelled Elevating Aerial Platforms

A92.3-1990

Question:

1. ANSI Standard A92.3 devotes sections to the responsibility of manufacturers, dealers, owners, users, operators, lessor & lessees. When the situation arises that the manufacturer is selling directly to the owner, what level of responsibility is assumed by the manufacturer?

Response:

1. *When a manufacturer sells directly to an owner, the manufacturer assumes the responsibilities of both manufacturer and dealer.*

Question:

1. In reference to Section 4.2, Structural Safety Factor, I see that you have moved the requirement for wire rope and chain into this section. Is it now intended that the structural safety factor calculation outlined in Section 4.2.4 now applies to the 8 to 1 safety factor for the wire rope or chain system? Formerly, the wire rope or chain lifting system safety factors were in an entirely different section and were not included under structural safety factors.

Response:

1. *Paragraph 4.2.4 does not apply to paragraph 4.2.3. Paragraph 4.2.4 only applies to paragraphs 4.2.1 and 4.2.2.*

Question:

1. In reference to Section 4.8.2.1 (5), is it the intention of the wording of the paragraph to require two hand control at the platform?

(4.8.2.1(5) Upper Controls....(5) Include a control that must be continuously activated in order for upper controls to be operational and that automatically returns to the off position when released.)

Response:

1. *It is not the intent of the standard to suggest or require a particular method of meeting the requirements of paragraph 4.8.2.1(5).*

Question:

1. Sections 4.9.2.2, "Top Rail" and 4.9.5 "Attachment Points" seems to exclude the use of a gate in the railing system, unless a fall protection device is used. Is this the intention of this wording?

Response:

1. *If a gate is a part of the guardrail system, it must meet the requirements of paragraph 4.9.2. Paragraph 4.9.2.2 refers only to the height and strength of the top rail. Paragraph 4.9.5 simply states the only condition that requires the installation of an attachment point.*

ASC A92.3 Manually Propelled Elevating Aerial Platforms

Question:

1. In reference to Section 5, it is quite common in this industry for the ownership of this type of product to pass directly from the manufacturer to the owner-operator without an intermediate dealer or distributor. In these cases, upon which party do the responsibilities outlined for dealers fall. Specifically, those requirements outlined in Section 5.6 "Training." Is it the intention of this standard to require that a dealer be involved in all transactions?

Response:

1. *It is not the intent of Section 5 that a dealer be involved in all transactions. If a manufacturer or other party assumes the role or function of a dealer, then that party shall be responsible for meeting the requirement of Section 5.*

Question:

1. In Section 6.4(1), Frequent Inspections, reference is made to servicing the unit every 150 hours. Does this require the inclusion of an elapsed time meter on this type of product, and if so, should this requirement be included somewhere in Section 4?
(6.4 Frequent Inspection. The owner of an aerial platform shall cause a frequent inspection to be performed on an aerial platform...(l) That has been in service for 3 months or 150 hours, whichever comes first.)

Response:

1. *In reference to Paragraph 6.4, the standard does not require the aerial platform be equipped with an elapsed time meter. The number of hours the aerial platform is used could be calculated from the operating records of the owner.*

Question:

1. Paragraphs 7.11.1 and 8.10.1 seem to prohibit the use of extension devices on window washing tools. Often window cleaning on an aerial platform requires an extension tool as the platform cannot get as close to the building as required. Without an extension tool, a window cleaner may be leaning out over the platform to do his work, creating a possible dangerous situation.

(7.11.1 Personnel Footing. Personnel shall maintain a firm footing on the platform floor while working thereon. Use of planks, ladders, or any other device on the aerial platform for achieving additional height or reach shall be prohibited.)

Response:

1. *This language does not prohibit the use of extension devices on washing tools or the use of other comparable products designed to enhance the effective working area of personnel on the platform. The language in the standard prohibits the use of planks, ladders, or any other device to achieve additional height or reach of the footing. The language does not restrict the use of extension tools – merely footing on anything other than the platform.*

Question:

1. In the definition sections, you have included a definition for "Interlock". Also, the term "Interlock" is used in Section 7.11.4 and 8.10.5. I have been unable, however, to find

ASC A92.3 Manually Propelled Elevating Aerial Platforms

any reference to an interlock in the body of the standard. Is it your intention to include a requirement for interlocks in a future standard edition of this standard or is there some section of the current standard which requires some sort of interlock that I have overlooked

(7.11.4 Altering Safety Devices. Altering or disabling of interlocks or other safety devices shall be prohibited.)

Response:

1. *Paragraphs 7.11.4 and 8.10.5 are a part of the body of this standard. If a manufacturer chooses to use interlocks, paragraphs 7.11.4 and 8.10.5 prohibits altering or disabling these interlocks.*

The definitions are incorporated in the standard to ensure a uniform understanding of terms used anywhere within the standards text.

Question:

1. Section 7.3.3 Pre-start Inspection, each states, "Before use each day or at the beginning or each shift, the aerial lift shall be given a visual inspection and functional test..."
Is it the intent of this statement that the lift is only required to be inspected once each 24 hours, once each work day or once each shift? Some personnel feel that their shift is their day. Hypothetically, is a pre-start inspection conducted at 8 AM still valid for the next shift at 4 PM or are personnel on the next shift required to conduct another pre-start inspection to cover their work day?

Response:

1. The intent of this section is that an inspection should be conducted per the manufacturer's requirements each time there is a shift change. If there is only one shift per day, the inspection would be conducted at the beginning of that shift once a day. More than one shift requires inspections equal to the number of shifts conducted by each successive operator. Additional inspections may be required depending on operating conditions and the severity of the environment according to section 7.3

Question:

1. Does the type of equipment shown in the attached diagram on fall within the intended scope of A92.3?

We believe that the term "aerial platform" was not intended to be applied to equipment like our example. However, the definition stated in the Standard is general in nature and it could be applied.

The examples included in the Standard, Figure 1, are not similar to the types of platforms we use in aircraft production. Significant differences between our platforms and typical A92.3 type equipment include:

The platforms are not raised or lowered while personnel are on the platform.

ASC A92.3 Manually Propelled Elevating Aerial Platforms

All platforms are uniquely designed for aircraft production and used only by our employees. The platforms are not sold, rented, or leased to the public or our airline customers.

The platforms have articulating stairs that guarantee a safe egress route from the platform for emergencies and power failures.

The amount of vertical travel is usually 3 feet or less, and the platforms do not lower to the ground to pickup personnel. Height adjustment is only used to match the elevation of the aircraft, either the doorways or other external surfaces. The elevation mechanism is usually an acme screw system with self locking ratios to prevent downward drift. A separate guide system is employed to prevent side loading of the vertical drive screws.

While the scope of A92.3 includes the statement “... to position personnel ... at work locations”, we frequently use these types of platforms as staging to provide a deck area outside the aircraft for loading of material and parts into the aircraft.

Since our business is not construction, ANSI A10.8, “Construction and Demolition Operations, Scaffolding, Safety Requirements” is not applicable.

Reason for interpretation request,

While many provisions of the Standard are applicable to our elevating platforms, we believe several provisions are not applicable and are burdensome to include in our design, testing, use, and inspection processes.

Examples:

The platform deck areas are often quite large, usually over 150 sq ft, even with a low floor load rating of just 25 lbs per sqft, we have very high rated loads. For a 150 sqft deck the rated load would be 3,750 lbs, this leads to issues with the load tests.

Horizontal Load Test, Applying a 15% horizontal test load, 560 lbs, for a stability check seems excessive. The base area of our platforms is usually equal to the upper platform area, due to the low height and heavy weight of the platforms overturning/stability is not a problem.

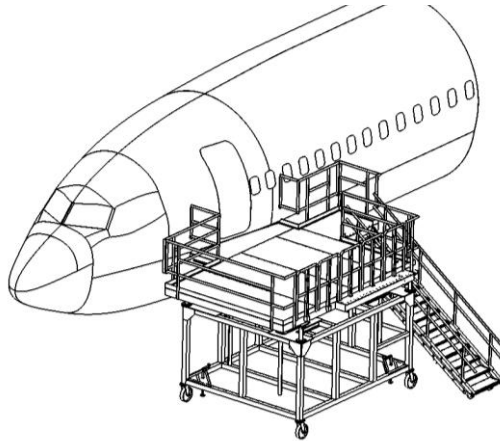
Vertical Load Test, applying a test load of 150% rated load, or 5,625 lbs, at 12” from the guardrail is not reasonable and would never be duplicated or approached during normal use. In order to successfully perform this test we would need to significantly revise the design of the structure, increasing weight, complexity, and cost.

The platform may be used at the same elevation for extended periods of time, requiring inspection every 150 hours of use would require that an inspection be done every 2 weeks based on our typical 2 shifts of use per day.

The Standard's scope states the platforms shall not be occupied while moving horizontally. Some of our platforms are attached to moving productions lines. These lines have maximum speeds of about 2 inches per minute in a straight line. The stands are towed down the line by other powered equipment. Due to the high stability inherent in the configuration we don't see horizontal motion at these low speeds as a safety

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issue. The platforms are not vehicle mounted or self propelled, so they don't fit into another A92 category.



A/P Access Stand

Response:

2. *It is generally not the committee's role to examine designs to determine if they fall within the intended scope of the standard. That is the function and responsibility of the manufacturer or user of the machine.*

However, we bring to your attention the following information and language in the standard that may be helpful in making this determination.

1. *Application of the A92.3 standard is voluntary. The following statement is found on the title page of A92.3 and may provide context for application to the A/P access stand.*

"The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he has approved the standards or not, from manufacturing, marketing, purchasing, or using products, or procedures not conforming to the standards."

2. *The A92.3 Scope has six key elements that must be reviewed by the manufacturer or user to determine if a product is within the scope of the standard. We have numbered them here for emphasis.*

1.1.1 Equipment Covered. This standard applies to (1) manually propelled, (2) integral chassis aerial platforms (3) having a platform that cannot be positioned completely beyond the base and are (4) used to position personnel, along with their necessary tools and materials, at work locations. (5) Platforms are adjustable by manual or powered means and (6) shall not be occupied when moved horizontally. (See Figure 1 for examples.)

3. *To fall within the scope of equipment covered by A92.3 a product must fit the description of all six requirements.*

ASC A92.3 Manually Propelled Elevating Aerial Platforms

A92.3-2006(R2014)

Question:

On behalf of the dealers and rental equipment industry we would like to request an interpretation of the word “current” as stated in this standard, “A92.5-2006 5.2.2 Manual of Responsibilities. The current Manual of Responsibilities for dealers, owners, users, operators, lessors, lessees and brokers of boom-supported elevating work platforms shall be provided and stored in the weather resistant storage compartment.”

Specifically, if the date on the front cover changes to a date in the future and no other language changes in the documents, A92.3, A92.5 and A92.6, then is the 2006 manual current?

As well, on behalf of the dealers and rental equipment industry we would like to request that, if at all possible and within the rules and guidelines of ANSI and the ANSI A92 Committee, that the current

Manual(s) of Responsibilities A92.3, A92. 5 and A92.6 not be reissued with a new date. If the Manual(s) of Responsibilities A92.3, A92.5 and A92.6 do have to be reissued with a new date then we respectfully request a statement from the ANSI A92 Committee that the 2006 Manuals of Responsibilities for A92.3, A92.5 and A92.6 be deemed current as the content and language will remain the same in the newly dated Manuals as the 2006 versions.

Response:

Yes, the 2006 Manual of Responsibilities can be considered “current” and used to comply with the requirement set forth in paragraphs 5.2.2, 6.3.2, 7.2.2 and 8.2.2 of the Manual of Responsibilities for Dealers, Owners, Users, Operators, Lessors, Lessees and Brokers of ANSI/SAIA A92.3-2012, Manually Propelled Elevating Aerial Platforms which state:

“The current Manual of Responsibilities for dealers, owners, users, operators, lessors, lessees and brokers of manually propelled elevating aerial platforms shall be provided and stored in the weather resistant storage compartment.”

The duties, responsibilities and requirements set forth in the Manual of Responsibilities for Dealers, Owners, Users, Operators, Lessors, Lessees and Brokers of ANSI/SIA A92.3-2012, Manually Propelled Elevating Aerial Platforms are identical to those in the Manual of Responsibilities for Dealers, Owners, Users, Operators, Lessors, Lessees and Brokers of ANSI/SIA A92.3-2006, Manually Propelled Elevating Aerial Platforms. The 2012 Manual of Responsibilities will be dated 2012 and was created and published to reflect the 2012 reaffirmation of American National Standards Institute standard ANSI/SIA A92.3 for Manually Propelled Elevating Aerial Platforms by the ANSI A92 sub and main committees.

ASC A92.3 Manually Propelled Elevating Aerial Platforms

Question:

1) Is Tutus correct that “as a company, does not directly interact with aerial devices,” there are no “requirements mandated by A92.3 Standard” on the company?

- a. if not, how is the company classified as an entity with regards to the “requirements mandated in the Standard?”¹

Response:

Whenever an individual or organization adopts or performs any requirement(s) set forth in the A92.3 Standard for any entity (i.e. manufacturer, dealer, owner, user, operator, lessor, lessee and Broker) assumes those responsibilities.

Question:

2) Since modifications or alterations to the aerial platform must be approved and/or certified by “written permission of the manufacturer,”^{2 3 4 5} is the manufacturer obligated to respond to an inquiry requesting such written approval by providing a determination, or status of a determination⁶, when requested to assist another in answering a question,^{7 8 9} for “a required modification?”¹⁰

- b. If so obligated, what are the:

- i. requirements ensure objective determinations, i.e. does a rejection have to include:
 1. state the testing procedures utilized in the determination,
 2. identifying which of the “operation, stability, safety factors, rated load, or safety of the aerial platform”¹¹ is being affected,
 3. specify how the modification is affecting the aerial platform,
 4. quantify or qualify the effects, and the acceptable tolerance range.
- ii. designations of limits acceptable for responding with a timely determination,
- iii. enforcement mechanism and penalties preventing non-compliance, and/or oversight committees/agencies for disputes/appeals.

¹ ANSI/SAI A92.3 – 2006 (R2014) - §3 – Definitions, *Manual of Responsibilities*.

² Ibid., §5.12 – Modifications (Re Dealers).

³ Ibid., §6.16 – Modifications (Re Owners).

⁴ Ibid., §7.10 (27) – Operator Warnings and Instructions & §7.15 – Modifications (Re Users).

⁵ Ibid., §8.10 (27) – Operator Warnings and Instructions (Re Operators).

⁶ Ibid., §4.20 (4) – Information required to perform the responsibilities ... of this standard.

⁷ Ibid., §5.10 – Assistance to Owners and Users (Re Dealers).

⁸ Ibid., §6.14 – Assistance to Users and Operators (Re Owners).

⁹ Ibid., §7.12 – Assistance to Operator (Re Users).

¹⁰ OSHA 29 CFR 1926.502(j).

¹¹ NSI A92.3, §3 **Modification** – a change to an aerial platform that affects the operation, stability, safety factors, rated load, or safety of the aerial platform in any way.

ASC A92.3 Manually Propelled Elevating Aerial Platforms

- c. If not so obligated:
 - i. Which entities have authority to provide a response to an inquiry for “a written approval of a required modification?”¹²
 - ii. When would such authority transfer from a non-responsive “original manufacturer?”
 - iii. To what degree is such transfer of authority permanent, i.e. is it with respect to:
 - 1. all authority of the original manufacturer, as if the non-responsive manufacturer no longer exists for approval purposes under the Standard,
 - 2. only authority concerning the approval category for which the manufacturer was non-responsive, i.e. any modification or alteration approval,
 - 3. only authority for the particular issue with respect to the non-responsive manufacturer, i.e. any similar modification or alteration, or
 - 4. only for the single inquiry to the non-responsive manufacturer, i.e. only the specific approval requested can now be addressed by another entity, or
 - 5. some other determination / criteria, i.e. manufacturer must implement ASC approved procedures¹³ preventing future non-responsiveness before approval authority will be re-vested?

¹² OSHA 29 CFR 1926.453(a)(2).

¹³ ANSI A92.3, **§4.17 Quality Control**. The manufacturer shall establish and follow a written quality control procedure to ensure compliance with this standard.

Response:

The Standard does not place any obligation upon a manufacturer to respond to requests for written approval of modifications. Therefore, providing an interpretation would not be appropriate.

ASC A92.5 Boom-Supported Elevating Work Platforms

A92.5-1980

Question:

1. Is it necessary to have the deadman switch in the basket when driving if we already have an emergency stop?
2. Do we have to have a 4 inch high wall on the working platform
3. Do we have to have 2 safety harness hooks in the basket because we have a two-person platform?

Response:

1. *The answer is Yes. For upper controls, the standard requires “a separate safety control which shall be continuously activated for upper directional controls to be operational, and which renders upper directional control when released”.*
2. *Yes, the standard requires “The platform shall include toeboard on all sides. The minimum toeboard height shall be 4 inches. Toeboards may be omitted at the access opening(s)”*
3. *You may have an attachment point for each person on the platform or you may have one attachment point that will support the combined weight of all persons on the platform. The standard states: “Attachment point(s) shall be provided for fall protection devices for personnel occupying the platform.”*

Question:

1. Does this **(4.1 Stability on Slope**...If having the outriggers, stabilizers or extendible axles in contact with the supporting surface is part of the normal configuration to meet stability requirements, they shall be extended...) mean that a) The stabilizers shall be extended on a level surface before the machine is tilted to 5 degrees from the horizontal or b) The stabilizers can be extended with the machine at 5 degrees from the horizontal in order to level the machine and then operate the platform throughout its entire range of motion?
2. Can outriggers (instead of stabilizers) be used in increase the stability of aerial platforms?

Response:

1. *The aerial platform is to be positioned on a 5 degree slope. The standard does not provide that the aerial platform is to be tilted to 5 degrees. Stabilizers may be used to increase the stability of the aerial platform. By definition, stabilizers are not capable of lifting or leveling the aerial platform.*
2. *As described in Section 2, Definitions, “Outriggers: Devices used to maintain or increase the stability of the work platform and capable of supporting, raising or leveling the work platform.”*

Question:

1. What is meant by “when possible” – does this suggest that models manufactured without this feature are acceptable and satisfy this rule/provision – or does it mean that if the technology exists then the machine shall have them so equipped? Obviously, the standard comes into question only on units manufactured after 1980. Secondly, to what level or degree is “protection against inadvertent operation” suggested. Here again our interpretation has been the requirement for a slide-lock

ASC A92.5 Boom-Supported Elevating Work Platforms

or detent for the neutral position of controllers on boom lifts. This is because inadvertent operation may occur with a simple bumping of the controller when working if there is no detent or lock. Other interpretations have come into question; such as in the case of switches, do guard shields satisfy this requirement?

(5.2.3 Primary directional controls. All directional controls shall move in the direction of the function which they control when possible, and shall be of the type which automatically returns to the “off” or the “neutral” position when released. Such controls shall be protected against inadvertent operation.)

Response:

1. *The ANSI/SIA A92.5 standard has been reviewed, rewritten and is ready for distribution. The A92.5-1992 standard which replaces A92.5-1980 has addressed controls in the following manner:*
 - a. **Controls**
 - i. **Upper Controls.** *Upper controls shall be provided at the platform and shall: a) Be readily accessible to the operator; b) When possible, move in the direction of the function they control. If not permanently attached, normal control box location and orientation shall be clearly marked; c) Include a separate safety control switch which shall be continuously activated for upper directional controls to be operational, and which renders the upper directional controls inoperative when released; d) Be of the type that automatically returns to the “off” or “neutral” position when released if used to control any movements of the aerial platform; e) Be protected against inadvertent operation; f) Be clearly marked.*
 - ii. **Lower Controls.** *Lower controls shall be readily accessible from ground level and shall: a) Override upper controls for powered functions; b) Be provided for all powered functions except drive and steering; c) Be of the type that automatically returns to the “off” or “neutral” position when released if used to control any movement of the aerial platform; d) Be protected against inadvertent operation; e) Be clearly marked.*

The A92.5 Interpretations Committee is of the opinion that your request would now address paragraphs 4.10.1 (b), (e) and 4.10.2 (d). The response is as follows: “When possible” indicates that the controls should move in the direction of the function that they control. It is realized that in some configurations of the aerial platform such function is not possible or practicable. “Be protected against inadvertent operation” means that the controls shall be protected against the unintentional and accidental operation by equipment or personnel.

Question:

1. Can this be operated from ground level or does it need to be operable from the platform?

(5.2.5 Auxiliary lowering. All work platforms shall be provided with an auxiliary means of lowering, retracting and rotating in the event of primary power loss.)

ASC A92.5 Boom-Supported Elevating Work Platforms

Response:

1. *The auxiliary means of lowering may be operated from ground level.*

A92.5-1992

Question:

1. Does the use of the word “system” in the latest standard imply that a change has been made to the required safety factor for each rope or chain used as part of the system? For example, under the old standard, a chain system having 2 chains required that each chain have a safety factor of 8 to 1. Under the new standard, the same system, having 2 chains, is required to have a system factor of safety of 8 to 1 or a factor of safety for each chain of 4 to 1. Is this a correct interpretation of the new standard?

(4.3 Wire rope or chain safety factor. Where the platform is supporting its rated work load by a system of wire ropes or chains, or both, the safety factor of the wire rope or chain system shall not be less than 8 to 1, based on ultimate strength.

7.1 Safety Factors in Design of Elevating Assembly – from A92.5-1980

7.1.1 Where the platform is supporting its rated work load by a system of wire ropes or chains, or both, the safety factor of the wire rope or chain shall not be less than 8 to 1, based on ultimate strength.”)

Response:

1. *The A92.5 Interpretations Committee replies that the addition of the work system adds clarification and does not represent a change in the factor of safety for the wire rope or chain. The maximum working load in any wire rope or chain working alone or within a system of more than one wire rope or chain, must have a safety factor of 8 to 1 of the ultimate breaking strength of that member. Factors of safety are not additive.*

Question:

1. We request guidance as it pertains to LOWER CONTROLS. The European CE standards feel the ground level controls other than Emergency relief type, are far to dangerous. We also feel that this is a risky feature but would like an official determination. The Leguan lift, which we import, is 100% hydraulic and has emergency relief valves for rotation and all other cylinders in the boom. Are Lower Controls (4.10.2) needed to meet ANSI?

(4.10.2 Lower Controls. Lower controls shall be readily accessible from ground level and shall: a) Override upper controls for powered functions; b) Be provided for all powered functions except drive and steering; c) Be of the type that automatically returns to the “off” or “neutral” position when released if used to control any movement of the aerial platform; d) Be protected against inadvertent operation; e) Be clearly marked.)

ASC A92.5 Boom-Supported Elevating Work Platforms

Response:

1. *The ANSI/SIA Standard in Section 4.10.2, Lower Controls, does require lower controls that are readily accessible from ground level and meet the requirements listed in Section 4.10.2*

Question:

1. Our concern is what is considered the primary power source on a DC battery powered platform, is it the battery or the motor/pump?

(4.10.4 Auxiliary lowering. All aerial platforms shall be provided with an auxiliary means of lowering, retracting and rotating in the even of primary power loss.)

Response:

1. *Section 4.10.4 addresses primary power loss and not primary power source. Primary power loss would be a loss of power that would cause the failure of the parts of the powered system, electric or hydraulic, that effect the lowering, retracting and rotating of the aerial platform.*

Question:

1. Was it the intent of the subcommittee to be that specific in regard to a model or was it, indeed, the intent of the subcommittee to have an operator trained on either the model or one having operating characteristics consistent with the one he is being authorized and asked to operate. Example: JLG 40H, 50H, 60H and 70H self-propelled telescoping boom units all have identical operating characteristics. If an operator has been trained on a 60H and has demonstrated proficiency on this model, must the operator be trained by a qualified person prior to operating a 40H, 50H or 70H?

(7.6.1 Model Training. The user shall be responsible for the operator being trained on the model of the aerial platform that he will be operating. Such training shall be in an area free of obstructions, under the direction of a qualified person for a time sufficient to determine that the trainee display proficiency in knowledge and actual operation of the aerial platform. Only properly trained and authorized personnel shall be permitted to operate the aerial platform.)

Response:

1. *The A92.5 Interpretations Committee replies that Section 7.6.1 is quite clear and does require that the operator be trained on the model of the aerial platform that he will be using at the work site. Although the operating characteristics of a family of aerial platforms may be similar, there may also be differences; such as rate of work load and pre-start inspection.*

Question:

1. "Misuse as a crane" can you expand on this? Lots of operators are interpreting this like the rated load of the basket is for personnel only and not for carrying a tool bag, leaving it in the basket or if the operator removes a small shaft (less than 50 lbs.) and

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leaving it in the basket before descending. Are the aforementioned examples considered to be "Misuse as a crane"?

Response:

1. Misuse as a crane means loads suspended or located outside the platform of a Boom-Supported Elevating Work Platform. Loads can only be carried on the platform floor. It is not acceptable to lift, lower, carry, suspend or hold any loads that are outside the platform. Exceptions can only be made with written approval of the boom manufacturer. Proper operation includes an operator, other occupants, tools and materials that in the platform and that do not exceed the manufacturers' rated platform capacity.

Question:

1. Section 7.3.3 Pre-Start Inspection, each states, "Before use each day or at the beginning of each shift, the aerial lift shall be given a visual inspection and functional test....."

Is it the intent of this statement that the lift is only required to be inspected once each 24 hours, once each work day or once each shift? Some personnel feel that their shift is their day. Hypothetically, is a pre-start inspection conducted at 8 AM still valid for the next shift at 4 PM or are personnel on the next shift required to conduct another pre-start inspection to cover their work day?

Response:

1. "The intent of this section is that an inspection should be conducted per the manufacturer's requirements each time there is a shift change. If there is only one shift per day, the inspection would be conducted at the beginning of that shift once a day. More than one shift requires inspections equal to the number of shifts conducted by each successive operator. Additional inspections may be required depending on operating conditions and the severity of the environment according to section 7.3."

An interpretation is not equivalent to full A92 consensus, and in the event further questions are raised, the interpretation may be reviewed and even radically changed at the Full Committee level. Also please be aware the rendering of interpretations shall in no way be used to supplant or weaken the normal A92 standards development activities.

A92.5-2006

Question:

1. Does ANSI A92.5-2006 sections 5.7 and 5.8 clarify the responsibilities of dealers in attempting to interpret their responsibility under the old A92.5-1992 section 5.6.1?
2. Prior to August 28, 2006, is a dealer who complied with the ANSI 92.5-2006 section 5.7 and 5.8 also in compliance with ANSI A92.5-1992?

Response:

1. *The ANSI A92 committee only interprets current standards and then only for purposes of clarifying the intended meaning of the language. The committee does*

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not engage in comparisons if standards or hypothetical questions of compliance. None the less, we can say the following:

- 1) The language in Sections 5.7 and 5.8 of ANSI/SIA A92.5-2006 further clarifies training requirements for Operators of Boom-Supported Elevating Work Platforms.*
- 2) The sense of paragraphs 5.7 and 5.8 was contained in the 1992 standard but the new formulation clarifies the requirements.*

Question:

1. With regards to Section 5.9 [Dealer as User], is the Dealer still construed as the User as defined in Section 5.9 if the Dealer is directing a 3rd party entity (i.e. Outside contracted hauling service) to operate, handle and familiarize the other user/operator on equipment covered in A92.5-2006 and as well as A92.6-1999?

Response:

Yes, Section 5.9 requirements apply. It is also a dealer/owner responsibility to know and comply with applicable federal, state and local regulations including OSHA.

Question:

1. I work in the artic...in Prudhoe Bay, Alaska. Due to extreme cold temperatures here in the winter, engines on many pieces of equipment are left running constantly even though the equipment is not being used, only being turned off for oil changes, repairs, etc. According to 6.6 (2), a frequent inspection must be performed on an aerial platform that has been in service for 150 hours or three months, whichever comes first. Could you please specify if that 150 hours refers to hours of operation of the aerial platform, or does it refer to engine run time? If it refers to engine run time, we would often find ourselves doing "frequent inspections" every 6.25 days on equipment that has not been used/operated

Response:

- 1. ANSI SIA A92.5-2006, paragraph 6.6, Frequent Inspection, does not differentiate engine run time as a specific type of service or exclude it from hours of operation. Therefore, a frequent inspection is required every 150 hours or three months, whichever comes first. However, we would suggest that you contact the aerial lift manufacturer concerning their recommendation(s) about your specific application and requirements.*

Question:

1. With regard to the Structural Safety Factor in Section 4.5.3, is it possible to meet this specification by subjecting our wheel drive assembly 2.5 times the loading that is due to the weight and rated work load of the machine? The factor of 2.5 would be from the stand safety factor of 2.0 multiplied by the dynamic loading factor of 1.25. We can ignore the stress concentration factor as we are doing actual testing and the stress is what it is, correct?

Response:

- 1. ANSI/SIA standard A92.5-2006 for Boom-Supported Elevating Work Platforms requires a structural factor of safety not less than that set forth in paragraph 4.5.3,*

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Structural Safety Factor Formulas, and is based on the material properties and maximum stresses as a result of all applied loads for the part or structure being evaluated. Neither the Standard nor the Interpretations Committee specify the manner in which compliance is verified or approve specific test methods for compliance.

Question:

1. "If the manufacturer says a full body harness needs to be used in their boom lift, does the owner of the boom have to follow their guidelines, even though the ANSI standard says something different?"
2. "Both of the gentlemen I work with said belts have made obsolete from being used in boom lifts."

Response:

1. *Yes, users, operators and all platform occupants are required to comply with a manufacturer's requirement to use of a full body harness when using and operating their boom lifts. Your question suggests that such a requirement contradicts ANSI standard A92.5-2006 and OSHA Regulations that allow the use of a "belt and lanyard" or a "full body harness" for "Fall Restraint Systems". A belt is not allowed for use with Fall Arrest Systems while a full body harness can be used for both Fall Restraint and Fall Arrest Systems. A manufacturer's requirement to only use full body harnesses with their products does not contradict the standard.*
2. *We believe your question is, can belts be used in boom lifts? Please see and review the previous response and paragraphs 7.10(1), Fall Protection, in ANSI standard ANSI/SIA A92.5-2006 for Boom-Supported Elevating Work Platforms. Belts are allowed to be used with Fall Restraint Systems. They are not allowed for use with Fall Arrest Systems or if the boom lift manufacturer instructs and warns to only use a full body harness.*

Question:

1. We would like an interpretation of the ANSI A92.5-2006 standard number 4.12.5.4 that states: "The anchorage(s) shall be located to minimize lanyard slack." Specifically how does the phrase 'minimize slack' apply to the vertical location of the lanyard anchorage?
2. Also, we would like an interpretation of the ANSI A92.5-2006 Manual of Responsibilities Number 7.10(1)(a) What is the purpose of the anchorage, fall restraint or fall arrest for the occupants of boom platforms?
 - a. If fall restraint, which would not allow the worker(s) to be catapulted over the guardrails, how does an occupant of a boom lift covered under A92.5 accomplish this and still be able to do work from the platform given that fall restraint may mean a short 3 or 4 foot lanyard and that the placement of some anchorage points allow the worker(s) to walk as far as 6 or 7 feet away from the lanyard anchorage point to reach their work?
 - b. If fall arrest, OSHA does not allow hitting a lower level or object allowing a free fall distance of the lanyard length, energy absorber expansion and the distance from the wearer's d-ring to their feet. Example: 6' lanyard + 3.5' energy absorber,

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+ 6' from wearer's d-ring to wearer's feet = 15.5 feet of clearance, minimum, not counting boom flex and other factors. Since boom lifts have a boom attached to the platform this boom section can be viewed as a lower level or object that a fall arrested person could hit in an arrested fall. How does an occupant of a boom lift covered under A92.5 accomplish fall arrest given these lower levels and lower objects that they could come in contact with in a catapult event?

Response:

1. *Paragraph 4.12.5.4 does not include the term "vertical" nor is it intended to be design specific with respect to anchorage locations.*
2. *The purpose of an anchorage is to provide "a secure point of attachment to be used with personal fall protection equipment (PFPE)". Fall restraint and fall arrest systems are defined within paragraph 7.10(1)(a) and their application is determined by OSHA Regulations, Letters of Interpretation, employers and USER 's of Boom-Supported Elevating Work Platforms.*

Question:

1. We manufacture Aerial work platforms. We developed the Aerial work platform and have entrusted production of this Aerial work platform to the South Korea manufacturing company. We consider that we will sell this aerial work platform in the U.S.A. In this case, which is a manufacturer's name specified by 4.13 (2) of ANSI/SIA A92.5 our corporation or the South Korea manufacturing company? And is it necessary to indicate "Made in South Korea" as the country of production?

Response:

1. *The aerial work platform "manufacturer" name required by paragraph 4.13(2) of ANSI/SIA standard A92.5 for Boom-Supported Elevating Work Platforms is the entity or company responsible for insuring that all of the duties, responsibilities and requirements set forth in section 4 of the standard are met and complied with fully.*

With reference to your specific question, many parts, components and assemblies of an aerial work platform may be designed, produced and provided by different companies and supplied to the manufacturer defined above. However, as stated above, the "manufacturer" is the company that insures the aerial platform complies with all of the design, testing, production and post shipment requirements in section 4.

Also, the "address" required in paragraph 4.13(2), again, is the manufacturer insuring that all of the responsibilities of section 4 are met and complied with fully.

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Question:

1. 4.6.4 Emergency Lowering.

All aerial platforms shall be provided with an emergency means to return the platform to a position where it is safe to exit in the event of primary power loss.

The design in question uses a 48 volt battery to supply power to the aerial lift. The machine has a battery charger mounted on the unit to charge the battery, which is connected to facility power. The battery power is then reduced to 12 Volts to supply control power to the machine. If the main 48 volt power source is lost (in the event of various failure modes), then the machine loses its control power, and the platform loses the ability to be lowered. There is a 12 volt battery and motor that can provide hydraulic power at this point, but there is no control of it. However, the manufacturer (after this was brought to their attention) has said that the battery charger can be used to supply power to the controls, which would require the machine to be connected to facility power. I would like to know if this is a valid interpretation of the requirement.

Secondly, when the power is reduced to 12 volts, it is done so through a DC to DC converter. If this fails, the machine would be rendered inoperable, because, again, the machine would lose control power and not have the ability to lower. Would this be considered "primary power loss"?

Response:

1. *The SIA/ANSI A92.5 Interpretations Committee does not approve, disapprove or evaluate specific designs with respect to their compliance with the standard's requirements or the reliability of specific designs. However, paragraph 4.6.4, Emergency Lowering, requires that **the machine** must be supplied with the means of moving/retracting the elevated platform of a boom lift. External power supply such as facility power is not a part of the machine.*

A92.5-2006(R2014)

Question:

On behalf of the dealers and rental equipment industry we would like to request an interpretation of the word "current" as stated in this standard, "A92.5-2006 5.2.2 Manual of Responsibilities. The current Manual of Responsibilities for dealers, owners, users, operators, lessors, lessees and brokers of boom-supported elevating work platforms shall be provided and stored in the weather resistant storage compartment."

Specifically, if the date on the front cover changes to a date in the future and no other language changes in the documents, A92.3, A92.5 and A92.6, then is the 2006 manual current?

As well, on behalf of the dealers and rental equipment industry we would like to request that, if at all possible and within the rules and guidelines of ANSI and the ANSI A92 Committee, that the current

Manual(s) of Responsibilities A92.3, A92. 5 and A92.6 not be reissued with a new date. If the Manual(s) of Responsibilities A92.3, A92.5 and A92.6 do have to be reissued with a new date then we respectfully request a statement from the ANSI A92 Committee that

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the 2006 Manuals of Responsibilities for A92.3, A92.5 and A92.6 be deemed current as the content and language will remain the same in the newly dated Manuals as the 2006 versions.

Response:

Yes, the 2006 Manual of Responsibilities can be considered “current” and used to comply with the requirement set forth in paragraphs 5.2.2, 6.3.2, 7.2.2 and 8.2.2 of the Manual of Responsibilities for Dealers, Owners, Users, Operators, Lessors, Lessees and Brokers of ANSI/SAIA A92.5-2012, Boom-Supported Elevating Work Platforms which state:

“The current Manual of Responsibilities for dealers, owners, users, operators, lessors, lessees and brokers of boom-supported elevating work platforms shall be provided and stored in the weather resistant storage compartment.”

The duties, responsibilities and requirements set forth in the Manual of Responsibilities for Dealers, Owners, Users, Operators, Lessors, Lessees and Brokers of ANSI/SIA A92.5-2012, Boom-Supported Elevating Work Platforms are identical to those in the Manual of Responsibilities for Dealers, Owners, Users, Operators, Lessors, Lessees and Brokers of ANSI/SIA A92.5-2006, Boom-Supported Elevating Work Platforms. The 2012 Manual of Responsibilities will be dated 2012 and was created and published to reflect the 2012 reaffirmation of American National Standards Institute standard ANSI/SIA A92.5 for Boom-Supported Elevating Work Platforms by the ANSI A92 sub and main committees.

Question:

1) Is Tutus correct that “as a company, does not directly interact with aerial devices,” there are no “requirements mandated by A92.5 Standard” on the company?

a. if not, how is the company classified as an entity with regards to the “requirements mandated in the Standard?”

Answer:

Whenever an individual or organization adopts or performs any requirement(s) set forth in the A92.5 Standard for any entity (i.e. manufacturer, dealer, owner, user, operator, lessor, lessee and Broker) assumes those responsibilities.

Question:

2) Since modifications or alterations to the aerial platform must be approved and/or certified by “written permission of the manufacturer,” is the manufacturer obligated to respond to an inquiry requesting such written approval by providing a determination, or status of a determination other than that at the time of delivery , when requested to assist another in answering a question, for “a required modification?”

b. If so obligated, what are the:

i. requirements ensure objective determinations, i.e. does a rejection have to include:

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1. state the testing procedures utilized in the determination,
 2. identifying which of the “operation, stability, safety factors, rated load, or safety of the aerial platform” is being affected,
 3. specify how the modification is affecting the aerial platform,
 4. quantify or qualify the effects, and the acceptable tolerance range.
- ii. designations of limits acceptable for responding with a timely determination,
 - iii. enforcement mechanism and penalties preventing non-compliance, and/or oversight committees/agencies for disputes/appeals.
- c. If not so obligated:
- i. Does the A92 Standard designate other equivalent entities having authority to provide a response to an inquiry for “a written approval of a required modification?”
 - ii. When would such authority transfer from a non-responsive manufacturer to the other equivalent entities?
 - iii. To what degree is such transfer of authority permanent, i.e. is it with respect to:
 1. all authority of the original manufacturer, as if the non-responsive manufacturer no longer exists for approval purposes under the Standard,
 2. only authority concerning the approval category for which the manufacturer was non-responsive, i.e. any modification or alteration approval,
 3. only authority for the particular issue with respect to the non-responsive manufacturer, i.e. any similar modification or alteration, or
 4. only for the single inquiry to the non-responsive manufacturer, i.e. only the specific approval requested can now be addressed by another entity, or
 5. some other determination / criteria, i.e. manufacturer must implement ASC approved procedures preventing future non-responsiveness before approval authority will be re-vested?

Answer:

The Standard does not place any obligation upon a manufacturer to respond to requests for written approval of modifications. Therefore, providing an interpretation would not be appropriate.

ASC A92.6 Self-Propelled Elevating Work Platforms

A92.6-1990

Question:

1. Does the current design and manufacturing standard apply to equipment that is sold as reconditioned after the effective date?
2. Is not the intent of this new ANSI standard to insure a person understands safe operation of lifts? Or was this intended to be a money-maker for manufacturers and dealers to train on their particular models? To expect a contractor to pay to be trained on all models they use is unrealistic. For all practical purposes, "a 20' scissors is a 20' scissors is a 20' scissors." Is it feasible to believe one will be/can be trained on all types of control boxes or would a toggle switch and a joy-stick show the same operating characteristics? Certainly it is the responsibility of operators to familiarize themselves with the particular machine they are about to operate before actual operation.

Bottom line – if I'm considered "qualified" or "trained" on a JLG Commander 20 does that mean I am or am not qualified to operate a Grove Nugget? They are both 20' machines. If I'm trained on a Skyjack SJII, am I qualified on an Economy 2130? They are almost identical.

Response:

1. *Units reconditioned, rebuilt or remanufactured – unless otherwise specified – shall comply with the standard in effect as of the date of the original manufacture. In the event the entity reconditioning, rebuilding or remanufacturing does the work to comply with a standard other than the under which the unit was manufactured, it shall comply, as a minimum, with the provisions of ANSI/SIA A92.6-1990 Standard.*
2. *The intent of the standard is quite clearly stated in Section 1.2, Purpose: **Purpose.** This standard applies to self-propelled elevating aerial platforms to achieve the following objectives: 1) Prevention of accidents and personal injuries; 2) Establishment of criteria for design, manufacture, testing, performance, inspection, training, maintenance, and operation; 3) Establishment and understanding by manufacturers, dealers, owners, users, operators, lessors and lessees of their respective responsibilities.*

*Regarding your statement that for all practical purposes a 20' scissors is a generic device again I call your attention to sub-paragraph 7.6.1, Model Training: **Model Training.** The operator shall be trained either on the same model of aerial platform or one having operating characteristics and controls consistent with the one to be used during actual work site operation.*

Only if the toggle switch system of one scissors lift is "consistent" with another (or if the operator is trained on the more sophisticated model) can an operator be considered properly trained when assuming the responsibility of operating scissors lift "B" after being trained on scissors lift "A".

An operator being trained on a scissors lift with a toggle switch control box would not be considered to be trained to operate a scissors lift with a joy-stick control panel. While it is true the operator has the responsibility to familiarize himself/herself with a particular machine he/she is about to operate before actual operation (reference paragraph 8.6 (2) Before Operation), the standard is quite specific regarding training requirements before operation.

8.6 Before Operation. *Before being authorized to operate the aerial platform, the operator shall: 1) Been instructed by a qualified person in the intended purpose and*

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function of each of the controls; 2) Read and understood the manufacturer's operating instruction(s) and user's safety rules, or been trained by a qualified person on the contents of the manufacturer's operating instruction(s) and user's safety rules; 3) Understood by reading or by having a qualified person explain all decals, warnings, and instructions displayed on the aerial platform.

As it regards an operator being considered qualified or trained on a JLG Commander 20 implying they are also qualified to operate other 20' scissors, such as a Grove Nugget, again, I call your attention to specific language in the standard which states: "The operator shall be trained on either the same model of aerial platform or one having operating characteristics and controls consistent with the one to be used during actual work site operation." Only if the control panel on the Grove Nugget were "consistent" with the JLG Commander 20 series would the operator be deemed to be qualified to operate the Grove Nugget. The same principle would apply to other manufacturers' products.

Question:

1. Who is considered an approved (authorized sic) person? Who decides approval? What are the qualifications of the approving person?
2. At what point does a person have sufficient knowledge, experience or training? Who makes that judgment?

(authorized personnel (authorized person)). Personnel approved as assigned to perform a specific type of duty or duties at a specific location or locations at a work site.

Operator. A qualified person who controls the movement of the aerial platform.)

Response:

1. Subparagraph 7.6.1, Model training, of Section 7, Responsibilities of Users, has, in part, the following language: "Only properly trained and authorized personnel shall be permitted to operate the aerial platform."

Subparagraph 7.11.16, Unauthorized Use, reads as follows: "Means shall be used to protect against use by unauthorized person(s)."

The entity responsible for the aerial work platform has a responsibility to ensure the means built into the aerial work platform (Security as outlined in paragraph 4.6.5 in the section addressing manufacturers' responsibilities) is activated. Therefore, as an example, an owner of an aerial work platform when the unit is not being used, has the responsibility to ensure the security system is utilized. Thus, a dealer who owns equipment and has it available in stock, for sale or rental, needs to remove keys, as an example, from ignitions to prevent unauthorized use. Users (OSHA refers to users as employers) have the responsibility to ensure such security means are activated when the aerial platform is in their care, control and custody.

It is the responsibility of the entity in control of the aerial platform to determine which personnel are authorized to use the unit. Please note efforts must be taken to prevent unauthorized personnel from utilizing the aerial platform such as activating the security system. Only authorized personnel who are properly trained shall be allowed to operate.

There are no specific qualifications for the approving person. That person merely needs to determine whether or not the personnel they authorize to operate the aerial platform are properly trained. Inasmuch as the entity in charge of the aerial platform needs to record and retain the names of personnel who have been properly trained for a minimum of three years, a check of such records should verify whether or not a

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person is properly trained and then it would be at the discretion of the person authorizing use of the aerial platform to decide whether or not they want such individuals operating. In essence, it is a work site decision made by the personnel in charge.

- 2. The standard defines a qualified person as follows: "A person, who by reason of knowledge, experience or training is familiar with the operation to be performed and the hazards involved." The user (may also be the owner) has the responsibility to ensure qualified personnel provide operator training. This person providing the training makes the judgment as to when the trainee is qualified as an operator.*

Question:

I am requesting that the A92.6 Interpretation Committee confirm:

1. That the requirement in this section (4.6.1 (3) Upper Controls) for a "continuously activated" control allows the controls to be continuously activated manually or electrically.
2. That this standard does not mandate a foot pedal...
3. Does Paragraph 4.6.1(3) of ANSI/SIA A92.6-1990 require a foot pedal?
4. Would an "electrical circuit" integrated into the work platform control be in compliance with this standard?
5. Could "continuously activated" as used in Paragraph 4.6.1(3) be accomplished "electrically" instead of "manually"?
6. Does a mechanical interlock device qualify as a "control"?
7. Must the control be continuously activated by the operator, or will continuing mechanical operation suffice?
8. Does the fact that it will not return to the "off" position until the controller handle is returned to the neutral position preclude its use as the sole enabling control?

(4.6.1 (3) Upper Controls. Upper controls shall be provided at the platform and shall: 3) Include a control which shall be continuously activated in order for the upper directional controls to be operational and which automatically returns to the "off" position when released;)

Response:

- 1. Our group concluded that any system which provides "continuous activation" meets the standard. The language in the standard does not differentiate between "passive" or "active" systems. Furthermore, it states no preference for active vs. passive nor does it distinguish between "manual" or "electrical" means. All systems which accomplish "continuous activation" either manually, electrically, hydraulically or optically (e.g., laser), whether passively or actively would thus be in conformance with the provisions called for in the standard.*
- 2. As regards to the foot pedal, the group was in agreement that a foot switch is not mandated.*
- 3. No, the standard does not rule on any design. The language in the standard is designed to describe an end result, not a means to the end. The language is not meant to be design-restrictive nor a nature which endorses a specific method. This Interpretation Committee is of the opinion that a foot switch is not mandated nor is it restricted from being utilized to generate the required end result.*
- 4. Yes. However, we do not endorse nor restrict the use of a specific "electrical circuit" design. An electrical/electronic system may be used provided it meets the design*

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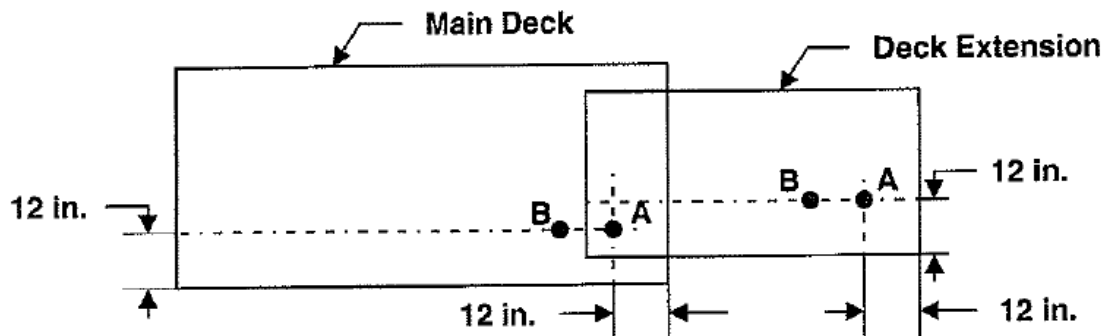
criteria of the standard – in essence, if the end result specified is successfully accomplished.

5. Yes. There are no specific limitations in regards to how this may be accomplished. Again, we are interested in end results, not the means of accomplishing them.
6. Yes. The mechanism used to protect against inadvertent operation could be continuously operated (an example would be a foot switch) or a design similar to the OEM control handle wherein once the “slip ring” is raised up by the operator and the control handle actuated, the mechanism (to protect against inadvertent operation) remains out of play until either the handle is released and its spring actuation mechanism returns it to neutral or the operator physically returns it to neutral, at which time the “lock-out” device return to its constraint mode.
7. No. The words “by the operator” do not appear in the language used for Section 4.6.1(3). The sleeve is initially activated (raised) by the operator to permit subsequent movement of the control lever. The fact that it is maintained in its activated position continuously by the operator either directly by lifting it or indirectly by the cam surface if the operators move the control lever from the neutral position is irrelevant since two distinct separate actions must be performed before there is any movement of the aerial platform. Control must be continuously activated (against the spring loaded mechanism) to allow an upper directional control to be operational.
8. No. The requirement “which automatically returns to the off position when released” is met as the “sleeve” returns to its technically “off” position and locks automatically when the control is released.

The wording of Section 4.6.1(3) is consistent with the rest of the standard in that the means of accomplishing the end is not design-restrictive.

Question:

1. In the plan view sketched below of a typical platform deck with an extension deck, could you please clarify/identify the locating dimensions of the test load (particularly in the horizontal plane). Does location A-A or any position like B-B meet the requirement?



Response:

1. The standard is not specific as it regards an exact location of the weight along the “line” specified. [12 inches inboard from the guardrail or on the platform center line whichever is less (in the event the platform is less than 24 inches in width).] The standard is specific in that it requires the manufacturer to calculate (determine) the least stable configuration with the test load stipulated. As the platform and elevating

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assembly move, the center of gravity of the unit will shift and the manufacturer must calculate the least stable position (worst case) and test accordingly. Therefore, a specific dimension (other than the mandated 12 inches inboard from the guardrail or on the platform center line when the platform is less than 24 inches in width) is not provided. The manufacturer must determine the maximum load the aerial platform can sustain in the least stable position and rate the load accordingly. (Rated workload = 0.75% x Maximum Sustainable Vertical Load in the position most likely to cause instability, taking into account “fore-aft” as well as lateral stability.)

Question:

1. Please explain what “unintended motion” in paragraph 4.10.2.1 refers to. In essence, we are interested in knowing if a properly sized velocity fuse in the lift cylinder will meet this requirement.

(4.10.2.1 Hydraulic/Pneumatic System. Where positioning of the platform is accomplished by hydraulic means, the system shall be so equipped as to prevent motion unintended by the operator in the event of a hydraulic or pneumatic line failure.)

Response:

1. *The definition section (Section 3) includes the following definition: Unintended motion or motion unintended by the operator. Motion of the aerial platform or platform without activation or any control*
The intent is that when there is a failure of a hydraulic or pneumatic line which is used to position the platform, the platform shall not move until the operator intends it to do so. The concern as regards to a hydraulic/pneumatic line failure relates to what will happen when the platform is elevated and the line is cut. Recognizing the platform extension may be over some fixed obstacle or that personnel or equipment may be working immediately below said extension or in close proximity to the aerial work platform, it is imperative that upon such failure the platform not move. It shall remain fixed until controls actuated by the operator lower the platform.

Question:

1. Paragraph 4.13.1(3) states that the rated workload, including rated number of occupants be displayed on all aerial platforms. We feel that in order to include number or occupants, the maximum weight for each occupant must be stated. Below is an example of how we propose to design our decal.

<p>PLATFORM CAPACITY</p> <p>750 Lbs.</p>	<p>OCCUPANCY RATING OF UNLOADED PLATFORM</p> <p>3 OCCUPANTS AT A WEIGHT OF 250 Lbs. EACH OR LESS</p>
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(4.13.1 Manufacturer’s Information. The following information shall be displayed on all aerial platforms in a clearly visible, accessible area and in a durable manner...

- (3) the rated work load, including rated number of occupants;...)

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Response:

1. *The ANSI A92 Committee does not specifically approve or disapprove of any decal. Regarding Paragraph 4.7.1, Horizontal Load Testing, we believe that it is incumbent upon the manufacturer to meet the specific requirements set forth regarding the horizontal test loads and specify the rated work load and the number of occupants accordingly. We are less concerned with the specific weight limitation applicable to any one individual that we are in compliance with the requirements set forth in the standard.*

Question:

1. Paragraph 4.16.1(3), Operating & Maintenance Manuals, indicates the manufacturer must supply instructions, etc. Nowhere does it say it is the responsibility of the manufacturer to train a dealer to become “certified” or “qualified” as is repeatedly required in the rest of the ANSI/SIA standard. How does one become qualified if not by the manufacturer?

(4.16.1 Operating and Maintenance Manuals. The manufacturer shall provide with each aerial platform an appropriate manual(s) containing the following...

(3) Instructions regarding operation, safety rules, operating maintenance and intended use.)

Response:

1. *Subparagraph (4) of Paragraph 4.16.1 states that the manufacturer is responsible for providing the information required for dealers, owners, users, operators, lessors and lessees to perform their responsibilities. Inasmuch as a dealer is responsible for providing the manufacturers’ operating instruction and required training on the proper use and operation of the aerial platform upon delivery by sale, lease or rental, the manufacturer clearly has the responsibility to provide the dealer with materials to provide such training. (Reference Paragraph 5.6.1.) Similarly, owners (reference 6.10, Operator Training), users (7.6, Operator Training), operators (8.5, Training), lessor (9.2, Lessor) and lessees (10.2, Lessee), have similar responsibilities and the manufacturer has the responsibility of providing adequate materials for these entities to perform their responsibilities.*

Question:

1. Literally the phrase “each delivery” could be taken to mean that subsequent deliveries of identical or similar machines to the same user would require training even though training had taken place on previous deliveries. I don’t think the standard means this, but I have been asked for an interpretation by some of our dealer safety people. This phrase is repeated in paragraph 6.10. How is the phrase “each delivery” to be interpreted in light of previous training?

(5.6.1 Training on Delivery. Manufacturer’s operating instructions and required training on the proper use and operation of the aerial platform shall be provided upon each delivery by sale, lease or rental.)

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Response:

1. Paragraph 7.6.1 regarding responsibility of users reads as follows: **“7.6.1 Model Training.** The operator shall be trained either on the same model of aerial platform or one having operating characteristics and controls consistent with the one to be used during actual work site operation...”
Paragraph 8.5 on the responsibility of operators offers identical language: **“8.5 Training.** The operator shall be trained either on the same model of aerial platform or one having operating characteristics and controls consistent with the one to be used during actual work site operation...”
Therefore, the phrase “each delivery” is interpreted to be when an aerial work platform, having operating characteristics and controls different from what the operator has previously been trained on, is delivered by sale, lease, or rental or any other form of beneficial use including demonstration, the operator must receive training.

Question:

1. What is the responsibility of a dealer when contracted to do a repair on someone else's lift? Specifically, if we perform a contracted repair on someone else's lift and we notice other things that need to be fixed before it can pass inspection and the customer does not want those things repaired due to time, money, etc., what is our responsibility? In some instances we can be defined as user and in others we can be defined as a dealer. Asking the customer for a hold harmless would not keep us out of the courtroom in case of an accident.

(6.3 Maintenance. The owner of an aerial platform shall arrange that the maintenance specified in this standard is properly performed on a timely basis. The owner shall establish a preventative maintenance program in accordance with the manufacturer's recommendations and based on the environment and severity of use of the aerial platform. The owner shall arrange that frequent and annual inspections are performed. All malfunctions and problems identified shall be corrected before the aerial platform is returned to service.)

Response:

1. *The responsibility for the maintenance is clearly the owner's. In the case where the dealer is also the owner, they do have the responsibilities outlined for the owner. In this scenario the customer, in all likelihood, also the user, in addition to the responsibilities for maintenance as an owner, also bears the responsibilities as a user.*

Question:

1. What is considered qualified? Who or what determines qualification?

(6.5 Frequent Inspection. The owner of an aerial platform shall cause frequent inspections to be performed on an aerial platform...The inspection shall be made by a person qualified as a mechanic on the specific make and model of the aerial platform.)

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Response:

1. Please refer to Section 3, Definitions: **Qualified person.** A person, who by reason of knowledge, experience or training is familiar with the operation to be performed and the hazards involved.

As regards who or what determines qualifications. It is the responsibility of the person who directs and authorizes a person to perform work as a mechanic to ensure that this person is a "qualified mechanic". Most manufacturers have training programs and supply certificates stating the person has successfully completed the training and is a certified mechanic for the manufacturer's product line.

Question:

1. Who conducts training? How is it determined that training is successful? How is it determined if a trainer is qualified to train?

(6.9 Maintenance Training. The owners shall train their maintenance personnel in inspection and maintenance of the aerial platform in accordance with 6.3, 6.4, 6.5, 6.6, 6.7, 6.8 and 6.10 of this standard, and with the manufacturer's recommendation.

6.10 Operator Training. An owner who directs or authorizes an individual to operate an aerial platform shall ensure that the individual has been trained in accordance with the manufacturer's operating manual and requirements listed in Section 8 of this standard before operating the aerial platform. Manufacturer's operating instructions and required training on the proper use and operation of the aerial platform shall be provided upon each delivery by sale, lease or rental.)

Response:

1. Paragraph 7.9 reads as follows: **7.9 During Operation.** The aerial platform shall be used in accordance with this standard. The user shall direct his operating personnel and supervise their operation to ensure that the following is adhered to prior to each movement of the aerial platform and each repositioning of the platform...

Operation which is not within the above criteria is deemed to be improper operation.

The user is responsible to ensure the aerial work platform is only used in accordance with the guidelines in the aerial manufacturer's operating manual.

Aerial platforms that are not operating in accordance with the manufacturer's operating manual are deemed not to be in proper operating condition and, as such, shall be immediately removed from service until repaired (reference 7.3, Inspection and Maintenance). The operator has the responsibility for such a determination. (Reference paragraphs 7.6, Operator Training and 7.7, Before Operation).

Question:

1. Does this make it the responsibility of the user to make sure the dealer does inspections as refers back to Paragraphs 6.5 and 6.6?

(7.3.1 Frequent Inspections. An inspection as outlined in Section 6.5 of this standard shall be conducted.

7.3.2 Annual Inspections. An inspection as outlined in Section 6.6 of this standard shall be conducted.)

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Response:

1. *No. If the user does not have qualified personnel to accomplish the requirements of Paragraph 7.3.1 and/or 7.3.2, such user has the responsibility to contact an entity with qualified personnel to perform such inspections. While such an entity may be the dealer, the user is not restricted to using this source to comply with the requirements.*

Question:

1. In Sections 7.6 forward, the duty of the user is spelled out. He is responsible to "...ensure that the individual has been trained..." Some end users, particularly some large commercial users, are quite sophisticated and may do an excellent job of in-house training with qualified instructors. How is the phrase "each delivery" to be interpreted in light of an undertaking by the user to do in-house training?

(7.6 Operator Training. Whenever a user directs or authorizes an individual to operate an aerial platform the user shall ensure that the individual has been trained in accordance with the manufacturer's operating and maintenance manual, the user's work instructions and the requirements listed in Section 8 of this standard before operating the aerial platform.)

Response:

1. *Paragraph 7.6.1 addressing the responsibility of users reads in part as follows: "...Under the direction of a qualified person, the trainee shall operate the aerial platform for a sufficient period of time to demonstrate proficiency and knowledge in actual operation of the aerial platform..."*
As long as the user's "qualified instructors" are knowledgeable and proficient in training personnel on the aerial work platform, they would have the skills necessary to train trainees. Assuming all operators have been trained on the units the user owns or has rented, no further training will be required until units having different operating characteristics and controls from the ones on which they are trained are acquired, either through purchase, lease, rental or any other form of beneficial use including demonstration.

Question:

1. How can one be expected to be trained on every conceivable configuration of a particular lift when manufacturers continually make updates? Does this mean one must be "requalified/trained" when a new update comes out?
2. What is a "sufficient period of time?" What is "properly trained"?

(7.6.1 Model Training. The operator shall be trained either on the same model of aerial platform or one have operating characteristics and controls consistent with the one to be used during actual work site operation.)

Response:

1. *The language of the standard is quite specific (reference paragraph 7.6.1, Model Training).*
Being trained on the most sophisticated model that a manufacturer offers will cover training on less sophisticated configurations. Example: training on a unit with

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oscillating axles, outriggers and extendable platforms will qualify an operator to perform on units with the same operating control panel of a unit without oscillating axles, outriggers or a platform extension. Training on an electric scissors lift with a high torque option and/or interlocks to prevent operation under specific conditions will, likewise, qualify the operator to operate other models offered by that manufacturer without these options, providing that the control panel's operating characteristics are consistent with the similar functions available on the more sophisticated model.

As regards training requirements, when a new update comes along, please be advised that again the language is the standard is quite specific. In other words, if a "new update" includes a change in operating characteristics, the operator must be trained on this aerial platform by a qualified person.

- 2. As it regards how long a period of time a trainee needs to operate the unit, this will vary with the learning capability of the trainee and the "degree of difficulty" associated with the job site conditions in which the unit is to be operated. As an example, the amount of time necessary to qualify an operator to operate in a wide open, unoccupied warehouse in all probability would be less than the time required to train an operator who is going to operate in confined and/or congested areas and/or those involved with overhead obstacles including electrical wires. Similarly, working in areas that have open ditches, or require the operator to travel the unit near the edge of a slab would likewise, in all probability, require a longer training period. Regarding what is "properly trained", I call your attention to the verbiage stating the operator must "demonstrate proficiency and knowledge in the actual operation of the aerial platform." The person qualified to training needs to make a judgment as to when the trainee has attained and demonstrated such proficiency.*

Question:

1. Is opening statement double talk as "user" definition includes the "operator" as a user. If I am user and operator, who authorizes use?

(7.3.7 Before Operation. Before authorizing an operator to operate an aerial platform, the user shall ensure that the operator has: 1) Been instructed by a qualified person in the intended purpose and function of each control; 2) Read and understood the manufacturer's operating instruction(s) and user's safety rules, or been trained by a qualified person on the contents of the manufacturer's operating instruction(s) and user's safety rules; 3) Understood by reading or by having a qualified person explain all decals, warnings and instructions displayed on the aerial platform; 4) Been informed that the purpose for which the aerial platform is to be used is within the scope of the intended applications defined by the manufacturer.)

Response:

1. *The responsibility as the user carries with it the responsibility of authorizing the use as the operator. Paragraph 7.7 is very specific in stating it is the responsibility of the user to ensure only properly trained personnel are authorized to operate the aerial work platform. In cases where the user and the operator are the same entity (same person) this person has the responsibility to comply with the requirements set forth in both Section 7, Responsibilities of Users, and Section 8, Responsibilities of Operators.*

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Question:

1. Do N.E.C. defined feeder busways with removable disconnect boxes constitute “energized (exposed or insulated) power lines and parts”? These busways are fully enclosed and carry up to 575V at our facility. It would be necessary to bring the aerial lift platform inside the MSAD in order to de-energize them or to remove and reposition the disconnect boxes used for providing power to the machines we build.
2. Are we allowed to use the aerial lift in this application? Do we need to apply for a variance to the MSAD?
3. Our maintenance personnel are concerned with being able to troubleshoot or maintain and inspect our floor operated overhead cranes. This is done with power applied to the crane while the control is in the aerial lift platform under the control of the maintenance man. Some of the work needs to be done in the main control enclosure located above the contact rails. The main disconnect for the crane is located on this box. The aerial lift platform is the only piece of equipment we have that can reach this height safely, as a ladder would come in contact with the bus bars.

(7.9 During Operation. The aerial platform shall be used in accordance with this standard. The user shall direct his operating personnel and supervise their operation to ensure that the following is adhered to prior to each movement of the aerial platform and each repositioning of the platform: 6) The minimum safe approach distance (MSAD) to energized power lines and parts, as listed in Table 1 of Figure 3, are maintained.)

Response:

1. *The members of the Interpretations Group focused on the words: “These busways are fully enclosed...” We see no concern regarding contact with the “conduit” enclosing the busways. Only personnel qualified in the removal and repositioning of the disconnect boxes should be allowed to accomplish the necessary tasks involved to provide power for the machines that are built; specifically “qualified” as it regards working with electrical components carrying up to 575V.*
2. *Yes, the aerial lift may be used. No, a variance to the MSAD is not needed.*
3. *In instances where there are open electrical lines (uninsulated) and/or open exposed bus bars, minimum safe approach distances as outlined in Section 7.9(6) shall be complied with. When bus bars are enclosed in a conduit, the minimum safe approach distance requirements may be disregarded.*

Question:

1. Who determines “safety”?

(8.4 Problems or Malfunctions. Any problems or malfunctions that affect the safety of operations shall be repaired prior to the use of the aerial platform.)

Response:

1. *Paragraph 8.3, Prestart Inspection, is very specific regarding the operator’s prestart inspection responsibility: **8.3, Prestart Inspection.** Before each use or at the beginning of each shift, the aerial platform shall be given a visual inspection and functional test, including but not limited to, the following: 1) Operating and emergency controls; 2) Safety devices; 3) Personal protection devices; 4) Air, hydraulic, and fuel systems leaks; 5) Cables and wiring harness; 6) Loose or missing parts; 7) Tires and wheels; 8) Placards, warnings, control markings and operating*

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manual(s); 9) Outriggers, stabilizers and other structures; 10) Guardrail system; 11) Items specified by the manufacturer.

I also refer you to Paragraph 8.7, Workplace Inspection.

8.7 Workplace Inspection. Before the aerial platform is used and during use, the operator shall check the area in which the aerial platform is to be used for possible hazards such as, but not limited to: 1) Drop-offs and holes; 2) Bumps and floor obstructions; 3) Debris; 4) Overhead obstructions and high voltage conductors; 5) Hazardous locations; 6) Inadequate surface and support to withstand all load forces imposed by the aerial platform in all operating configurations; 7) Wind and weather conditions; 8) Other possible unsafe conditions.

And Paragraph 8.8, During Operation.

During Operation. The aerial platform shall be used in accordance with this standard. Before each elevation of the platform, the operator shall ensure: 1) The aerial platform is operated on a surface within the limits specified by the manufacturer; 2) Outriggers, stabilizers, extendable axles or other stability enhancing means, are used as required by the manufacturer; 3) Guardrails are installed and access gates or openings are closed per manufacturer's instructions; 4) The load and its distribution on the platform and any platform extension(s) are in accordance with the manufacturer's rated capacity for that specific configuration; 5) There is adequate clearance from overhead obstructions; 6) The minimum safe approach distances (MSAD) to energized power lines and parts, as listed in Table 1 of Figure 3, are maintained; 7) All personnel on the platform are wearing safety gear as required at all times.

Paragraph 8.10, addressing operator warnings and instructions, stipulates that the operator shall ensure that the operation of the aerial platform in compliance with an extensive list of guidelines covering a broad section of subjects including personnel footing, moving equipment, hazardous locations, entanglement, capacity, work area, fueling, battery charging, unusual operating support conditions, travel speed, elevated driving requirements, stunt driving, security, the driving on slopes, the altering of safety devices, and numerous other items.

While there is clearly a chain of safety in the design, manufacture, marketing (through dealers and distributors), ownership, use and operation of aerial work platforms, clearly a most important link in the chain in insuring only properly trained operators operate. Therefore, as delineated above, the operator clearly has the ultimate responsibility regarding safe operation of the aerial platform. However, please note that Paragraph 8.11 addresses assistance available to the operator:

8.11 Assistance to the Operator. If the operator encounters any suspected malfunctions of the aerial platform, or any hazard or potentially unsafe condition relating to capacity, intended use or safe operation of the aerial platform, the operator shall cease operation of the aerial platform and request further information as to safe operation from management, or from the owner, dealer or manufacturer before further operation.

This clearly charges the operator with the responsibility (and the permission) to communicate with other entities in the safety chain for assistance.

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Question:

1. How is a dealer to determine if the training he is giving will keep him from being involved or losing a lawsuit? Should there not be a specific training format/agenda formulated by ANSI that is by ALL, not one subject to each of our discretion/interpretation of the ANSI standard requirements

Response:

1. It is the responsibility of the interpretations group to address specific inquiries regarding the intent and language in the standard. As such, we do not have the authority nor the discretion to address the specific question of how dealers determine if the training provided will keep the dealership from being involved in litigation. As it relates to the design of a "specific training format/agenda" please be advised that ANSI standards are, by intent, very broad in nature. As an example, they do not specify a specific type of control panel, nor a specific means of accomplishing such control functions. As such, controls can be manual, full hydraulic, electric over hydraulic, a combination of the preceding or an entirely different design. Only requirements regarding accessibility, orientation characteristics, requirements for automatic return to off positions, protection from inadvertent operation and markings must be complied with. In essence, specific end results are called for, but the means to accomplish these are left to the discretion of the personnel employed by the entity designing the aerial platform. Like the broadness of design options provided to the manufacturer for compliance, a similar latitude is provided to the manufacturers regarding their training programs, materials and manuals. The consensus of the sub-committee provided for a directive to be sent to the manufacturers to produce the required materials called for in the standard, but it also provided each of them the latitude to develop whatever materials they felt were most appropriate for their product(s).

Question:

1. We are confused with the ANSI/SIA Standard A92.6-1990 and related standards. ANSI/SIA A92.6-1990 (paragraph 8.8) and ANSI/SIA A92.2-1990 (Paragraph 10.2) states:
"The aerial platform shall be used in accordance with this standard. Before each elevation of the platform, the operator shall ensure: 7) All personnel on the platform are wearing safety gear as required at all times."
While ANSI/SIA A92.3-1990 states:
"The aerial platform shall be used in accordance with this standard. The operator shall ensure the following before each elevation of the platform, 7)
That he or she and all other personnel on the platform are wearing fall protection devices and other safety gear as required at all times (see 4.9.5)"
It is clearly evident why a body belt or harness and lanyard would be required under A92.2 but to require fall protection under A92.3 and not under A92.6 needs further explanation.
2. Please define "safety gear" and "as required at all times".

Response:

1. *Perhaps the following will shed light on why the A92.3 standard bears language addressing fall protection devices while A92.6 does not. During the development of the standard, mast climbing devices, now covered under ANSI/SIA A92.2-19XX,*

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were “an orphan” looking for a home. The main A92 committee directed the A92.3 subcommittee to incorporate mast climbing devices within their scope. The possible uses of mast climbing equipment is of such a nature that portions of the guardrail system may be removed. (Mast climbing equipment is many times utilized on the exterior of buildings in the laying of block and brick, and utilized in the installation of other exterior surfaces. Additionally, glazing contractors utilize mast climbers to install windows and frames.)

The front guardrail must be removed in certain applications for their work. In essence, mast climbing units are “climbing scaffolds” and scaffolds used in the same application do not require a guardrail system on the buildingside when the platform is less than 16” from the building. (Reference Section 4.5.9 of ANSI A10.8-1988.)

While the ANSI/SIA A92.9-19XX does not specifically reference this, it is implied that the same criteria will be used inasmuch as mast climbing products and masonry-type scaffolding applications can be similar (if not identical). In light of the potential application of mast climbing equipment in situations similar to or identical to masonry-type scaffold applications, it was recommended to have provisions for fall protection equipment addressed. When it was finally concluded a separate standard was required, the language addressing fall protection devices was “overlooked” as it regards the remaining equipment covered in the A92.3 standard and, as such, was left in. In essence, the language in the current A92.3 standard is a carryover from the initial efforts to cover mast climbing equipment as part of the ANSI/SIA A92.3-1990 standard. When the standard is rewritten (probably in 1995 or 1996), the reference to fall protection devices along with all other aspects of the standard will be reviewed.

2. Self propelled elevating platforms (aerial platforms) that comply with this standard are used to position personnel in many different environments. Each of these aerial work locations could require different types of personal “safety gear.” Such personal protection products may include, but are not necessarily limited to, hard hats, goggles and other eye protection devices, respirators, sandblast suits, steel-toed boots and welders apparel.

ANSI committees cannot possibly anticipate all of the environments the aerial platforms could be used in, and what the proper personal safety gear would be for all of those environments.

ANSI/SIA A92.6-1990 is now very clear that the operator has responsibility to know what constitutes safe work conditions and what is the correct safety gear for his craft or skill. The operator is also responsible for knowing the possible environmental hazards.

For purposes of this standard, “safety gear” is all personal protection equipment as required by the nature of the environment in which the operator will perform.

Although the standard does not specify the use of safety belts or body harnesses, please be advised a “user” (OSHA refers to user as employer) may stipulate work site rules and specify fall protective gear (either safety belts or body harnesses) shall be used.

The standard does not state when a specific piece of “safety gear” shall be worn.

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A92.6-1999

Question:

1. Section 7.3.3 Pre-Start Inspection, each states, "Before use each day or at the beginning of each shift, the aerial lift shall be given a visual inspection and functional test....."

Is it the intent of this statement that the lift is only required to be inspected once each 24 hours, once each work day or once each shift? Some personnel feel that their shift is their day. Hypothetically, is a pre-start inspection conducted at 8 AM still valid for the next shift at 4 PM or are personnel on the next shift required to conduct another pre-start inspection to cover their work day?

Response:

1. *"The intent of this section is that an inspection should be conducted per the manufacturer's requirements each time there is a shift change. If there is only one shift per day, the inspection would be conducted at the beginning of that shift once a day. More than one shift requires inspections equal to the number of shifts conducted by each successive operator. Additional inspections may be required depending on operating conditions and the severity of the environment according to section 7.3."*

An interpretation is not equivalent to full A92 consensus, and in the event further questions are raised, the interpretation may be reviewed and even radically changed at the Full Committee level. Also please be aware the rendering of interpretations shall in no way be used to supplant or weaken the normal A92 standards development activities.

A92.6-2006(R2014)

Question:

On behalf of the dealers and rental equipment industry we would like to request an interpretation of the word "current" as stated in this standard, "A92.5-2006 5.2.2 Manual of Responsibilities. The current Manual of Responsibilities for dealers, owners, users, operators, lessors, lessees and brokers of boom-supported elevating work platforms shall be provided and stored in the weather resistant storage compartment."

Specifically, if the date on the front cover changes to a date in the future and no other language changes in the documents, A92.3, A92.5 and A92.6, then is the 2006 manual current?

As well, on behalf of the dealers and rental equipment industry we would like to request that, if at all possible and within the rules and guidelines of ANSI and the ANSI A92 Committee, that the current

Manual(s) of Responsibilities A92.3, A92. 5 and A92.6 not be reissued with a new date. If the Manual(s) of Responsibilities A92.3, A92.5 and A92.6 do have to be reissued with a new date then we respectfully request a statement from the ANSI A92 Committee that the 2006 Manuals of Responsibilities for A92.3, A92.5 and A92.6 be deemed current as

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the content and language will remain the same in the newly dated Manuals as the 2006 versions.

Response:

Yes, the 2006 Manual of Responsibilities can be considered “current” and used to comply with the requirement set forth in paragraphs 5.2.2, 6.3.2, 7.2.2 and 8.2.2 of the Manual of Responsibilities for Dealers, Owners, Users, Operators, Lessors, Lessees and Brokers of ANSI/SAIA A92.6-2012, Self-Propelled Elevating Work Platforms which state:

“The current Manual of Responsibilities for dealers, owners, users, operators, lessors, lessees and brokers of self-propelled elevating work platforms shall be provided and stored in the weather resistant storage compartment.”

The duties, responsibilities and requirements set forth in the Manual of Responsibilities for Dealers, Owners, Users, Operators, Lessors, Lessees and Brokers of ANSI/SIA A92.6-2012, Self-Propelled Elevating Work Platforms are identical to those in the Manual of Responsibilities for Dealers, Owners, Users, Operators, Lessors, Lessees and Brokers of ANSI/SIA A92.6-2006, Self-Propelled Elevating Work Platforms. The 2012 Manual of Responsibilities will be dated 2012 and was created and published to reflect the 2012 reaffirmation of American National Standards Institute standard ANSI/SIA A92.6 for Self-Propelled Elevating Work Platforms by the ANSI A92 sub and main committees.

Question:

In the ANSI/SAIA A92.6 - 2006 (R-2014) standard Para: 5.3 The Pre-delivery preparation states, Aerial platforms shall be inspected, serviced and adjusted to the manufacturer's requirements prior to each delivery by sale, lease or rental. The new standard A92.22-201X Para: 5.2 states virtually the same. Prior to each delivery, the owner or dealer delivering the MEWP for sale, lease, rental or any form of use shall ensure the MEWP is inspected, repaired and adjusted in accordance with the manufacturer's specifications.

My question is this, are we required to complete a Post Delivery inspection at a customer site prior to the customer using the equipment after we or a 3rd party delivered the MEWP to the customer? If we as a dealership complete the Pre-delivery inspection of an MEWP as per the standard at one of our Dealerships by qualified technicians.

Additionally, after we have completed the Pre-delivery inspection and have delivered the MEWP either with our transport or a 3rd party to a customer, what additional responsibilities do we have as the Dealer/Owner?

Response:

The requirement for pre-delivery inspection is contained in section 5.3 and 6.5 of the current ANSI/SAIA standard A92.6.

The Dealer is required to perform an inspection prior to delivery:

“5.3 Predelivery Preparation. Aerial platforms shall be inspected, serviced and adjusted to manufacturer's requirements prior to each delivery by sale, lease, or rental”

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In the alternative, If the unit is delivered by the owner, the owner is required to perform the inspection:

“6.5 Pre-delivery Preparation. Aerial platforms shall be inspected, serviced, and adjusted in accordance with the manufacturer’s specifications prior to each delivery by sale, lease, or rental. “

In either case, the pre-delivery is performed once per delivery.

Additional responsibilities after delivery include familiarization upon delivery and the frequent and annual inspections at appropriate times: This is by no means an exhaustive list of the duties of an owner or dealer. See the entire standard for other responsibilities.

6.12 Familiarization upon delivery. Upon delivery for lease, rental or any form of beneficial use, the owner shall have the responsibility with the person designated by the receiving entity for accepting the aerial platform.

Question:

I am seeking clarification on ANSI 92.6, section 4.13.2.1, which states the following:

4.13.2.1 Top rail. The guardrail system shall include a top rail around its upper periphery. The height of the top rail above the platform shall be 42 inches (1.07m) plus or minus 3 inches (7.6 cm) above the platform surface. Equivalent structure may be used in place of top rails and shall meet the strength requirements of section 4.13.2.4.

I could not find a definition of “Equivalent structure” anywhere in the document. Does “Equivalent structure” imply a height of 42 inches as per the required height of the top rail, or would a structure with some depth, such as a shelf, possibly qualify as an “Equivalent structure” despite a lower height?

As an example, one equipment manufacturer has a lift with a shelf of only 34 inches above the platform surface. However, that shelf extends to a distance of 20.5 inches away from the platform, which is a much more substantial deterrent to falling than would be a simple rail of the same height. Would such a shelf qualify as an “Equivalent structure”?

Response:

Guardrails SHALL (must) be 42 plus or minus 3 inches high AND, SHALL (must) comply with all structural and other requirements set forth for guardrails in section 4.13.2. Equivalent structure means a structure that is not a “rail”. Equivalent structure may be other than the ‘rail’ and shall meet all of the requirement for a railing as defined in section 4.13.

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4.13.2.1 Top rail. The guardrail system shall include a top rail around its upper periphery. The height of the top rail above the platform shall be 42 inches (1.07m) plus or minus 3 inches (7.6 cm) above the platform surface. Equivalent structure may be used in place of top rails and shall meet the strength requirements of section 4.13.2.4.

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Response

Guardrails SHALL (must) be 42 plus or minus 3 inches high AND, SHALL (must) comply with all structural and other requirements set forth for guardrails in section 4.13.2. Equivalent structure means a structure that is not a “rail”. Equivalent structure may be other than the ‘rail’ and shall meet all of the requirement for a railing as defined in section 4.13.

Question:

1) Is Tutus correct that “as a company, does not directly interact with aerial devices,” there are no “requirements mandated by A92.6 Standard” on the company?

a) if not, how is the company classified as an entity with regards to the “requirements mandated in the Standard?”³⁹

Answer

Whenever an individual or organization adopts or performs any requirement(s) set forth in A92.6 standards for any entity (i.e. manufacturer, dealer, owner, user, operator, lessor, lessee and Broker), they assume the responsibilities of that entity.

Question

2) Since modifications or alterations to the aerial platform must be approved by “written permission of the manufacturer,”^{40, 41, 42, & 43} or, in some cases, a (remanufacturer),^{44, 45, & 46} and the ability of “a qualified person” to “approve [] modifications” is contingent on the question of if “the original manufacturer no longer exists,”^{47, 48, & 49} is the “original manufacturer” and/or (remanufacturer) obligated to respond to an inquiry requesting such written approval by providing a determination, or status of a determination other than at time of delivery⁵⁰, when requested to assist another in answering a question,^{51 & 52} for “a required modification?”⁵³

a) If so obligated, what are the:

- i. requirements ensure objective determinations, i.e. does a rejection have to include:
 1. state the testing procedures utilized in the determination,
 2. identifying which of the “operation, stability, safety factors, rated load, or safety of the aerial platform”⁵⁴ is being affected,
 3. specify how the modification is affecting the aerial platform,
 4. quantify or qualify the effects, and the acceptable tolerance range.
- ii. designations of limits acceptable for responding with a timely determination,
- iii. enforcement mechanism and penalties preventing non-compliance, and/or oversight committees/agencies for disputes/appeals.

b) If not so obligated:

ASC A92.6 Self-Propelled Elevating Work Platforms

- i. Does the A92 Standard designate other equivalent entities having authority to provide a response to an inquiry for “a written approval of a required modification?”⁵⁵
- ii. When would such authority transfer from a non-responsive manufacturer to the other equivalent entities? ⁵⁶
- iii. To what degree is such transfer of authority permanent, i.e. is it with respect to:
 - 1. all authority of the original manufacturer, as if the non-responsive manufacturer no longer exists for approval purposes under the Standard,
 - 2. only authority concerning the approval category for which the manufacturer was non-responsive, i.e. any modification or alteration approval,
 - 3. only authority for the particular issue with respect to the non-responsive manufacturer, i.e. any similar modification or alteration, or
 - 4. only for the single inquiry to the non-responsive manufacturer, i.e. only the specific approval requested can now be addresses by another entity, or
 - 5. some other determination / criteria, i.e. manufacturer must implement ASC approved procedures⁵⁷ preventing future non-responsiveness before approval authority will be re-vested?

Answer

The Standard does not place any obligation upon a manufacturer to respond to requests for written approval of modifications. Therefore, providing an interpretation would not be appropriate.

ASC A92.7 AIRLINE GROUND SUPPORT VEHICLE-MOUNTED VERTICAL LIFT DEVICES

No request for interpretations at this time.

ASC A92.8 VEHICLE-MOUNTED BRIDGE INSPECTION AND MAINTENANCE DEVICES

No requests for interpretations at this time.

ASC A92.9 MAST CLIMBING WORK PLATFORMS

A92.9-1993

Question:

1. Is it the intent of this rule to electrically prohibit horizontal motion of the mast climbing work platform while it is in use?

(4.12 Lateral motion controls. Mast Climbing Work Platforms shall be provided with a means of protecting against unintended lateral motion while in use.)

Response:

1. *The key word in your question is “motion” and our answer is as follows: It is the intent of paragraph 4.12 to prevent horizontal travel, not “motion” of the elevating work platform, by whatever means, while the platform is in the raised position. We would not want to say that electrically would be the only way to prevent horizontal movement. There may be other ways to accomplish this, but clearly electrically would be one method.*

ASC A92.10 TRANSPORT PLATFORMS

No requests for interpretations at this time.

ASC A92.20 Design, Calculations, Safety Requirements and Test Methods for Mobile Elevating Work Platforms (MEWPs)

A92.20-2018

Question:

On paragraph 4.2.4.2.3 there is figure 3, which shows Load spectrum factor according the maximum basket load. (the same figure was used on EN280 until the latest version). Anyway, we did not find any notes how the factor should be used in calculation. So, our guess is that there is either some text missing, or the figure is there by mistake. Which one is correct, can the factor be used to decrease loads on fatigue calculations?

Response:

Figure 3 of paragraph 4.2.4.2.3 is included for reference only. Additional information concerning Fatigue-Stress Analysis is located in Appendix B of the standard. Manufactures may consider and apply field and other data when performing fatigue calculations.

Question:

On paragraph 4.5.2.5.2 there is demand that junction between wire rope and its termination should hold at least 100% of the minimum breaking load of wire rope. But swaged stud terminal, which usual used on MEWPs, can hold only 90%. Also, on EN280, CSA and AS standards that demand is only 80%. That makes sense cause calculation of rope diameter / rope drive system take account of number of duty cycles which the rope runs around sheaves. The connection between rope and termination never runs around sheaves, so on other hand is not facing any fatigue issues."

Response:

The minimum breaking load for wire rope connections and terminations shall not be less than the rated minimum breaking strength specified by the wire rope manufacturer.

prEN 280-1:2017 (E)

The junction between the wire rope and the wire rope termination shall be able to resist at least 80 % of the minimum breaking load of the wire rope.

Verification – by design check and visual examination.

5.5.2.6 Visual examination of wire ropes and wire rope terminations shall be possible preferably without the removal of the wire ropes or major disassembly of the structural components of the MEWP.

ISO 2010

The junction between a wire rope and its termination shall be able to resist at least 80 % of the minimum breaking load of the wire rope.

Verification shall be carried out by means of a design check and by visual examination.

ASC A92.20 Design, Calculations, Safety Requirements and Test Methods for Mobile Elevating Work Platforms (MEWPs)

CSA

The junction between a wire rope and its termination shall be able to resist at least 80 % of the minimum breaking load of the wire rope.

Verification shall be carried out by means of a design check and by visual examination.

Question:

What provisions are provided within the scope of ANSI A92.20 for special purpose or limited use MEWP's designed for a specific range of applications? Of particular interest are deviations from the standard with regard to the work platform requirements to accommodate operator access to stored warehouse materials or workpiece access in manufacturing operations, for example. These applications often require guardrail and toeguard configurations not complaint with the standard yet can be configured to provide equivalent safety considering the application environment.

Response:

There are currently no additional provisions to allow deviations from the standard for the special purpose MEWP's you are referencing in ANSI/SAIA A92.20-2018.

Question:

4.6.3, "Clear horizontal space between toeguard segments shall not exceed 15 mm (0.59 in)."

-Does this include the area of the entry gate?

Response:

Yes.

Question:

Is this required if no tools/objects are permitted on the operator platform?

Response:

Yes

Question:

When asked for clarification with regard to the CSA B354.6 standard (which mirrors much of the language of ANSI A92.20, including the toe guard language), a member of the CSA B354.6 committee communicated "It is my opinion that if the device is used in an industrial premise, if the SOP is clear that no tools or similar falling hazards are with a worker while the platform is elevated and if the operators are trained in the standard operating procedure and supervision is provided, the toeguards are not needed.

Response:

ANSI A92.20 does not have an interpretation on the opinion received from the CSA B354.6 Committee member.

ASC A92.20 Design, Calculations, Safety Requirements and Test Methods for Mobile Elevating Work Platforms (MEWPs)

Question:

4.6.6.2, "Platform width and length shall be at least 46 cm (18.11 in.). Verification shall be carried out by visual examination."

-Is this referring to the external platform dimensions, or the dimensions of the area where an operator can stand (i.e. the dimension to the inside of the toe guards)?

Response:

The dimensions are for the internal area where the platform occupant(s) would stand.

Question:

If the platform is configured such that the operator stands in one location but there is a load tray separate from the operator area, should the length be considered the area for the operator only, or is it the combination of the operator area and the load tray?

Response:

The length requirement is for the platform occupant(s) area.

Question:

Section 5.1.4.2.1 identifies the test loads to be applied to the MEWP during the static tests, one of which is the manual force specified in 4.2.3.3. Section 4.2.3.3 requires the manual force be multiplied by a factor of 1.1 for stability calculations. Does the manual force used in the stability test also need to be multiplied by 1.1?

Response:

Yes, the manual force also needs to be multiplied by 1.1.

Question:

"Section 5.1.4.2.1 identifies the test loads to be applied to the MEWP during the static tests, one of which is the manual force specified in 4.2.3.3. Section 4.2.3.3 requires the manual force be multiplied by a factor of 1.1 for stability calculations. Does the manual force used in the stability test also need to be multiplied by 1.1?"

Answer:

Yes, the manual force also needs to be multiplied by 1.1.

Question:

"A92.20 has an overload test that loads the unit with 125% platform capacity and operates the machine with "accelerations and decelerations appropriate to safe control of the load"

Our team is having trouble determining the exact interpretation of this requirement.

One thought is that the load should be subjected to the maximum acceleration that the ramped control system can induce.

i.e. Operate the unit with typical operation controls and subject it to the maximum dynamic loading the unit can produce with intended operation.

ASC A92.20 Design, Calculations, Safety Requirements and Test Methods for Mobile Elevating Work Platforms (MEWPs)

The other thought is that the machine should move in a semi-static manner.
i.e. Operate the unit so slowly that all dynamic loading is taken out of the equation.

Would you provide some clarification on this requirement? I appreciate your assistance.

Answer:

Clause 5.1.4.3.4 provides for reduced MEWP accelerations and decelerations to be determined by the manufacturer in order to safely conduct the Overload Test described in section 5.1.4.3. Performance of control system speed limiting devices is covered in the requirements of 5.1.4.4 Functional Tests.

Question:

"Does the new A92.20 – 2018 apply to a machine/device intended for moving persons if the device has a platform height less than 2m/6.56ft?"

Answer:

Paragraph 1.1 and Group/Type definitions set forth products to which the A92.20 standard applies. There are no platform height exclusions.

Question

ANSI 4.4.1.2.1 subsection F

- 1) Is there a tolerance (+) on the 1 meter (39 inches) or 10% of the height? We are having a discussion/debate on this requirement and was wondering if you could clarify?

Answer

The height specified is a maximum value.

Question

- 2) Once overload is tripped (120% of rated load) can the power be cycled, and the scissor continue to ascend (go up)?

Answer

No.

Question

- 3) Can a scissor be allowed to go past the 1 meter if it is a non continuous rise? Meaning if I go up 10-inch stop; go up another 10 inches stop, etc. with no fault (overloaded condition)?

Answer

No.

ASC A92.20 Design, Calculations, Safety Requirements and Test Methods for Mobile Elevating Work Platforms (MEWPs)

Question

4.4.1.2.1 subsection d.

If the load sensing system is triggered can the scissor platform only be lowered by manual descent or can it be lowered with an electrical function on the platform or ground control?

Answer

Section 4.4.1.2.1 part d) provides a general requirement for all MEWPs with a Load-Sensing System. Subsequent sections may provide exceptions to part d) for specific scenarios. Section 4.4.1.2.3 states that the emergency override system shall remain active independent of the state of the load-sensing system.

Question

In the published ANSI/SAIA A92.20-2018, please provide interpretation for the load distribution under the Dynamic Tests for the sections quoted below.

The Load distribution specified in the sec. 5.1.4.2.2.1.1 and sec 5.1.4.2.2.1.3 seem to be conflicting and need clarification.

Section 5.1.4.2.2.1.1 states that the rated load, be distributed evenly over the half of the work platform

- **5.1.4.2.2.1.1 Types 2 and 3 MEWPs shall be subjected to curb tests and braking tests with the rated load distributed evenly over the half of the work platform that will create the greatest overturning moment in the specific test case**

Section 5.1.4.2.2.1.3 states the main platform loads that increase the overturning moments shall be taken into account using a factor f , which is calculated by distributing the persons and tools/materials on the work platform as specified in 4.2.2.1.

- **5.1.4.2.2.1.3 Tests shall also be carried out with only the extension load, distributed in the same way on the extension. In addition, the main platform loads that increase the overturning moments shall be taken into account in accordance with 4.2.3.**

- **f is the proportion of the main work platform load outside the tipping line. Note: f is calculated by distributing the persons and tools/materials on the work platform as specified in 4.2.2.1** and then representing the proportion of the load outside the tipping line by the factor f**

** Since, section 4.2.2.1 does not refer to load distribution and only cites loads and forces to be considered, can we interpret that the load be distributed as per the section 5.1.4.2.2.1.1 and apply factor f , that is the proportion on the main work platform load outside the tipping line?

Answer

In the Figure 12 example of where to locate the loads, the calculation of factor ' f ' refers to the general clause 4.2.2.1; however, the subsequent clause 4.2.2.3 defines the distribution of load on the work platform that should be used to calculate the value for the factor ' f '.

ASC A92.20 Design, Calculations, Safety Requirements and Test Methods for Mobile Elevating Work Platforms (MEWPs)

Question

Do all ANSI/SAIA A92.20-2018 standard provisions only apply to aerial work platforms manufactured on or after the effective date? And, if not, why not?

Answer

Yes, the design and manufacturing requirements of this standard apply only to mobile elevating work platforms (MEWPs) manufactured on or after the effective date.

Question

Please respond to the criticism (Ref: "The A92 Committee solicits comments on and criticism of the requirements of the standards") the ANSI/SAIA A92.20-2018 standard is less clear than current and existing standards because it lacks an affirmative statement concerning its applicability.

Answer

The question is beyond the parameters of the A92.20 Interpretation Group as it is not requesting an interpretation of the language from the A92.20 standard.

Questions

I am requesting an interpretation of 6.4.2 Manufacturer's Plate and specifically 6.4.2.2(p). The requirement is to provide information attached in a durable manner that would include:

p) electrical supply information, if an external power supply is used.

My questions are:

1. Is there a requirement to provide electrical supply information (for instance nominal power) if the electrical power supply is internal to the MEWP?
2. Does this requirement apply to an external electric power supply (for example a 110 VAC power supply) that would provide power to a MEWPs built-in battery charger?

Response:

1. Is there a requirement to provide electrical supply information (for instance nominal power) if the electrical power supply is internal to the MEWP?

A: Clause 6.4.2 contains no requirements to display electrical supply information for internal power supplies

2. Does this requirement apply to an external electric power supply (for example a 110 VAC power supply) that would provide power to a MEWPs built-in battery charger?

A: The requirement in 6.4.2.2 part p includes external electrical power supplies which provide power to devices integrated into the MEWP design including built-in battery chargers

ASC A92.22 Safe Use of Mobile Elevating Work Platforms (MEWPs)

Question

Why were "... application, safety provisions and ..." not included in the "Basic Principles" for Dealers in the ANSI/SAIA A92.22-2018 Safe use standard? See the references below:

4.1.1 (ANSI/SAIA A92.22-2018 Safe Use)

Dealer: Since the dealer offers training and provides MEWPs to users, the basic principles apply in relationship to the maintenance, inspection, and repair of the equipment and when in the training of operators.

5 Responsibilities of Dealers (ANSI/SAIA A92.5-2006 R2014)

5.1 Basic Principles. Sound principles of safety, training, inspection, maintenance, application, and operation consistent with all data available regarding the parameters of intended use and expected environment shall be applied in the training of operators, in maintenance, application, safety provisions and operation of the aerial platform with due consideration of the knowledge that the unit will be carrying personnel.

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

Why are "Owners" not included in the "Basic Principles" in the ANSI/SAIA A92.22-2018 Safe Use standard Section 4.1.1? See the references below:

4.1.1 (ANSI/SAIA A92.22-2018 Safe Use)

(Authors Note: Owners are not included in this section)

6 Responsibilities of Owners (ANSI/SAIA A92.5-2006 R2014)

6.1 Basic Principles. Sound principles of safety, training, inspection, maintenance, application, and operation consistent with all data available regarding the parameters of intended use and expected environment shall be applied in the performance of the responsibilities of owners with due consideration of the knowledge that the aerial platform will be carrying personnel.

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

What is/are the justification(s) for any interpretation(s)? of the published ANSI/SAIA A92.22-2018 standard that do not apply all Basic Principles duties to all entities to whom the standards apply and that they must be carried out based upon information that is available regarding the parameters of intended use and the environments of intended use?

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

ASC A92.22 Safe Use of Mobile Elevating Work Platforms (MEWPs)

Question

What was the Committee's rationale and their basis for making these changes?

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

Please answer the criticism (Ref: "The A92 Committee solicits comments on and criticism of the requirements of the standards") that by changing, limiting and omitting Basic Principle requirements for certain entities in the published ANSI/SAIA A92.22 2018 standard is less safe than current and existing standards that are in effect.

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

A Manual of Responsibilities is a document containing definitions and requirements mandated in applicable A92 Standards for the following entities: Manufacturers, Dealers, Owners, Users, Supervisors, Operators; YES or NO;

Answer

Term 'manual of responsibilities' is defined in the standard.

Question

Dealers, Owners, Users, Supervisors, Operators, Lessee's, Lessor's and, Brokers are required by applicable current ANSI A92 standards and OSHA 1926, Subpart L, Appendix C to maintain "a" current MoR on all Manually Propelled, Self-Propelled and Boom-supported aerial work platform devices; YES, or NO;

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

If the answer for number 2 above is NO, why not?

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

Not requiring "a current" MoR on all MEWP's in the ANSI/SAIA A92.22-2018 standard can and will result in communicating contradictory requirements, duties and responsibilities for

ASC A92.22 Safe Use of Mobile Elevating Work Platforms (MEWPs)

Manufacturers, Dealers, Owners, Users, Supervisors, Operators, Lessee's, Lessor's and Brokers on machine shipped prior to the ANSI/SAIA A92.22-2018 Safe Use standard effective; YES, or NO

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

If the answer for number 4 above is NO, why not?

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

The purpose for a MoR is to ensure that the requirements, duties and responsibilities mandated in the A92.22 and A92.24-2018 standards are readily available to Dealers, Owners, Users, Supervisors, Operators and on the Manually Propelled, Self-Propelled and Boom-supported aerial work platform devices, they own, rent, sell, use and or operate; YES, or NO?

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

If the answer for number 6 above is NO, why not?

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

Why did the ANSI/SAIA A94.22-2018 standard eliminate the requirement for "a current" MoR that was has been in the A92.3, .5 and .6 standards since 2006?

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

By not requiring "a current" MoR, is the ANSI/SAIA A92.22-2018 standard less stringent than current the ANSI A92.3, .5, .6-2006 (Reaffirmed 2014) standards which do; YES, or NO?

ASC A92.22 Safe Use of Mobile Elevating Work Platforms (MEWPs)

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

If your answer to number 9 above is NO, why not?

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

What was the Committee's rationale and their basis for making the change?

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

Please respond to the criticism (Ref: "The A92 Committee solicits comments on and criticism of the requirements of the standards") that the ANSI/SAIA A92.22-2018 standard is less safe than current and existing A92 standards because it does include "a current" MoR requirement.

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

Do all ANSI/SAIA A92.22-2018 standard provisions apply to both new (manufactured on or after the effectivity date) and existing units manufactured any time before the effectivity date? And if not, why not?

Answer

Yes.

1.1.2 Effective Date

This standard will become effective December 2019 for responsibilities for manufacturers, dealers, owners, users, supervisors, operators, occupants, lessors, lessees and brokers for both new and existing units delivered by sale, lease, rental or any form of beneficial use on or after that effective date.

Question

Dealers, Owners, Users, Supervisors, Operators, Lessee's, Lessor's and, Brokers are required by applicable current ANSI A92 standards and OSHA 1926, Subpart L, Appendix C to maintain "a" current MoR on all Manually Propelled, Self-Propelled and Boom-supported aerial work platform devices; YES, or NO;

ASC A92.22 Safe Use of Mobile Elevating Work Platforms (MEWPs)

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

Why does ANSI/SAIA A92.24-2018 standard not differentiate between Brokers and other entities such as Dealers, Owners and Users when current ANSI A92.3, .5 and .6 standards have recognized their uniqueness as an entity since 2006?

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard

Question

What was the committee's rationale and their basis for making the change that otherwise eliminated the unique set of requirements for Brokers that has been in the A92.3, .5 and .6 standards since 2006?

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

Please answer the criticism (Ref: "The A92 Committee solicits comments on and criticism of the requirements of the standards") that by eliminating unique Broker requirements, the ANSI/SAIA A92.24-2018 standard is less clear than current and existing standards.

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

Is a Frequent Inspection on Aerial Work Platforms that are in service at 150 hours or 3 months whichever comes first required somewhere in the published ANSI/SAIA A92.22-2018 Safe Use standard?

Answer

No.

Question

If a Frequent Inspection requirement by Owners/Dealers of Aerial Work Platforms that are "in service at 150 hours or 3 months, whichever comes first" is not required, why was the requirement removed?

ASC A92.22 Safe Use of Mobile Elevating Work Platforms (MEWPs)

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

What was the rationale and basis for making the change that otherwise eliminated the Frequent Inspection requirement by Owners/Dealer of Aerial Work Platforms that are “in service at 150 hours or 3 months, whichever comes first”?

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

Question

Please respond to the criticism (Ref: “The A92 Committee solicits comments on and criticism of the requirements of the standards”) the ANSI/SAIA A92.22-2018 standard is less stringent and less safe than current and existing standards because it lacks a requirement for Owners/Dealers to perform Frequent Inspections on Aerial Work Platforms that are “in service at 150 hours or 3 months, whichever comes first”.

Answer

The question is beyond the parameters of the A92.22 Interpretation Group as it is not requesting an interpretation of the language from the A92.22 standard.

ASC A92.24 Training Requirements for the Use, Operation, Inspection, Testing and Maintenance of Mobile Elevating Work Platforms (MEWPs)

Question

How can users, first time or any user for that matter, be expected to know about and “request” familiarization?

Answer

The question is beyond the parameters of the A92.24 Interpretation Group as it is not requesting an interpretation of the language from the A92.24 standard.

Question

Why did the ANSI/SIAI A94.24 standard change the requirement that was has been in the A92.3, .5 and .6 standards since 2006 that, included among other things, “Upon delivery by sale, lease, rental or any form of use, the dealer shall have the responsibility with the person designated by the receiving entity for accepting the aerial platform to....”?

Answer

The question is beyond the parameters of the A92.24 Interpretation Group as it is not requesting an interpretation of the language from the A92.24 standard.

Question

Are the responsibilities set forth in the ANSI/SAIA A92.24-2018 standard, paragraph 6.3.3, concerning familiarization less stringent than those set forth in ANSI A92.3, .5 .6-2006 (Reaffirmed 2014) standards, paragraph(s) 5.8? YES or NO?

Answer

The question is beyond the parameters of the A92.24 Interpretation Group as it is not requesting an interpretation of the language from the A92.24 standard..

Question

If your reply/answer to number 3 above is NO, why not?

Answer

The question is beyond the parameters of the A92.24 Interpretation Group as it is not requesting an interpretation of the language from the A92.24 standard.

Question

What was the Committee’s rationale and their basis for making the change?

Answer

The question is beyond the parameters of the A92.24 Interpretation Group as it is not requesting an interpretation of the language from the A92.24 standard.

ASC A92.24 Training Requirements for the Use, Operation, Inspection, Testing and Maintenance of Mobile Elevating Work Platforms (MEWPs)

Question

Please answer the criticism (Ref: "The A92 Committee solicits comments on and criticism of the requirements of the standards") that by changing the requirement for familiarization from "shall provide" to "when requested" in the ANSI/SAIA A92.24-2018 standard, paragraph 6.3.3 is less safe than current and existing standards.

Answer

The question is beyond the parameters of the A92.24 Interpretation Group as it is not requesting an interpretation of the language from the A92.24 standard.

Question

Do all ANSI/SAIA A92.24-2018 standard provisions apply to both new (manufactured on or after the effectivity date) and existing units manufactured at any time before the effective date? And, if not, why not?

Answer

Yes.

A92.24, Section 2.1 requires this standard to be used in conjunction with the A92.22 safe use standard.

A92.22, Section 1.1.2 states:

"This standard will become effective December 2019 for responsibilities for manufacturers, dealers, owners, users, supervisors, operators, occupants, lessors, lessees and brokers for both new and existing units delivered by sale, lease, rental or any form of beneficial use on or after that effective date"

Question

Please respond to the criticism (Ref: "The A92 Committee solicits comments on and criticism of the requirements of the standards") the ANSI/SAIA A92.24-2018 standard is less clear than current and existing standards because it lacks an affirmative statement concerning its applicability.

Answer

The question is beyond the parameters of the A92.24 Interpretation Group as it is not requesting an interpretation of the language from the A92.24 standard.



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