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c. Set travel, swing, boom brakes, and other locking devices;

d. Put controls in the "off" position;

e. Stop the engine;

f. Secure the crane against accidental travel;

g. Set ground chocks on truck and crawler cranes upon leaving crane overnight; and

h. Lower crane boom to ground level or otherwise fasten crane booms securely against displacement by wind loads or other outside forces.

(v) If there is a warning sign on the switch or engine starting controls, the operator shall not close the switch or start the engine until the warning sign has been removed by the person placing it there.

(vi) Before closing the switch or starting the engine, the operator shall see that all controls are in the "off" position and all personnel in the area are in the clear.

(vii) The operator shall familiarize himself with the equipment and its proper care. If adjustments or repairs are necessary, or any defects are known, he shall report the deficiencies promptly to his supervisor, and shall also notify the next operator of the defects upon changing shifts.

(ix) Booms which are being assembled or disassembled on the ground with or without support of the boom harness should be securely blocked to prevent dropping of the boom and boom sections.

(x) Cranes shall be operated only by the following personnel:

a. The designated qualified operator.

b. Learners under the direct supervision of the designated qualified operator.

c. Maintenance and test personnel, only when necessary for the performance of their duties.

d. Inspectors.

e. Persons being tested in an operator's examination.

(F) Operating precautions.

(i) During operations the operator may not leave his position until the load has been landed, or until the load and/or working slings and hook or hooks are returned to a point of rest.

(ii) The boom shall be lowered for maintenance or repair of the boom points.

(iii) The boom swing position shall be locked when the carrier equipment is moved.

(iv) Maintenance and repair of the machine may not be performed with the power unit in operation unless the master clutch is disengaged.

(v) When handling maximum rated loads the operator shall test the hoist brake after lifting the load a few inches; if the brake does not hold firmly, the brakes shall be adjusted prior to further operation.

(vi) Side pulls are prohibited. The boom shall be over the load for the initial liftoff.

(vii) The operator shall place all operating controls in the "off" position and disengage the master clutch before leaving his position.

(viii) Personnel may not ride or be hoisted on loads, hooks, slings, hammers, or buckets, unless the load platform is specifically approved by the Alaska Department of Labor as a manlift.

(ix) The operator shall not hoist, lower, swing, or travel while anyone is on the load or hook.

(x) The operator shall not carry loads over people.

(G) Crane attendants. Attendants ("signal men," "oiler") shall be required to meet the following qualifications:

(i) The attendant shall be required to pass a practical examination demonstrating familiarity with crane operations and safe hoisting procedures, including standard visual and audible signal systems, and the load limit capacities of the equipment he will attend.

(ii) Have the physical qualifications of an operator as set forth in (D)(vi) of this paragraph.

(iii) The attendant shall function as a safety observer in addition to his other normal duties as machine attendant. He shall attend only to the machine to which he is assigned and shall not perform unrelated concurrent duties.

(iv) In directing movement of the load, the attendant shall see that:

a. The crane is level and, where necessary, blocked properly.

b. The load is well-secured and properly balanced in the sling or lifting device before it is lifted more than a few inches.

c. Hoist rope is not kinked nor multiple lines twisted.

d. Hook is brought over the load in a manner to prevent swinging.

e. Rope is properly seated in the sheaves, especially if there has been a slack rope condition.

f. The operator is warned of critical loads and that loads approaching lift limits are tested before the lift is begun.

g. The operator is warned of hazardous conditions imposed by movement of other vehicles or construction operations.

(3) Hammerhead tower cranes.

(A) Adequate clearance shall be maintained between moving and rotating structures of the crane and fixed objects to allow the passage of employees without harm.

(B) Employees required to perform duties on the horizontal boom of hammerhead tower cranes shall be protected against falling by guardrails or by safety belts and lanyards attached to lifelines in accordance with sec. 50 of this subchapter.

(C) Buffers shall be provided at both ends of travel of the trolley.

(D) Cranes mounted on rail tracks shall be equipped with limit switches limiting the travel of the crane on the track and stops or buffers at each end of the tracks.

(E) All hammerhead tower cranes in use shall meet the applicable requirements for design, construction, installation, testing, maintenance, inspection, and operation as prescribed by the manufacturer.

(4) Overhead and gantry cranes.

(A) The rated load of the crane shall be plainly marked on each side of the crane, and if the crane has more than one hoisting unit, each hoist shall have its rated load marked on it or its load block, and this marking shall be clearly legible from the ground or floor.

(B) Bridge trucks shall be equipped with sweeps which extend below the top of the rail and project in front of the truck wheels.

(C) Except for floor-operated cranes, a gong or other effective audible warning signal shall be provided for each crane equipped with a power traveling mechanism.

(D) All overhead and gantry cranes in use shall meet the applicable requirements for design, construction, installation, testing, maintenance, inspection, and operation as prescribed in the ANSI B30.2.0-1967, Safety Code for Overhead and Gantry Cranes.

(5) Derricks.

(A) All derricks in use shall meet the applicable requirements for design, construction, installation, inspection, testing, maintenance, and operation as prescribed in ANSI B30.6-1969, Safety Code for Derricks.

(B) Other specific requirements for design, construction, installation, inspection, testing, maintenance and operation of derricks are:

(i) All blocks, shackles, sheaves, and the top of connection of the mast shall be inspected prior to erection of derrick and defective equipment replaced.

(ii) All wire rope shall be inspected prior to use and defective material replaced. Wire rope shall be taken out of service in accordance with the criteria specified in (1)(G) of this subsection.

(iii) All sheave and pulley pins shall be oiled and inspected periodically after initial erection of derrick.

(iv) Derricks supported by the steel frame of a structure shall have limitations of load and stress determined by a qualified engineer competent in structural design. These determinations shall be appropriately documented and recorded.

(v) Guyed derricks may be anchored by means of logs buried in the ground ("deadman") provided the anchors are buried to a suitable depth to provide sufficient resistance to the resultant force exerted by the guy.

(vi) Stiff leg derricks shall be anchored to withstand a stress of one and one-half times the maximum load.

(vii) The top of the mast on guyed derricks shall be secured by a minimum of six equally spaced guy wires.

(viii) Derrick guys and masts shall be 30 degrees or greater if practicable. If such angle for two or more guys is less than 30 degrees, the maximum rated load shall be reduced by two percent for each degree less than 30 degrees for each such guy.

(ix) A minimum working clearance of 10 feet from energized power lines shall be maintained in accordance with (1)(O) of this subsection.

(x) Derrick hoisting brakes shall be capable of holding the maximum rated load. A test for maximum load shall be conducted at least once per week during continuous use.

(xi) Legible capacity plates shall be attached to derricks indicating permissible loads for the boom positions.

(6) Floating cranes and derricks.

(A) Mobile cranes mounted on barges.

(i) When a mobile crane is mounted on a barge, the rated load of the crane shall not exceed the original capacity specified by the manufacturer.

(ii) A load rating chart, with clearly legible letters and figures, shall be provided with each crane, and securely fixed at a location easily visible to the operator.

(iii) When load ratings are reduced to stay within the limits for list of the barge with a crane mounted on it, a new load rating chart shall be provided.

(iv) Mobile cranes on barges shall be positively secured.

(B) Permanently mounted floating cranes and derricks.

(i) When cranes and derricks are permanently installed on a barge the capacity and limitations of use shall be based on competent design criteria.

(ii) A load rating chart with clearly legible letters and figures shall be provided and securely fixed at a location easily visible to the operator.

(iii) Floating cranes and floating derricks in use shall meet the applicable requirements for design, construction, installation, testing, maintenance, and operation as prescribed by the manufacturer.

(C) Protection of employees working on barges.

(i) The employer shall comply with the applicable requirements for protection of employees working on board marine vessels specified in subsection 150(f) of this subchapter.

(ii) Gangways and ramps for personnel on a floating plant shall be equipped with guardrails or lifelines and a nonskid walking surface.

(iii) Guardrails, lifelines or gratings shall be provided at all deck openings.

(iv) Catwalks or platforms with guardrails shall be provided at all locations where men are regularly employed above decks or water.

(v) All persons working aloft, except those on guarded catwalks and platforms shall be equipped with safety belts and lifelines.

(vi) No employee shall be permitted to enter a boiler, tank, cofferdam, double bottom, or other confined space until a safe air supply is assured, protective rescue equipment is at hand, and an attendant is stationed at the point of entry with a safety line to the confined workmen.

(vii) Suitable launches or tenders operated by a designated operator or crew shall be provided for transportation to and from the floating plant.

(viii) One or more life-saving skiffs in sufficient number for working personnel shall be provided for each floating plant and for each work place accessible to water. Life-saving skiffs shall be available for instant launching and used only for life-saving drills.

(7) Power shovels, backhoes and dragline excavators.

(A) Equipment requirements.

(i) Dragline excavators shall comply with applicable provisions for design, inspection, construction, testing, maintenance and operation as prescribed in ANSI B30.5-1968, Safety Code for Crawler, Locomotive and Truck Cranes.

(ii) Power shovels and backhoes (drag shovels) shall comply with the applicable provisions for design, inspection, construction, testing, maintenance, and operation as prescribed in Power Crane and Shovel Association Standards 1-1968, 2-1968, and 3-1968.

(B) Specific requirements for design, inspection, construction, testing, maintenance and operation of power shovels and backhoes.

(i) Unauthorized personnel are not allowed on the operating platform during operation.

(ii) The dipper of a shovel or hoe shall be placed on the ground or working surface when the machine is not in operation.

(iii) The operator shall not move the load over the cab of occupied trucks and other vehicles or over workmen on the ground.

(iv) Operators shall not leave the cab of the machine without disengaging the master clutch.

(v) Shovels and hoes shall be equipped with a warning whistle or horn to signal commencement and stoppage of operation.

(C) Operating crew. The provisions of (2)(D) of this subsection shall apply to operation of power shovels, backhoes, and dragline excavators.

(D) Operating precautions. The provisions of (2)(E) and (2)(F) of this subsection shall apply to the operation of power shovels, backhoes, and dragline excavations.

(8) Crane or derrick suspended personnel platforms.

(A) Scope, application and definitions.

(i) Scope and application. This paragraph applies to the design, construction, testing, use and maintenance of personnel platforms, and the hoisting of personnel platforms on the load lines of cranes or derricks.

(ii) Definitions. For the purposes of this subsection, the following definitions apply:

a. "Failure" means load refusal, breakage, or separation of components.

b. "Hoist" (or hoisting) means all crane or derrick functions such as lowering, lifting, swinging, booming in and out or up and down, or suspending a personnel platform.

c. "Load refusal" means the point where the ultimate strength is exceeded.

d. "Maximum intended load" means the total load of all employees, tools, materials, and other loads reasonably anticipated to be applied to a personnel platform or personnel platform component at any one time.

e. "Runway" means a firm, level surface designed, prepared and designated as a path of travel for the weight and configuration of the crane being used to lift and travel with the crane suspended platform. An existing surface may be used as long as it meets these criteria.

(B) General requirements. The use of a crane or derrick to hoist employees on a personnel platform is prohibited, except when the erection, use, and dismantling of conventional means of reaching the worksite, such as a personnel hoist, ladder, stairway,

aerial lift, elevating work platform or scaffold, would be more hazardous, or is not possible because of structural design or worksite conditions.

(C) Cranes and derricks.

(1) Operational criteria.

a. Hoisting of the personnel platform must be performed in a slow, controlled, cautious manner with no sudden movements of the crane or derrick, or the platform.

b. Load lines must be capable of supporting, without failure, at least seven times the maximum intended load, except that where rotation resistant rope is used, the lines must be capable of supporting without failure, at least ten times the maximum intended load. The required design factor is achieved by taking the current safety factor of 3.5 (required under 05.140(a)(2)(B) and applying the 50 percent derating of the crane capacity which is required by 05.140(a)(8)(C)(1)f.

c. Load and boom hoist drum brakes, swing brakes, and locking devices such as pawls or dogs must be engaged when the occupied personnel platform is in a stationary working position.

d. The load line hoist drum must have a system or device on the power train, other than the load hoist brake, which regulates the lowering rate of speed of the hoist mechanism (controlled load lowering). Free fall is prohibited.

e. The crane must be uniformly level within one percent of level grade and located on firm footing. Cranes equipped with outriggers must have them all fully deployed

following manufacturer's specifications insofar as applicable, when hoisting employees.

f. The total weight of the loaded personnel platform and related rigging may not exceed 50 percent of the rated capacity for the radius and configuration of the crane or derrick.

g. The use of machines having live booms in which lowering is controlled by a brake without aid from other devices which slow the lowering speeds is prohibited.

(11) Instruments and components.

a. Cranes and derricks with variable angle booms must be equipped with a boom angle indicator, readily visible to the operator.

b. Cranes with telescoping booms must be equipped with a device to indicate clearly to the operator, at all times, the boom's extended length, or an accurate determination of the load radius to be used during the lift must be made prior to hoisting personnel.

c. A positive acting device must be used which prevents contact between the load block or overhaul ball and the boom tip (anti-two-blocking device), or a system must be used which deactivates the hoisting action before damage occurs in the event of a two-blocking situation (two block damage prevention feature).

(D) Personnel platforms.

(1) Design criteria.

a. The personnel platform and suspension system must be designed by a

qualified engineer or a qualified person competent in structural design.

b. The suspension system must be designed to minimize tipping of the platform due to movement of employees occupying the platform.

c. The personnel platform itself, except the guardrail system and body belt/harness anchorages, must be capable of supporting, without failure, its own weight and at least five times the maximum intended load. Criteria for guardrail systems and body belt/harness anchorages are contained in Sections 050 and 130 of this subchapter.

(ii) Platform specifications.

a. Each personnel platform must be equipped with a guardrail system which meets the requirements of 05.130, Construction Code, and, must be enclosed at least from the toeboard to mid-rail with either solid construction or expanded metal having openings no greater than 1/2 inch (1.27 cm).

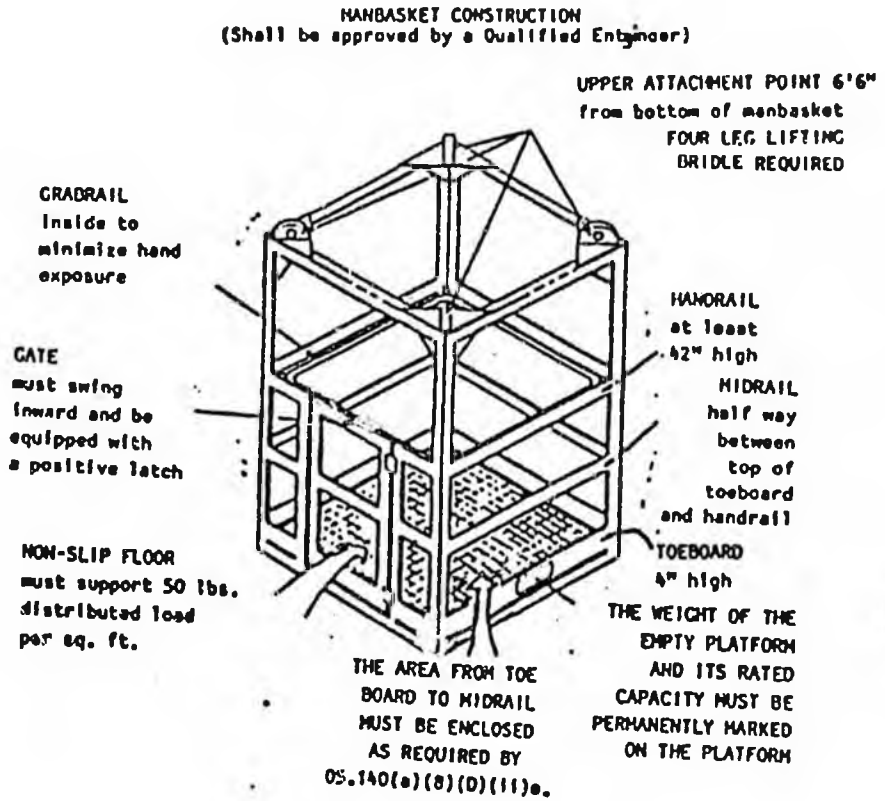
b. A grab rail must be installed inside the entire perimeter of the personnel platform.

c. Access gates, if installed, may not swing outward during hoisting.

d. Access gates, including sliding or folding gates, must be equipped with a restraining device to prevent accidental opening.

e. Headroom must be provided which allows employees to stand upright in the platform.

Figure 8



f. In addition to the use of hard hats, employees shall be protected by overhead protection on the personnel platform when employees are exposed to falling objects.

g. All rough edges exposed to contact by employees must be surfaced or smoothed in order to prevent injury to employees from punctures or lacerations.

h. All welding of the personnel platform and its components must be performed by a qualified welder familiar with the weld grades, types and material specified in the platform design.

i. The personnel platform must be conspicuously posted with a plate or other permanent marking which indicates the weight of the platform and its rated load capacity or maximum intended load.

(iii) Personnel platform loading.

a. The personnel platform may not be loaded in excess of its rated load capacity. When a personnel platform does not have a rated load capacity then the personnel platform may not be loaded in excess of its maximum intended load.

b. The number of employees occupying the personnel platform may not exceed the number required for the work being performed.

c. Personnel platforms may be used only for employees, their tools, and the materials necessary to do their work, and may not be used to hoist only materials or tools when not hoisting personnel.

d. Materials and tools for use during a personnel lift must be secured to prevent displacement.

e. Materials and tools for use during a personnel lift must be evenly distributed within the confines of the platform while the platform is suspended.

(iv) Rigging.

a. When a wire rope bridle is used to connect the personnel platform to the load line, each bridle leg must be connected to a master link or shackle in such a manner to ensure that the load is evenly divided among the bridle legs.

b. Hooks on overhaul ball assemblies, lower load blocks, or other attachment assemblies must be of a type that can be closed and locked, eliminating the hook throat opening. Alternatively, an alloy anchor type shackle with a bolt, nut and retaining pin may be used.

c. Wire rope, shackles, rings, master links, and other rigging hardware must be capable of supporting, without failure, at least five times the maximum intended load applied or transmitted to that component. Where rotation resistant rope is used, the slings must be capable of supporting without failure at least ten times the maximum intended load.

d. All eyes in wire rope slings must be fabricated with thimbles.

e. Bridles and associated rigging for attaching the personnel platform to the hoist line may be used only for the platform and the necessary employees, their tools and the materials necessary to do their work, and

may not be used for any other purpose when not hoisting personnel.

(E) Trial lift, inspection, and proof testing.

(i) A trial lift with the unoccupied personnel platform loaded at least to the anticipated liftweight must be made from ground level, or any other location where employees will enter the platform, to each location at which the personnel platform is to be hoisted and positioned. This trial lift must be performed immediately prior to placing personnel on the platform. The operator shall determine that all systems, controls and safety devices are activated and functioning properly; that no interferences exist; and that all configurations necessary to reach those work locations will allow the operator to remain under the 50 percent limit of the hoist's rated capacity. Materials and tools to be used during the actual lift can be loaded in the platform, as provided in (D)(iii)d and e of this subsection, for the trial lift. A single trial lift may be performed at one time for all locations that are to be reached from a single set up position.

(ii) The trial lift must be repeated prior to hoisting employees whenever the crane or derrick is moved and set up in a new location or returned to a previously used location. Additionally, the trial lift must be repeated when the lift route is changed unless the operator determines that the route change is not significant (i.e., the route change would not affect the safety of hoisted employees).

(iii) After the trial lift, and just prior to hoisting personnel, the platform must be hoisted a few inches and inspected to ensure that it is secure and properly balanced. Employees shall not be hoisted unless the following conditions are determined to exist:

a. Hoist ropes must be free of kinks;

b. Multiple part lines may not be twisted around each other;

c. The primary attachment must be centered over the platform; and

d. The hoisting system must be inspected if the load rope is slack to ensure all ropes are properly seated on drums and in sheaves.

(iv) A visual inspection of the crane or derrick, rigging, personnel platform, and the crane or derrick base support or ground must be conducted by a competent person immediately after the trial lift to determine whether the testing has exposed any defect or produced any adverse effect upon any component or structure.

(v) Any defects found during inspections which create a safety hazard must be corrected before hoisting personnel.

(vi) At each job site, prior to hoisting employees on the personnel platform, and after any repair or modification, the platform and rigging must be proof tested to 125 percent of the platform's rated capacity by holding it in a suspended position for five minutes with the test load evenly distributed on the platform (this may be done concurrently with the trial lift). After proof testing, a competent person shall inspect the platform and rigging. Any deficiencies found must be corrected and another proof test must be conducted. Personnel hoisting may not be conducted until the proof testing requirements are satisfied.

(F) Work practices.

(i) Employees shall keep all parts of the body inside the platform during raising, lowering, and positioning. This provision does not apply to an occupant of the platform performing the duties of a signal person.

(ii) Before employees exit or enter a hoisted personnel platform that is not landed, the platform must be secured to the structure where the work is to be performed, unless securing to the structure creates an unsafe situation.

(iii) Tag lines must be used unless their use creates an unsafe condition.

(iv) The crane or derrick operator shall remain at the controls at all times when the crane engine is running and the platform is occupied.

(v) Hoisting of employees shall be promptly discontinued upon indication of any dangerous weather conditions or other impending danger.

(vi) Employees being hoisted shall remain in continuous sight of and in direct communication with the operator or signal person. In those situations where direct visual contact with the operator is not possible, and the use of a signal person would create a greater hazard for that person, direct communication alone such as by radio may be used.

(vii) Except over water, employees occupying the personnel platform must use a body belt/harness system with lanyard appropriately attached to the lower load block or overhaul ball, or to a structural member within the personnel platform capable of supporting a fall impact for employees using the anchorage. When working over water, the requirements of Section 050(g) of this subchapter apply.

(viii) No lifts may be made on another of the crane's or derrick's loadlines while personnel are suspended on a platform.

(G) Traveling.

(i) Hoisting of employees while the crane is traveling is prohibited, except for portal, tower and locomotive cranes, or where the employer demonstrates that there is no less hazardous way to perform the work.

(ii) Under any circumstances where a crane would travel while hoisting personnel, the employer shall implement the following procedures to safeguard employees:

a. Crane travel must be restricted to a fixed track or runway.

b. Travel must be limited to the load radius of the boom used during the lift.

c. The boom must be parallel to the direction of travel.

d. A complete trial run must be performed to test the route of travel before employees are allowed to occupy the platform. This trial run may be performed at the same time as the trial lift required by (E)(i) of this paragraph which tests the route of the lift.

e. If travel is done with a rubber tired-carrier, the condition and air pressure of the tires must be checked. The chart capacity for lifts on rubber must be used for application of the 50 percent reduction of rated capacity. Notwithstanding (C)(i)e of this subsection, outriggers may be partially retracted as necessary for travel.

(H) Pre-lift meeting.

(i) A meeting attended by the crane or derrick operator, signal person (if necessary for the lift), employees to be lifted, and the person responsible for the task to be performed must be

held to review the appropriate requirements of this paragraph and the procedures to be followed.

(ii) This meeting must be held prior to the trial lift at each new work location, and must be repeated for any employees newly assigned to the operation.

(b) Helicopters.

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safety of the vehicle. Such examination shall be made at least daily. Where industrial trucks are used on a round-the-clock basis, they shall be examined after each shift. Defects when found shall be immediately reported and corrected.

(8) Water mufflers shall be filled daily or as frequently as is necessary to prevent depletion of the supply of water below 75 percent of the filled capacity. Vehicles with mufflers having screens or other parts that may become clogged shall not be operated while such screens or parts are clogged. Any vehicle that emits hazardous sparks or flames from the exhaust system shall immediately be removed from service, and not returned to service until the cause for the emission of such sparks and flames has been eliminated.

(9) When the temperature of any part of any truck is found to be in excess of its normal operating temperature, thus creating a hazardous condition, the vehicle shall be removed from service until the cause for such overheating has been eliminated.

(10) Industrial trucks shall be kept in a clean condition, free of lint, excess oil, and grease. Noncombustible agents should be used for cleaning trucks. Low flash point (below 100° F.) solvents shall not be used. High flash point (at or above 100° F.) solvents may be used. Precautions regarding toxicity, ventilation, and fire hazard shall be constant with the agent or solvent used.

(11) Revoked.

(12) Industrial trucks originally approved for the use of gasoline for fuel may be converted to liquefied petroleum gas fuel provided the complete conversion results in a truck which embodies the features specified for LP or LPS designated trucks. Such conversion equipment shall be approved. The description of the component parts of this conversion system and the recommended method of installation on specific trucks are contained in the "Listed by Report."

01.0704 OVERHEAD AND GANTRY CRANES. (a) Definitions applicable to 01.0704.

(1) A "crane" is a machine for lifting and lowering a load and moving it horizontally, with the hoisting mechanism an integral part of the machine. Cranes, whether fixed or mobile are driven manually or by power.

(2) An "automatic crane" is a crane which when activated operates through a preset cycle or cycles.

(3) A "cab-operated crane" is a crane controlled by an operator in a cab located on the bridge or trolley.

(4) "Cantilever gantry crane" means a gantry or semigantry crane in which the bridge girders or trusses extend transversely beyond the crane runway on one or both sides.

(5) "Floor-operated crane" means a crane which is pendant or nonconductive rope controlled by an operator on the floor or an independent platform.

(6) "Gantry crane" means a crane similar to an overhead crane except that the bridge for carrying the trolley or trolleys is rigidly supported on two or more legs running on fixed rails or other runway.

(7) "Hot metal handling crane" means an overhead crane used for transporting or pouring molten material.

(8) "Overhead crane" means a crane with a movable bridge carrying a removable or fixed hoisting mechanism and traveling on an overhead fixed runway structure.

(9) "Power-operated crane" means a crane whose mechanism is driven by electric, air, hydraulic, or internal combustion means.

(10) A "pulpit-operated crane" is a crane operated from a fixed operator station not attached to the crane.

(11) A "remote-operated crane" is a crane controlled by an operator not in pulpit or in the cab attached to the crane, by any method other than pendant or rope control.

(12) A "semigantry crane" is a gantry crane with one end of the bridge rigidly supported on one or more legs that

run on a fixed rail or runway, the other end of the bridge being supported by a truck running on an elevated rail or runway.

(13) "Storage bridge crane" means gantry type crane of long span usually used for bulk storage of material; ;the bridge girders or trusses are rigidly or nonrigidly supported on one or more legs. It may have one or more fixed or hinged cantilever ends.

(14) "Wall crane" means a crane having a jib with or without trolley and supported from a side wall or line of columns of a building. It is a traveling type and operates on a runway attached to the side wall or columns.

(15) "Appointed" means assigned specific responsibilities by the employer or the employer's representatives.

(16) "ANSI" means the American National Standards Institute.

(17) An "auxiliary hoist" is a supplemental hoisting unit of lighter capacity and usually higher speed than provided for the main hoist.

(18) A "brake" is a device used for retarding or stopping motion by friction or power means.

(19) A "drag brake" is a brake which provides retarding force without external control.

(20) A "holding brake" is a brake that automatically prevents motion when power is off.

(21) "Bridge" means that part of a crane consisting of girders, trucks, end ties, footwalks, and drive mechanism which carries the trolley or trolleys.

(22) "Bridge travel" means the crane movement in a direction parallel to the crane runway.

(23) A "bumper" (buffer) is an energy absorbing device for reducing impact when a moving crane or trolley

reaches the end of its permitted travel; or when two moving cranes or trolleys come in contact.

(24) The "cab" is the operator's compartment on a crane.

(25) "Clearance" means the distance from any part of the crane to a point of the nearest obstruction.

(26) "Collectors" (current) are contacting devices for collecting current from runway or bridge conductors.

(27) "Conductors, bridge" are the electrical conductors located along the bridge structure of a crane to provide power to the trolley.

(28) "Conductors, runway" (main) are the electrical conductors located along a crane runway to provide power to the crane.

(29) The "control braking means" is a method of controlling crane motor speed when in an overhauling condition.

(30) "Countertorque" means a method of control by which the power to the motor is reversed to develop torque in the opposite direction.

(31) "Dynamic" means a method of controlling crane motor speeds when in the overhauling condition to provide a retarding force.

(32) "Regenerative" means a form of dynamic braking in which the electrical energy generated is fed back into the power system.

(33) "Mechanical" means a method of control by friction.

(34) "Controller, spring return" means a controller which when released will return automatically to a neutral position.

(35) "Designated" means selected or assigned by the employer or the employer's representative as being qualified to perform specific duties.

(36) A "drift point" means a point on a travel motion controller which releases the brake while the motor is not energized. This allows for coasting before the brake is set.

(37) The "drum" is the cylindrical member around which the ropes are wound for raising or lowering the load.

(38) An "equalizer" is a device which compensates for unequal length or stretch of rope.

(39) "Exposed" means capable of being contacted inadvertently. Applied to hazardous objects not adequately guarded or isolated.

(40) "Fail-safe" means a provision designed to automatically stop or safely control any motion in which a malfunction occurs.

(41) "Footwalk" means the walkway with handrail, attached to the bridge or trolley for access purposes.

(42) A "hoist" is an apparatus which may be a part of a crane, exerting a force for lifting or lowering.

(43) "Hoist chain" means the load bearing chain in a hoist. Note: Chain properties do not conform to those shown in ANSI B30.9-1971, Safety Code for Slings.

(44) "Hoist motion" means that motion of a crane which raises and lowers a load.

(45) "Load" means the total superimposed weight on the load block or hook.

(46) The "load block" is the assembly of hook or shackle, swivel, bearing, sheaves, pins, and frame suspended by the hoisting rope.

(47) "Magnet" means an electromagnetic device carried on a crane hook to pick up loads magnetically.

(48) "Main hoist" means the hoist mechanism provided for lifting the maximum rated load.

(49) A "man trolley" is a trolley having an operator's cab attached thereto.

(50) "Rated load" means the maximum load for which a crane or individual hoist is designed and built by the manufacturer and shown on the equipment nameplate(s).

(51) "Rope" refers to wire rope, unless otherwise specified.

(52) "Running sheave" means a sheave which rotates as the load block is raised or lowered.

(53) "Runway" means an assembly of rails, beams, girders, brackets, and framework on which the crane or trolley travels.

(54) "Side pull" means that portion of the hoist pull acting horizontally when the hoist lines are not operated vertically.

(55) "Span" means the horizontal distance center to center of runway rails.

(56) "Standby crane" means a crane which is not in regular service but which is used occasionally or intermittently as required.

(57) A "stop" is a device to limit travel of a trolley or crane bridge. This device is normally attached to a fixed structure and normally does not have energy absorbing ability.

(58) A "switch" is a device for making, breaking, or for changing the connections in an electric circuit.

(59) An "emergency stopswitch" is a manually or automatically operated electric switch to cut off electric power independently of the regular operating controls.

(60) A "limit switch" is a switch which is operated by some part or motion of a power-driven machine or equipment to alter the electric circuit associated with the machine or equipment.

(61) A "main switch" is a switch controlling the entire power supply to the crane.

(62) A "master switch" is a switch which dominates the operation of contractors, relays, or other remotely operated devices.

(63) The "trolley" is the unit which travels on the bridge rails and carries the hoisting mechanism.

(64) "Trolley travel" means the trolley movement at right angles to the crane runway.

(65) "Truck" means the unit consisting of a frame, wheels, bearings and axles which supports the bridge girders or trolleys.

(b) General requirements:

(1) Application. 01.0704 applies to overhead and gantry cranes, including semigantry, cantilever gantry, wall cranes, storage bridge cranes, and others having the same fundmental characteristics. These cranes are grouped because they all have trolleys and similar travel characteristics.

(2) New and existing equipment. All new overhead and gantry cranes constructed and installed on or after August 31, 1971, must meet the design specifications of the American National Standard Safety Code for Overhead and Gantry Cranes, ANSI B30.2.0- 967. Overhead and gantry cranes constructed before August 31, 1971 must be modified to conform to those design specifications, unless it can be shown that the crane cannot feasibly or economically be altered and that the crane substantially complies with the requirements of this section.

(3) Modifications. Cranes may be modified and rerated provided such modifications and the supporting structure are checked thoroughly for the new rated load by a qualified engineer or the equipment manufacturer. The crane

shall be tested in accordance with 01.0704(k)(2). New rated load shall be displayed in accordance with 01.0704(b)(5).

(4) Wind indicators and rail clamps. Outdoor storage bridges shall be provided with automatic rail clamps. A wind-indicating device shall be provided which will give a visible or audible alarm to the bridge operator at a predetermined wind velocity. If the clamps act on the rail heads, any beads or weld flash on the rail heads shall be ground off.

(5) Rated load marking. The rated load of the crane shall be plainly marked on each side of the crane, and if the crane has more than one hoisting unit, each hoist shall have its rated load marked on it or on its load block and this marking shall be clearly legible from the ground or floor.

(6) Clearance from obstruction.

(A) Minimum clearance of three inches overhead and two inches laterally shall be provided and maintained between crane and obstructions in conformity with Crane Manufacturers Association of America, Inc., Specification No. 61, (formerly the Electric Overhead Crane Institute Inc.).

(B) Where passageways or walkways are provided obstructions shall not be placed so the safety of personnel will be jeopardized by movements of the crane.

(7) Clearance between parallel cranes. If the runways of two cranes are parallel, and there are no intervening walls or structure, there shall be adequate clearance provided and maintained between the two bridges.

(8) Designated personnel. Only designated personnel shall be permitted to operate a crane covered by this section.

(c) Cabs.

(1) Cab location.

(A) The general arrangement of the cab and the location of control and protective equipment shall be

such that all operating handles are within convenient reach of the operator when facing the area to be served by the load hook, or while facing the direction of travel of the cab. The arrangement shall allow the operator a full view of the load hook in all positions.

(B) The cab shall be located to afford a minimum of three inches clearance from all fixed structures within its area of possible movement.

(C) Repealed 9/12/84.

(2) Access to crane. Access to the cab and/or bridge walkway shall be by a conveniently placed fixed ladder, stairs, or platform, requiring no step over any gap exceeding 12 inches. Fixed ladders shall be in conformance with ANSI A14.3-1956.

(3) Fire extinguisher. A carbon dioxide, dry chemical, or equivalent hand fire extinguisher must be kept in the cab. Carbon tetrachloride extinguishers must not be used.

(4) Lighting. Light in the cab shall be sufficient to enable the operator to see clearly enough to perform his work.

(d) Footwalks and ladders:

(1) Location of footwalks. If sufficient headroom is available on cab-operated cranes, a footwalk must be provided on the drive side along the entire length of the bridge of all cranes having the trolley running on the top of the girders. In no case may less than 48 inches of headroom be provided.

(2) Construction of footwalks.

(A) Footwalks shall be of rigid construction and designed to sustain a distributed load of at least 50 pounds per square foot.

(B) Footwalks shall have a walking surface of anti-slip type. Note: Wood will meet this requirement.

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(C) Repealed 9/12/84.

(D) The inner edge shall extend at least to the line of the outside edge of the lower cover plate or flange of the girder.

(3) Toeboards and handrails for footwalks. Toeboards and handrails shall be in compliance with sec 1103 of this subchapter.

(4) Ladders and stairways.

(A) Gantry cranes shall be provided with ladders or stairways extending from the ground to the footwalk or cab platform.

(B) Stairways shall be equipped with rigid and substantial metal handrails. Walking surface shall be of an anti-slip type.

(C) Ladders shall be permanently and securely fastened in place and shall be constructed in compliance with sec. 1107 of this subchapter.

(e) Stops, bumpers, rail sweeps, and guards.

(1) Trolley stops.

(A) Stops shall be provided at the limits of travel of the trolley.

(B) Stops shall be fastened to resist forces applied when contacted.

(C) A stop engaging the tread of the wheel shall be of a height at least equal to the radius of the wheel.

(2) Bridge bumpers.

(A) A crane shall be provided with bumpers or other automatic means providing equivalent effect, unless the crane travels at a slow rate of speed and has a faster deceleration rate due to the use of sleeve

bearings, or is not operated near the ends of bridge and trolley travel, or is restricted to a limited distance by the nature of the crane operation and there is no hazard of striking any object in this limited distance, or is used in similar operating conditions. The bumpers shall be capable of stopping the crane (not including the lifted load) at an average rate of deceleration not to exceed three feet/s/s when traveling in either direction at 20 percent of the rated load speed.

(B) Bumpers shall be so designed and installed as to minimize parts falling from the crane in case of breakage.

(3) trolley bumpers.

(A) A trolley shall be provided with bumpers or other automatic means of equivalent effect, unless the trolley travels at a slow rate of speed, or is not operated near the ends of bridge and trolley travel, or is restricted to a limited distance of the runway and there is no hazard of striking any object in this limited distance, or is used in similar operating conditions. The bumpers shall be capable of stopping the trolley (not including the lifted load) at an average rate of deceleration not to exceed 4.7 feet/s/s when traveling in either direction at one third of the rated load speed.

(B) When more than one trolley is operated on the same bridge, each shall be equipped with bumpers on their adjacent ends.

(C) Bumpers shall be designed and installed to minimize parts falling from the trolley in case of breakage.

(4) Rail sweeps. Bridge trucks shall be equipped with sweeps which extend below the top of the rail and project in front of the truck wheels.

(5) Guards for hoisting ropes.

(A) If hoisting ropes run near enough to other parts to make fouling or chafing possible, guards shall be installed to prevent this condition.

(B) A guard shall be provided to prevent contact between bridge conductors and hoisting ropes if they could come into contact.

(6) Guards for moving parts.

(A) Exposed moving parts such as gears set screws, projecting keys, chains, chain sprockets, and reciprocating components which might constitute a hazard under normal operating conditions shall be guarded.

(B) Guards shall be securely fastened.

(C) Each guard shall be capable of supporting without permanent distortion the weight of a 200 pound person unless the guard is located where it is impossible for a person to step on it.

(f) Brakes.

(1) Brakes for hoists.

(A) Each independent hoisting unit of a crane shall be equipped with at least one self-setting brake, hereafter referred to as a holding brake, applied directly to the motor shaft or some part of the gear train.

(B) Each independent hoisting unit of a crane, except worm-geared hoists, the angle of whose worm is such as to prevent the load from accelerating in the lowering direction shall, in addition to a holding brake, be equipped with control braking means to prevent overspeeding.

(2) Holding brakes.

(A) Holding brakes for hoist motors shall have not less than the following percentage of the full load hoisting torque at the point where the brake is applied.

(i) 125 percent when used in a control braking means other than mechanical.

(ii) 100 percent when used in conjunction with a mechanical braking means.

(iii) 100 percent each if two holding brakes are provided.

(B) Holding brakes on hoists shall have ample thermal capacity for the frequency of operation required by the service.

(C) Holding brakes on hoists shall be applied automatically when power is removed.

(D) Where necessary holding brakes shall be provided with adjustment means to compensate for wear.

(E) The wearing surface of all holding-brake drums or discs shall be smooth.

(F) Each independent hoisting unit of a crane handling hot metal and having power control braking means shall be equipped with at least two holding brakes.

(3) Control braking means.

(A) A power control braking means such as regenerative, dynamic or countertorque braking, or a mechanically controlled braking means shall be capable of maintaining safe lowering speeds of rated loads.

(B) The control braking means shall have ample thermal capacity for the frequency of operation required by service.

(4) Brakes for trolleys and bridges.

(A) Foot operated brakes shall not require an applied force of more than 70 pounds to develop manufacturer's rated brake torque.

(B) Brakes may be applied by mechanical, electrical, pneumatic, hydraulic, or gravity means.

(C) Where necessary, brakes shall be provided with adjustment means to compensate for wear.

(D) The wearing surface of all brake-drums or discs shall be smooth.

(E) All foot-brake pedals shall be constructed so that the operator's foot will not easily slip off the pedal.

(F) Foot-operated brakes shall be equipped with automatic means for positive release when pressure is released from the pedal.

(G) Brakes for stopping the motion of the trolley or bridge shall be of sufficient size to stop the trolley or bridge within a distance in feet equal to 10 percent of full load speed in feet per minute when traveling at full speed with full load.

(H) If holding brakes are provided on the bridge or trolley(s), they shall not prohibit the use of a drift point in the control circuit.

(I) Brakes on trolleys and bridges shall have ample thermal capacity for the frequency of operation required by the service to prevent impairment of functions from overheating.

(5) Application of trolley brakes.

(A) On cab-operated cranes with cab on trolley, a trolley brake shall be required as specified under 01.0704(f)(4).

(B) A drag brake may be applied to hold the trolley in a desired position on the bridge and to eliminate creep with the power off.

(6) Application of bridge brakes.

(A) On cab-operated cranes with cab on bridge, a bridge brake is required as specified under 01.0704(f)(4).

(B) On cab-operated cranes with cab on trolley, a bridge brake of the holding type shall be required.

(C) On all floor, remote and pulpit-operated crane bridge drives, a brake or noncoasting mechanical drive shall be provided.

(g) Electrical equipment:

(1) General.

(A) Wiring and equipment shall comply with the requirements of Subchapter 3, Electrical Code, AOSAHS.

(B) The control circuit voltage shall not exceed 600 volts for a.c. or d.c. current.

(C) The voltage at pendant pushbutton shall not exceed 150 volts for a.c. and 300 volts for d.c.

(D) Where multiple conductor cable is used, the suspended pushbutton station must be supported in some satisfactory manner that will protect the electrical conductors against strain.

(E) Pendant control boxes shall be constructed to prevent electrical shock and shall be clearly marked for identification of functions.

(2) Equipment.

(A) Electrical equipment shall be so located or enclosed that live parts will not be exposed to accidental contact under normal operating conditions.

(B) Electrical equipment shall be protected from dirt, grease, oil and moisture.

(C) Guards for live parts shall be substantial and so located that they cannot be accidently deformed so as to make contact with the live parts.

(3) Controllers.

(A) Cranes not equipped with spring-return controllers or momentary contact pushbuttons shall be provided with a device which will disconnect all motors from the line of failure of power and will not permit any motors to be restarted until the controller handle is brought to the "off" position, or a reset switch or button is operated.

(B) Lever operated controllers shall be provided with a notch or latch which in the "off" position prevents the handle from being inadvertently moved to the "on" position. An "off" detent or spring return arrangement is acceptable.

(C) The controller operating handle shall be located within convenient reach of the operator.

(D) As far as practicable, the movement of each controller handle shall be in the same general direction as the resultant movements of the load.

(E) The control for the bridge and trolley travel shall be so located that the operator can readily face the direction of travel.

(F) For floor-operated cranes, the controller or controllers if rope operated, shall automatically return to the "off" position when released by the operator.

(G) Pushbuttons in pendant stations shall return to the "off" position when pressure is released by the crane operator.

(H) Automatic cranes shall be so designated that all motions shall fail-safe if any malfunction of operation occurs.

(I) Remote-operated cranes shall function so that if the control signal for any crane motion becomes ineffective that crane motion shall stop.

(4) Resistors.

(A) Enclosures for resistors shall have openings to provide adequate ventilation, and shall be installed to prevent the accumulation of combustible matter too near to hot parts.

(B) Resistor units shall be supported so as to be free as possible from vibration.

(C) Provision shall be made to prevent broken parts or molten metal falling upon the operator or from the crane.

(5) Switches.

(A) The power supply to the runway conductors shall be controlled by a switch or circuit breaker located on a fixed structure, accessible from the floor, and arranged to be locked in the open position.

(B) On cab-operated cranes a switch or circuit breaker of the enclosed type, with provision for locking in the open position shall be provided in the leads from the runway conductors. A means of opening this switch or circuit breaker shall be located within easy reach of the operator.

(C) On floor-operated cranes, a switch or circuit breaker of the enclosed type, with provision for locking in the open position, shall be provided in the leads from the runway conductors. This disconnect shall be mounted on the bridge or footwalk near the runway collectors. One of the following types of floor operated disconnects shall be provided:

(i) Nonconductive rope attached to the main disconnect switch.

(ii) An undervoltage trip for the main circuit breaker operated by an emergency stop button in the pendant pushbutton station.

(iii) A main line contactor operated by a switch or pushbutton in the pendant pushbutton station.

(D) The hoisting motion of all electric traveling cranes shall be provided with an overtravel limit switch in the hoisting direction.

(E) All cranes using a lifting magnet shall have a magnet circuit switch of the enclosed type with provision for locking in the open position. Means for discharging the inductive load of the magnet shall be provided.

(6) Runway conductors. Conductors of the open type mounted on the crane runway beams or overhead shall be so located or so guarded that persons entering or leaving the cab or crane footwalk normally could not come into contact with them.

lamps. If a service receptacle is provi[illegible] cab or on the bridge of cab-operated cranes, it [illegible] grounded three-prong type permanent receptacle, no[illegible]ing 300 volts.

.h) Hoisting equipment:

(1) Sheaves.

(A) Sheaves grooves shall be smooth and free from surface defects which could cause rope damage.

(B) Sheaves carrying ropes which can be momentarily unloaded shall be provided with close-fitting guards or other suitable devices to guide the rope back into the groove when the load is applied again.

(C) The sheaves in the bottom block shall be equipped with close-fitting guards that will prevent

ropes from becoming fouled when the block is lying on the ground with ropes loose.

(D) Pockets and flanges of sheaves used with hoist chains shall be of such dimensions that the chain does not catch or bind during operation.

(E) All running sheaves shall be equipped with means for lubrication. Permanently lubricated, sealed and/or shielded bearings meet this requirement.

(2) Ropes.

(A) In using hoisting ropes, the crane manufacturer's recommendations shall be followed. The rated load divided by the number of parts of rope shall not exceed 20 percent of the nominal breaking strength of the rope.

(B) Socketing shall be done in the manner specified by the manufacturer of the assembly.

(C) Rope shall be secured to the drum as follows:

(i) No less than two wraps of rope shall remain on the drum when the hook is in its extreme low position.

(ii) Rope end shall be anchored by a clamp securely attached to the drum, or by a socket arrangement approved by the crane or rope manufacturer.

(D) Eye splices. (Reserved)

(E) Rope clips attached with U-bolts shall have the U-bolts on the dead or short end of the rope., Spacing and number of all types of clips shall be in accordance with the clip manufacturer's recommendation. Clips shall be a drop-forged steel in all sizes manufactured commercially. When a newly installed rope has been in operation for an hour, all nuts on the clip bolts shall be retightened.

(F) Swaged or compressed fittings shall be applied as recommended by the rope or crane manufacturer.

(G) Wherever exposed to temperatures, at which fiber cores would be damaged, rope having an independent wire-rope or wire-stand core, or other temperature-damage resistant core shall be used.

(H) Replacement rope shall be the same size, grade, and construction as the original rope furnished by the crane manufacturer, unless otherwise recommended by a wire rope manufacturer due to actual working condition requirements.

(3) Equalizers. If a load is supported by more than one part of rope, the tension in the parts shall be equalized.

(4) Hooks. Hooks shall meet the manufacturer's recommendations and shall not be overloaded.

(i) Warning device. Except for floor-operated cranes a gong or other effective warning signal shall be provided for each crane equipped with a power traveling mechanism.

(j) Inspection:

(1) Inspection classification.

(A) Initial inspection. Prior to initial use all new and altered cranes shall be inspected to insure compliance with the provisions of 01.0704.

(B) Inspection procedure for cranes in regular service is divided into two general classifications based upon the intervals at which inspection should be performed. The intervals in turn are dependent upon the nature of the critical components of the crane and the degree of their exposure to wear, deterioration, or malfunction. The two general classifications are herein designated as "frequent" and "periodic" with respective intervals between inspections as defined below:

(i) Frequent inspection - Daily to monthly intervals.

(ii) Periodic inspection - 1 to 12 months intervals.

(2) Frequent inspection. The following items shall be inspected for defects at intervals as defined in 01.0704(j)(1)(B) or as specifically indicated, including observation during operation for any defects which might appear between regular inspections. All deficiencies such as listed shall be carefully examined and determination made as to whether they constitute a safety hazard:

(A) All functional operating mechanisms for maladjustment interfering with proper operation. Daily.

(B) Deterioration or leakage in lines, tanks, valves, drain pumps, and other parts of air or hydraulic systems. Daily.

(C) Hooks with deformation or cracks. Visual inspection daily; monthly inspection with a certification record which includes the date of inspection, the signature of the person who performed the inspection and the serial number, or other identifier, of the hook inspected. For hooks with cracks or having more than 15 percent in excess of normal throat opening or more than 10° twist from the plane of the unbent hook refer to 01.0704(1)(3)(C)(1).

(D) Hoist chains, including end connections, for excessive wear, twist, distorted links interfering with proper function, or stretch beyond manufacturer's recommendations. Visual inspection daily; monthly inspection with a certification record which includes the date of inspection, the signature of the person who performed the inspection and an identifier of the chain which was inspected.

(E) Revoked.

(F) All functional operating mechanisms for excessive wear of components.

(G) Rope reeving for noncompliance with manufacturer's recommendations.

(3) Periodic inspection. Complete inspections of the crane shall be performed at intervals as generally defined

in 01.0704(j)(1)(B)(ii), depending upon its activity, severity of service, and environment, or as specifically indicated below. These inspections shall include the requirements of 01.0704(j)(2) and in addition the following items. Any deficiencies such as listed shall be carefully examined and determination made as to whether they constitute a safety hazard:

(A) Deformed, cracked, or corroded members.

(B) Loose bolts or rivets.

(C) Cracked or worn sheaves and drums.

(D) Worn, cracked or distorted parts such as pins, bearings, shafts, gears, rollers, locking and clamping devices.

(E) Excessive wear on brake system parts, linings, pawls, and ratchets.

(F) Load, wind, and other indicators over their full range, for any significant inaccuracies.

(G) Gasoline, diesel, electric, or other powerplants for improper performance or noncompliance with applicable safety requirements.

(H) Excessive wear of chain drive sprockets and excessive chain stretch.

(I) Repealed 9/12/84.

(J) Electrical apparatus, for signs of pitting or any deterioration of controller containers, limit switches and pushbutton stations.

(4) Cranes not in regular use.

(A) A crane which has been idle for a period of 1 month or more, but less than 6 months, shall be given an inspection conforming with requirements of 01.0704(j)(2) and 01.0704(m)(2) before placing in service.

(B) A crane which has been idle for a period of over 6 months shall be given a complete inspection conforming with requirements of 01.0704(j)(2) and (3), and 01.0704(m)(2) before placing in service.

(C) Standby cranes shall be inspected at least semi-annually in accordance with requirements of (2) of this subsection and (m)(2) of this section.

(k) Testing.

(1) Operational tests.

(A) Prior to initial use all new and altered cranes shall be tested to insure compliance with 01.0704 including the following functions:

(i) Hoisting and lowering.

(ii) Trolley travel.

(iii) Bridge travel.

(iv) Limit switches, locking and safety devices.

(v) The trip setting of hoist limit switches shall be determined by tests with an empty hook traveling in increasing speeds up to the maximum speed. The actuating mechanism of the limit switch shall be located so that it will trip the switch, under all conditions, in sufficient time to prevent contact of the hook or hook block with any part of the trolley.

(2) Rated load test. Before initial use all new, extensively repaired, and altered cranes must be tested by or under the direction of an appointed or authorized person, confirming the load rating of the crane. The load rating must not be more than 80 percent of the maximum load sustained during the test. Test loads must not be more than 125 percent of the rated load unless otherwise recommended by the manufacturer. The test reports must be placed on file where readily available to appointed personnel.

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(l) Maintenance.

(1) Preventive maintenance. A preventive maintenance program based on the crane manufacturer's recommendation shall be established.

(2) Maintenance procedure.

(A) Before adjustments and repairs are started on a crane the following precautions shall be taken:

(i) The crane to be repaired shall be run to a location where it will cause the least interference with other cranes and operation in the area.

(ii) All controllers shall be at the off position.

(iii) The main or emergency switch shall be open and locked in the open position.

(iv) Repealed 9/12/84.

(v) Where other cranes are in operation on the same runway, rail stops or other suitable means shall be provided to prevent interference with the idle crane.

(vi) Where temporary protective rail stops are not available, or practical, a signalman should be placed at a visual vantage point for observing the approach of an active crane and warning its operator when reaching the limit of safe distance from the idle crane.

(B) After adjustments and repairs have been made the crane shall not be operated until all guards have been reinstalled, safety devices reactivated and maintenance equipment removed.

(3) Adjustments and repair.

(A) Any unsafe conditions disclosed by the inspection requirements of 01.0704(j) shall be corrected

before operation of the crane is resumed. Adjustments and repairs shall be done only by designated personnel.

(B) Adjustments shall be maintained to assure correct functioning of components. The following are examples:

(i) All functional operating mechanisms.

(ii) Limit switches.

(iii) Control systems.

(iv) Brakes.

(v) Power plants.

(C) Repairs or replacements shall be provided promptly as needed for safe operation. The following are examples:

(i) Crane hooks showing defects described in 01.0704(j)(2)(C) shall be discarded. Repairs by welding or reshaping are not generally recommended. If such repairs are attempted they shall only be done under competent supervision and the hook shall be tested to the load requirements of 01.0704(k)(2) before further use.

(ii) Load attachment chains and rope slings showing defects described in 01.0704(j)(2)(D).

(iii) All critical parts which are cracked, broken, bent, or excessively worn.

(iv) Pendant control stations shall be kept clean and function label kept legible.

(m) Rope inspection:

(1) Running ropes. A thorough inspection of all ropes must be made at least once a month and a certification record which includes the date of inspection, the signature of

the person who performed the inspection and an identifier for the ropes which were inspected must be kept on file where readily available to appointed personnel. Any deterioration, resulting in appreciable loss of original strength, must be observed and determination made as to whether further use of the rope would constitute a safety hazard. Some of the conditions that could result in an appreciable loss of strength are the following:

(A) Reduction of rope diameter below nominal diameter due to loss of core support, internal or external corrosion, or wear of outside wires.

(B) A number of broken outside wires and the degree of distribution or concentration of such broken wires.

(C) Worn outside wires.

(D) Corroded or broken wires at end connections.

(E) Corroded, cracked, bent, worn, or improperly applied end connections.

(F) Severe kinking, crushing, cutting or unstranding.

(2) Other ropes. All rope which has been idle for a period of a month or more due to shutdown or storage of a crane on which it is installed must be given a thorough inspection before it is used. This inspection must be for all types of deterioration and must be performed by an appointed person whose approval must be required for further use of the rope. A certification record must be available for inspection which includes the date of inspection, the signature of the person who performed the inspection and an identifier for the rope which was inspected.

(n) Handling the load:

(1) Size of load. The crane shall not be loaded beyond its rated load except for test purposes as provided in 01.0704(k).

(2) Attaching the load.

(A) The hoist chain or hoist rope shall be free from kinks or twists and shall not be wrapped around the load.

(B) The load shall be attached to the load block hook by means of slings or other approved devices.

(C) Care shall be taken to make certain that the sling clears all obstacles.

(3) Moving the load.

(A) The load shall be well secured and properly balanced in the sling or lifting device before it is lifted more than a few inches.

(B) Before starting to hoist the following conditions shall be noted:

(i) Hoist rope shall not be kinked.

(ii) Multiple part lines shall not be twisted around each other.

(iii) The hook shall be brought over the load in such a manner as to prevent swinging.

(C) During hoisting care shall be taken that:

(i) There is no sudden acceleration or deceleration of the moving load.

(ii) The load does not contact any obstructions.

(D) Cranes shall not be used for side pulls except when specifically authorized by a responsible person who has determined that the stability of the crane is not thereby endangered and that various parts of the crane will not be overstressed.

(E) While any employee is on the load or hook, there shall be no hoisting, lowering, or traveling.

(F) The employer shall require that the operator avoid carrying loads over people.

(G) The operator shall test the brakes each time a load approaching the rated load is handled. The brakes shall be tested by raising the load a few inches and applying the brakes.

(H) The load shall not be lowered below the point where less than two full wraps of rope remain on the hoisting drum.

(I) When two or more cranes are used to lift a load one qualified responsible person shall be in charge of the operation. He shall analyze the operation and instruct all personnel involved in the proper positioning, rigging of the load, and the movements to be made.

(J) The employer shall insure that the operator does not leave his position at the controls while the load is suspended.

(K) When starting the bridge and when the load or hook approaches near or over personnel, the warning signal shall be sounded.

(4) Hoist limit switch.

(A) At the beginning of each operator's shift, the upper limit switch of each hoist shall be tried out under no load. Extreme care shall be exercised; the block shall be "inched" into the limit or run in at slow speed. If the switch does not operate properly, the appointed person shall be immediately notified.

(B) The hoist limit switch which controls the upper limit of travel of the load block shall never be used as an operating control.

(o) Other requirements, general:

(1) Ladders.

(A) The employer shall insure that hands are free from encumbrances while personnel are using ladders.

(B) Articles which are too large to be carried in pockets or belts shall be lifted and lowered by hand lines.

(2) Cabs.

(A) Necessary clothing and personal belongings shall be stored in such a manner as not to interfere with access or operation.

(B) Tools, oil cans, waste, extra fuses, and other necessary articles shall be stored in the tool box, and shall not be permitted to lie loose in or about the cab.

(3) Fire extinguishers. The employer shall insure that operators are familiar with the operation and care of fire extinguishers provided.

01.0705 CRAWLER, LOCOMOTIVE AND TRUCK CRANES. (a) Definitions applicable to 01.0705.

(1) A "crawler crane" consists of a rotating superstructure with power plant, operating machinery, and boom mounted on a base, equipped with crawler treads for travel. Its function is to hoist and swing loads at various radii.

(2) A "locomotive crane" consists of a rotating superstructure with power plant, operating machinery and boom, mounted on a base or car equipped for travel on railroad track. It may be self-propelled or propelled by an outside source. Its function is to hoist and swing loads at various radii.

(3) A "truck crane" consists of a roating superstructure with power plant, operating machinery and boom, mounted on an automotive truck equipped with a power plant for travel. Its function is to hoist and swing loads at various radii.

(4) A "wheel mounted crane" (wagon crane) consists of a rotating superstructure with power plant, operating machinery and boom, mounted on a base or platform equipped with axled and rubber-tired wheels for travel. The base is usually propelled by the engine in the superstructure, but it may be equipped with a separate engine controlled from the superstructure. Its function is to hoist and swing loads at various radii.

(5) An "accessory" is a secondary part or assembly of parts which contributes to the overall function and usefulness of a machine.

(6) "Appointed" means assigned specific responsibilities by the employer or the employer's representative.

(7) "ANSI" means the American National Standard Institute.

(8) An "angle indicator" (boom) is an accessory which measures the angle of the boom to the horizontal.

(9) The "axis of rotation" is the vertical axis around which the crane superstructure rotates.

(10) "Axle" means the shaft or spindle with which or about which a wheel rotates. On truck and wheel mounted cranes it refers to an automotive type of axle assembly including housings, gearing, differential, bearings, and mounting appurtenances.

(11) "Axle" (bogie) means two or more automotive-type axles mounted in tandem in a frame so as to divide the load between the axles and permit vertical oscilation of the wheels.

(12) The "base" (mounting) is the traveling base or carrier on which the rotating superstructure is mounted such as a car, truck, crawler or wheel platform.

(13) The "boom" (crane) is a member hinged to the front of the rotating superstructure with the outer end supported by ropes leading to a gantry or "A: frame and used for supporting the hoisting tackle.

(14) The "boom angle" is the angle between the longitudinal centerline of the boom and the horizontal. The boom longitudinal centerline is a straight line between the boom foot pin (heel pin) centerline and boom point sheave pin centerline.

(15) The "boom hoist" is a hoist drum and rope reeving system used to raise and lower the boom. The rope system may be all live reeving or a combination of live reeving and pendants.

(16) The "boom stop" is a device used to limit the angle of the boom at the highest position.

(17) A "brake" is a device for retarding or stopping motion by friction or power means.

(18) A "cab" is housing which covers the rotating super-structure machinery and/or operator's station. On truck-crane trucks a separate cab covers the driver's station.

(19) The "clutch" is a friction, electromagnetic, hydraulic, pneumatic, or positive mechanical device for engagement or disengagement of power.

(20) The "counterweight" is a weight used to supplement the weight of the machine in providing stability for lifting working loads.

(21) "Designated" means selected or assigned by the employer or the employer's representative as being qualified to perform specific duties.

(22) The "drum" is the cylindrical member around which ropes are wound for raising and lowering the load or boom.

(23) "Dynamic" (loading) means load introduced into the machine or its components by forces in motion.

(24) The "gantry" (A-frame) is a structural frame, extending above the superstructure, to which the boom support ropes are reeved.

(25) A "jib" is an extension attached to the boom point to provide added boom length for lifting specified loads. The jib may be in line with the boom or offset to various angles.

(26) "Load" (working) means the external load, in pounds, applied to the crane, including the weight of load-attaching equipment such as load blocks, shackles, and slings.

(27) "Load block" (upper) means the assembly of hook or shackle, swivel, sheaves, pins, and frame suspended from the boom point.

(28) "Load block" (lower) means the assembly of hook or shackle, swivel, sheaves, pins, and frame suspended by the hoisting ropes.

(29) A "load hoist" is a hoist drum and rope reeving system used for hoisting and lowering loads.

(30) "Load ratings" are crane ratings in pounds established by the manufacturer in accordance with 01.0705(c).

(31) "Outriggers" are extendable fixed metal arms, attached to the mounting base, which rest on supports at the outer ends.

(32) "Rail clamp" means a tong-like metal device, mounted on a locomotive crane car, which can be connected to the track.

(33) "Reeving" means a rope system in which the rope travels around drums and sheaves.

(34) "Rope" refers to a wire rope unless otherwise specified.

(35) "Side loading" means a load applied at an angle to the vertical plane of the boom.

(36) A "standby crane" is a crane which is not in regular service but which is used occasionally or intermittently as required.

(37) A "standing (guy) rope" is a supporting rope which maintains a constant distance between the points of attachment to the two components connected by the rope.

(38) "Structural competence" means the ability of the machine and its components to withstand the stresses imposed by applied loads.

(39) "Superstructure" means the rotating upper frame structure of the machine and the operating machinery mounted thereon.

(40) "Swing" means the rotation of the superstructure for movement of loads in a horizontal direction about the axis of rotation.

(41) "Swing mechanism" means the machinery involved in providing rotation of the superstructure.

(42) "Tackle" is an assembly of ropes and sheaves arranged for hoisting and pulling.

(43) "Transit" means the moving or transporting of a crane from one jobsite to another.

(44) "Travel" means the functions of the machine moving from one location to another, on a jobsite.

(45) The "travel mechanism" is the machinery involved in providing travel.

(46) "Wheelbase" means the distance between centers of front and rear axle. For a multiple axle assembly the axle center for wheelbase measurement is taken as the midpoint of the assembly.

(47) The "whipline" (auxiliary hoist) is a separate hoist rope system of lighter load capacity and higher speed than provided by the main hoist.

(48) A "winch head" is a power driven spool for handling of loads by means of friction between fiber or wire rope and spool.

(b) General requirements.

(1) Application. This section applies to crawler cranes, locomotive cranes, wheel mounted cranes of both truck and self-propelled wheel type, and any variations thereof which retain the same fundamental characteristics. This section includes only cranes of the above types, which are basically powered by internal combustion engines or electric motors and which utilize drums and ropes. Cranes designed for railway and automobile wreck clearances are excepted. The requirements of this section are applicable only to machines when used as lifting cranes.

(2) New and existing equipment. All new crawler, locomotive and truck cranes constructed and utilized on or after August 31, 1971, must meet the design specifications of ANSI B30.5-1968. Crawler, locomotive, and truck cranes constructed before August 31, 1971, must be modified to conform to those design specifications, unless it can be shown that the crane cannot feasibly or economically be altered and that the crane substantially complies with the requirements of this section.

(3) Designated personnel. Only designated personnel shall be permitted to operate a crane covered by this section.

(c) Load ratings.

(1) Load ratings - where stability governs lifting performance.

(A) The margin of stability for determination of load ratings, with booms of stipulated lengths at stipulated working radii for the various types of crane mountings, is established by taking a percentage of the loads which will produce a condition of tipping or balance with the boom in the least stable direction, relative to the mounting. The load ratings shall not exceed the following percentages for cranes, with the indicated types of mounting under conditions stipulated in (B) and (C) of this paragraph.

Maximum load ratings
(percent of tipping loads)

Type of crane mounting:	
Locomotive, without outriggers:	
Booms 60 feet or less	85
Booms over 60 feet	85 *
Locomotive, using outriggers fully extended	80
Crawler, without outriggers	75
Crawler, using outriggers fully extended	85
Truck and wheel mounted without outriggers or using outriggers fully extended	85

* Unless this results in less than 30,000 pound-feet net stabilizing movement about the rail, which shall be minimum with such booms.

(B) The following stipulations shall govern the application of the values in (C) of this paragraph for locomotive cranes:

(i) Tipping with or without the use of outriggers occurs when half of the wheels fartherest from the load leave the rail.

(ii) The crane shall be standing on track which is level with 1 percent grade.

(iii) Radius of the load is the horizontal distance from a projection of the axis of rotation to the rail support surface, before loading, to the center of vertical hoist line or tackle with load applied.

(iv) Tipping loads from which ratings are determined shall be applied under static conditions only, i.e., without dynamic effect of hoisting, lowering, or swinging.

(v) The weight of all auxiliary handling devices such as hoist blocks, hooks, and slings shall be considered a part of the load rating.

(C) Stipulations governing the application of the values in 01.0705(c)(1)(A) for crawler, truck, and

wheel-mounted cranes shall be in accordance with Crane Load-Stability Test Code Society of Automotive Engineers (SAE) J765.

(D) The effectiveness of these preceeding stability factors will be influenced by such additional factors as free suspended loads, track, wind, or ground conditions, condition and inflation of rubber tires, boom lengths, proper operating speeds for existing conditions, and, in general, careful and competent operation. All of these shall be taken into account by the user.

(2) Load rating chart. A substantial and durable rating chart with clearly legible letters and figures shall be provided with each crane and securely fixed to the crane cab in a location easily visible to the operator while seated at his control station.

(d) Inspection classification.

(1) Initial inspection. Prior to initial use all new and altered cranes shall be inspected to insure compliance with provisions of 01.0705.

(2) Regular inspection. Inspection procedure for cranes in regular service is divided into two general classifications based upon the intervals at which inspection should be performed. The intervals in turn are dependent upon the nature of the critical components of the crane and the degree of their exposure to wear, deterioration, or malfunction. The two general classifications are herein designated as "frequent" and "periodic" with respective intervals between inspections as defined below:

(A) Frequent inspection: Daily to monthly intervals.

(B) Periodic inspection: One- to 12-month intervals, or as specifically recommended by the manufacturer.

(3) Frequent inspections. Items such as the following shall be inspected for defects at intervals as defined in 01.0705(d)(2)(A) or as specifically indicated

including observations during operation for any defect which might appear between regular inspections. Any deficiencies such as listed shall be carefully examined and determination made as to whether they constitute a safety hazard:

(A) All control mechanisms for maladjustment interfering with proper operation: Daily.

(B) All control mechanisms for excessive wear of components and contamination by lubricants or other foreign matter.

(C) All safety devices for malfunction.

(D) Deterioration or leakage in air or hydraulic systems: Daily.

(E) Crane hooks with deformations or cracks. For hooks with cracks or having more than 15 percent in excess of normal throat opening or more than 10° twist from the plane of the unbent hook.

(F) Rope reeving for noncompliance with manufacturer's recommendations.

(G) Electrical apparatus for malfunctioning, signs of excessive deterioration, dirt, and moisture accumulation.

(4) Periodic inspection. Complete inspections of the crane shall be performed at intervals as generally defined in 01.0705(d)(2)(A) depending upon its activity, severity of service, and environment, or as specifically indicated below. These inspections shall include the requirements of 01.0705(d)(3) and in addition, items such as the following. Any deficiencies such as listed shall be carefully examined and determination made as to whether they constitute a safety hazard:

(A) Deformed, cracked, or corroded members, in the crane structure and boom.

(B) Loose belts or rivets.

(C) Cracked or worn sheaves and drums.

(D) Worn, cracked, or distorted parts such as pins, bearings, shafts, gears, rollers and locking devices.

(E) Excessive wear on brake and clutch system parts, linings, pawls, and ratchets.

(F) Load, boom angle, and other indicators over their full range, for any significant inaccuracies.

(G) Gasoline, diesel, electric, or other power plants for improper performance or noncompliance with safety requirements.

(H) Excessive wear of chain-drive sprockets and excessive chain stretch.

(I) Travel steering, braking, and locking devices, for malfunction.

(J) Excessively worn or damaged tires.

(5) Cranes not in regular use.

(A) A crane which has been idle for a period of one month or more, but less than 6 months, shall be given an inspection conforming with requirements of 01.0705(d)(3) and 01.0705(g)(2)(A) before placing in service.

(B) A crane which has been idle for a period of six months shall be given a complete inspection conforming with requirements of 01.0705(d)(3) and (4) and 01.0705(g)(2)(B) before placing in service.

(C) Standby cranes shall be inspected at least semi-annually in accordance with requirements of 01.0705(d)(3) and 01.0705(g)(2)(B). Such cranes which are exposed to adverse environment should be inspected more frequently.

(6) Inspection records. Certification records which include the date of inspection, the signature of the person who performed the inspection and the serial number, or other identifier, of the crane which was inspected must be made monthly on critical items in use such as brakes, crane hooks, and ropes. This certification record must be kept readily available.

(e) Testing.

(1) Operational tests.

(A) In addition to prototype tests and quality-control measures, each new production crane shall be tested by the manufacturer to the extent necessary to insure compliance with the operational requirements of 01.0705(e) including functions such as the following:

(i) Load hoisting and lowering mechanisms.

(ii) Boom hoisting and lowering mechanisms.

(iii) Swinging mechanism.

(iv) Travel mechanism.

(v) Safety devices.

(B) Where the complete production crane is not supplied by one manufacturer such tests shall be conducted at final assembly.

(C) Certified production-crane test results shall be made available.

(2) Rated load test.

(A) Written reports shall be available showing test procedures and confirming the adequacy of repairs or alterations.

(B) Test loads shall not exceed 110 percent of the rated load at any selected working radius.

(C) Where rerating is necessary.

(i) Crawler, truck, and wheel-mounted cranes shall be tested in accordance with SAE Recommended Practice, Crane Load Stability Test Code J765 (April 1961).

(ii) Locomotive cranes shall be tested in accordance with (e)(1)(A) and (B) of this section.

(iii) Rerating test report shall be readily available.

(D) No cranes shall be rerated in excess of the original load ratings unless such rating changes are approved by the crane manufacturer or final assembler.

(f) Maintenance procedure. General: After adjustments and repairs have been made the crane shall not be operated until all guards have been reinstalled, safety devices reactivated, and maintenance equipment removed.

(g) Rope inspection:

(1) Running ropes. A thorough inspection of all ropes in use must be made at least once a month and a certification record which includes the date of inspection, the signature of the person who performed the inspection and an identifier for the ropes must be prepared and kept on file where readily available. All inspections must be performed by an appointed or authorized person. Any deterioration, resulting in appreciable loss of original strength must be carefully observed and determination made as to whether further use of the rope would constitute a safety hazard. Some of the conditions that could result in an appreciable loss of strength are the following:

(A) Reduction of rope diameter below nominal diameter due to loss of core support, internal, or external corrosion or wear of outside wires.

(B) A number of broken outside wires and the degree of distribution of concentration of such broken wires.

(C) Worn outside wires.

(D) Corroded or broken wires at end connections.

(E) Corroded, cracked, bent, worn, or improperly applied end connections.

(F) Severe kinking, crushing, cutting, or unstranding.

(2) Other ropes.

(A) Heavy wear and/or broken wires may occur in sections in contact with equalizer sheaves or other sheaves where rope travel is limited, or with saddles. Particular care shall be taken to inspect ropes at these locations.

(B) All rope which has been idle for a period of a month or more due to shutdown or storage of a crane on which it is installed must be given a thorough inspection before it is used. This inspection must be for all types of deterioration and must be performed by an appointed or authorized person whose approval shall be required for further use of the rope. A certification record which includes the date of inspection, the signature of the person who performed the inspection, and an identifier for the rope which was inspected must be prepared and kept readily available.

(C) Particular care shall be taken in the inspection of nonrotating rope.

(3) Idle ropes. All rope which has been idle for a period of a month or more due to shutdown or storage of a derrick on which it is installed must be given a thorough inspection before it is used. This inspection must be for all types of deterioration. A certification record must be

prepared and kept readily available which includes the date of inspection, the signature of the person who performed the inspection, and an identifier for the ropes which were inspected.

(h) Handling the load:

(1) Size of load.

(A) No crane shall be loaded beyond the rated load, except for test purposes as provided in 01.0705(e).

(B) When loads which are limited by structural competence rather than by stability are to be handled, it shall be ascertained that the weight of the load has been determined within plus or minus 10 percent before it is lifted.

(2) Attaching the load.

(A) The hoist rope shall not be wrapped around the load.

(B) The load shall be attached to the hook by means of slings or other approved devices.

(3) Moving the load.

(A) The employer shall assure that:

(i) The crane is level and where necessary blocked properly.

(ii) The load is well secured and properly balanced in the sling or lifting device before it is lifted more than a few inches.

(B) Before starting to hoist, the following conditions must be noted:

(i) Hoist rope must not be kinked.

(ii) Multiple part lines must not be twisted around each other.

(iii) The hook must be brought over the load in such a manner as to prevent swinging.

(iv) If there is a slack rope condition, it must be determined that the rope is properly seated on the drum and in the sheaves.

(C) During hoisting, care shall be taken that:

(i) There is no sudden acceleration or deceleration of the moving load.

(ii) The load does not contact any obstructions.

(D) Side loading of booms shall be limited to freely suspended loads. Cranes shall not be used for dragging loads sideways.

(E) No hoisting, lowering, swinging, or traveling shall be done while anyone is on the load or hook.

(F) The operator shall not carry loads directly over people.

(G) On truck mounted cranes, no loads shall be lifted over the front area except as approved by the crane manufacturer.

(H) The operator shall test the brakes each time a load approaching the rated load is handled by raising it a few inches and applying the brakes.

(I) Outriggers shall be used when the load to be handled at that particular radius exceeds the rated load without outriggers as given by the manufacturer for that crane. Where floats are used they shall be securely attached to the outriggers. Wood blocks used to support outriggers shall:

(i) Be strong enough to prevent crushing.

(ii) Be free from defects.

(iii) Be of sufficient width and length to prevent shifting or toppling under load.

(J) Neither the load nor the boom shall be lowered below the point where less than two full wraps of rope remain on their respective drums.

(K) Before lifting loads with locomotive cranes without using outriggers, means shall be applied to prevent the load from being carried by the truck springs.

(L) When two or more cranes are used to lift one load, one designated person shall be responsible for the operation. He shall be required to analyze the operation and instruct all personnel involved in the proper positioning, rigging of the load, and the movements to be made.

(M) In transit the following additional precautions shall be exercised:

(i) The boom shall be carried in line with the direction of motion.

(ii) The superstructure shall be secured against rotation, except when negotiating turns when there is an operator in the cab or the boom is supported on a dolly.

(iii) The empty hook shall be lashed or otherwise restrained so that it cannot swing freely.

(N) Before traveling a crane with load, a designated person shall be responsible for determining and controlling safety. Decisions such as position of load, boom location, ground support, travel route, and speed of movement shall be in accord with his determination.

(O) A crane with or without load shall not be traveled with the boom so high that it may bounce back over the cab.

(P) When rotating the crane, sudden starts and stops shall be avoided. Rotational speed shall be such that the load does not swing out beyond the radii at which it can be controlled. A tag or restraint line shall be used when rotation of the load is hazardous.

(Q) When a crane is to be operated at a fixed radius, the boom-hoist pawl or other positive locking device shall be engaged.

(R) Ropes shall not be handled on a winch head without the knowledge of the operator.

(S) While a winch head is being used, the operator shall be within convenient reach of the power unit control lever.

(4) Holding the load.

(A) The operator shall not be permitted to leave his position at the controls while the load is suspended.

(B) No person should be permitted to stand or pass under a load on the hook.

(C) If the load must remain suspended for any considerable length of time, the operator shall hold the drum from rotating in the lowering direction by activating the positive controllable means of the operator's station.

(i) Other requirements.

(1) Operating crew.

(A) Cranes equipped with a rotating unit shall have a minimum crew of one operator and one attendant.

(B) Only employees qualified by training and/or experience may operate and attend power cranes.

(C) Operators and attendants assigned to specific equipment in a workplace shall be formally instructed by competent supervisory personnel as to the hazards involved in the particular work and workplace.

(D) If it becomes necessary to replace an operator or attendant previously assigned to a machine the work may not commence until the replacement has been instructed by competent supervisory personnel as to the hazards involved in the particular work and workplace.

(E) The operating crew shall consist of the designated operator plus an attendant who shall act only as a safety observer when the crane is in operation if any one of the following criteria exists:

(i) If any employee working in the proximity concludes a danger exists and requests the employer or his representative to assign a safety observer;

(ii) If the equipment is operating where any part is capable of reaching within 15 feet of an overhead power line in which case the provisions of AS 18.60.670-695 apply;

(iii) If the equipment can swing in an arc of 360 degrees and the equipment is not accompanied by an oiler, who functions as a safety observer when the equipment is in operation; or

(iv) If a compliance officer of the Alaska Department of Labor concludes that a danger exists.

(F) Operators shall be required to meet the following qualifications:

(i) Pass a practical operating examination, limited to the specific type of equipment he will operate;

(ii) Have vision, with or without glasses, at least 20/30 Snellen in one eye and 20/50 in the other eye.

(iii) Be able to distinguish red, green, and yellow, regardless of the position of the colors;

(iv) Have hearing, with or without a hearing aid; adequate for the specific operation;

(v) Have no history of epilepsy or disabling heart condition; and

(vi) Be familiar and conversant with safe operating procedures, the capacity and limitations of the equipment he will operate, and understand the provisions of these regulations pertaining to inspection, operation, load limit tests and boom radii.

(2) Rail Clamps. Rail clamps shall not be used as means of restraining tipping of a locomotive crane.

(3) Ballast or counterweight. Cranes shall not be operated without the full amount of any ballast or counterweight in place as specified by the maker, but truck cranes that have dropped the ballast or counterweight may be operated temporarily with special care and only for light loads without

full ballast or counterweight in place. The ballast or counterweight in place specified by the manufacturer shall not be exceeded.

(4) Cabs.

(A) Necessary clothing and personal belongings shall be stored in such a manner as to not interfere with access or operation.

(B) Tools, oil cans, waste, extra fuses, and other necessary articles shall be stored in the tool box, and shall not be permitted to lie loose in or about the cab.

(5) Refueling.

(A) Refueling with small portable containers shall be done with Underwriter's Laboratories or Factory Mutual Laboratories approved, or equivalent, safety type can equipped with an automatic closing cap and flame arrester.

(B) Machines shall not be refueled with the engine running.

(6) Fire extinguishers.

(A) A carbon dioxide, dry chemical, or equivalent fire extinguisher shall be kept in the cab or vicinity of the crane.

(B) Operating and maintenance personnel shall be made familiar with the use and care of the fire extinguishers provided.

(7) Swinging locomotive cranes. A locomotive crane shall not be swung into a position where railway cars on an adjacent track might strike it until it has been ascertained that cars are not being moved on the adjacent track and proper flag protection has been established.

(j) Operating near electric power lines.

(1) Clearances. Except where the electrical distribution and transmission lines have been deenergized and visibly grounded at point of work or where insulating barriers not a part of or an attachment to the crane have been erected to prevent physical contact with the lines, cranes shall be operated proximate to, under, over, by, or near powerlines only in accordance with the following:

(A) For lines rated 50 kV or below, minimum clearance between the lines and any part of the crane or load shall be 10 feet.

(B) For lines rated over 50 kV minimum, clearance between the lines and any part of the crane or load shall be 10 feet plus 0.4 inch for each 1kV over 50 kV or twice the length of the line insulator but never less than 10 feet.

(C) In transit with no load and boom lowered, the equipment clearance shall be a minimum of four feet for voltages less than 50 kV, and 10 feet for voltages over 50 kV up to and including 345 kV, and 16 feet for voltages up to and including 750 kV.

(2) Boom guards. Cage-type boom guards, insulating links, or proximity warning devices may be used on cranes, but the use of such devices shall not operate to alter the requirements of 01.0705(j)(1).

(3) Notification. Before the commencement of operations near electrical lines, the owners of the lines or their authorized representative shall be notified and provided with all pertinent information. The cooperation of the owner shall be requested.

(4) Overhead wires. Any overhead wire shall be considered to be an energized line unless and until the person owning such line or the electrical utility authorities indicate that it is not an energized line.

01.0706 DERRICKS. (a) Definitions applicable to 01.0706.

General Industry
Safety and Health Standards Digest

Alaska Department of Labor
Division of Occupational Safety and Health

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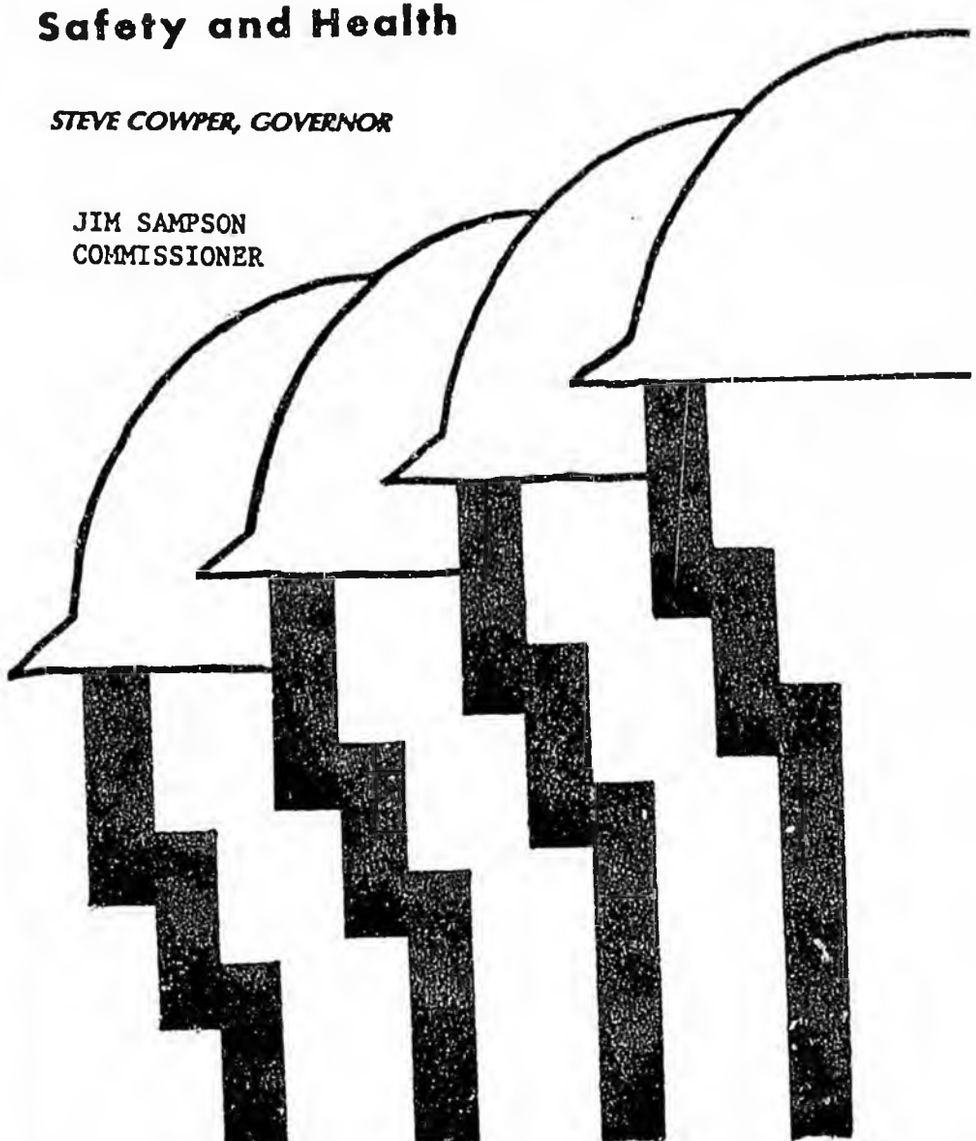

16. CONE PULLEYS (Mechanical Power Transmission Equipment)

The cone belt and pulley shall be equipped with a belt shifter so constructed as to adequately guard the nip point of the belt and pulley. If the frame of the belt shifter does not adequately guard the nip point of the belt and pulley, the nip point shall be further protected by means of a vertical guard placed in front of the pulley and extending at least to the top of the largest step of the cone.

17. CONVEYORS

a. Open hoppers and chutes shall be guarded by standard railings and toeboards or by some other comparable safety device.

b. Safety standards for conveyors used in sawmills can be found in 07.215(r) and (s) of Subchapter 7, Article 2, Sawmill Code.

18. CRANES AND HOISTS (Overhead and Gantry)

a. All functional operating mechanisms, air and hydraulic systems, chains, rope slings, hooks, and other lifting equipment shall be visually inspected daily.

b. Complete inspection of the crane shall be performed at intervals depending on its activity, severity of service, and environment.

c. An overhead crane shall have stops at the limit of travel of the trolley, bridge and trolley bumpers or equivalent automatic services, and rail sweeps on the bridge trucks.

d. The rated load of the crane shall be plainly marked on each side of the crane, and if the crane has more than one hoisting unit, each hoist shall have its rated load marked on it or its load block, and this marking shall be clearly legible from the ground or floor.

19. CYLINDERS, COMPRESSED GAS, USED IN WELDING

a. Compressed gas cylinders shall be kept away from excessive heat, shall not be stored where they might be damaged or knocked over by passing or falling objects, and shall be stored at least 20 feet away from highly combustible materials.

Construction Industry
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d. Formwork and shoring shall safely support all loads imposed during concrete placement. Drawings or plans of formwork and shoring systems shall be available at the jobsite.

11. CONVEYORS

a. Conveyor systems shall be equipped with an audible warning signal which can be sounded immediately before starting up the conveyor.

b. Where conveyors pass over work areas or aisles, guards shall be provided to protect employees from falling material.

c. Conveyors shall be in compliance with ANSI B20.1-1957, "Safety Code for Conveyors, Cableways, and Related Equipment."

12. CRANES AND DERRICKS

a. The employer shall comply with the manufacturer's specifications and limitations.

b. Rated load capacities, recommended operating speeds, and special hazard warnings or instructions shall be posted on all equipment and be visible from the operator's station.

c. Equipment shall be inspected before each use and all deficiencies corrected before further use.

d. Accessible areas within the swing radius of the revolving superstructure shall be barricaded.

e. Except where electrical distribution and transmission lines have been de-energized and visibly grounded at point of work, or where insulating barriers not a part of or an attachment to the equipment or machinery have been erected to prevent physical contact with the lines, no part of a crane or its load shall be operated within 10 feet of a line rated 50 kV or below; 10 feet + 0.4 inches for each kV over 50 kV for lines rated over 50 kV; or twice the length of the line insulator, but never less than 10 feet.

f. (For rules pertaining to Rigging Equipment, see item No. 67)

g. Crane records must be kept readily available.

13. DISPOSAL CHUTES

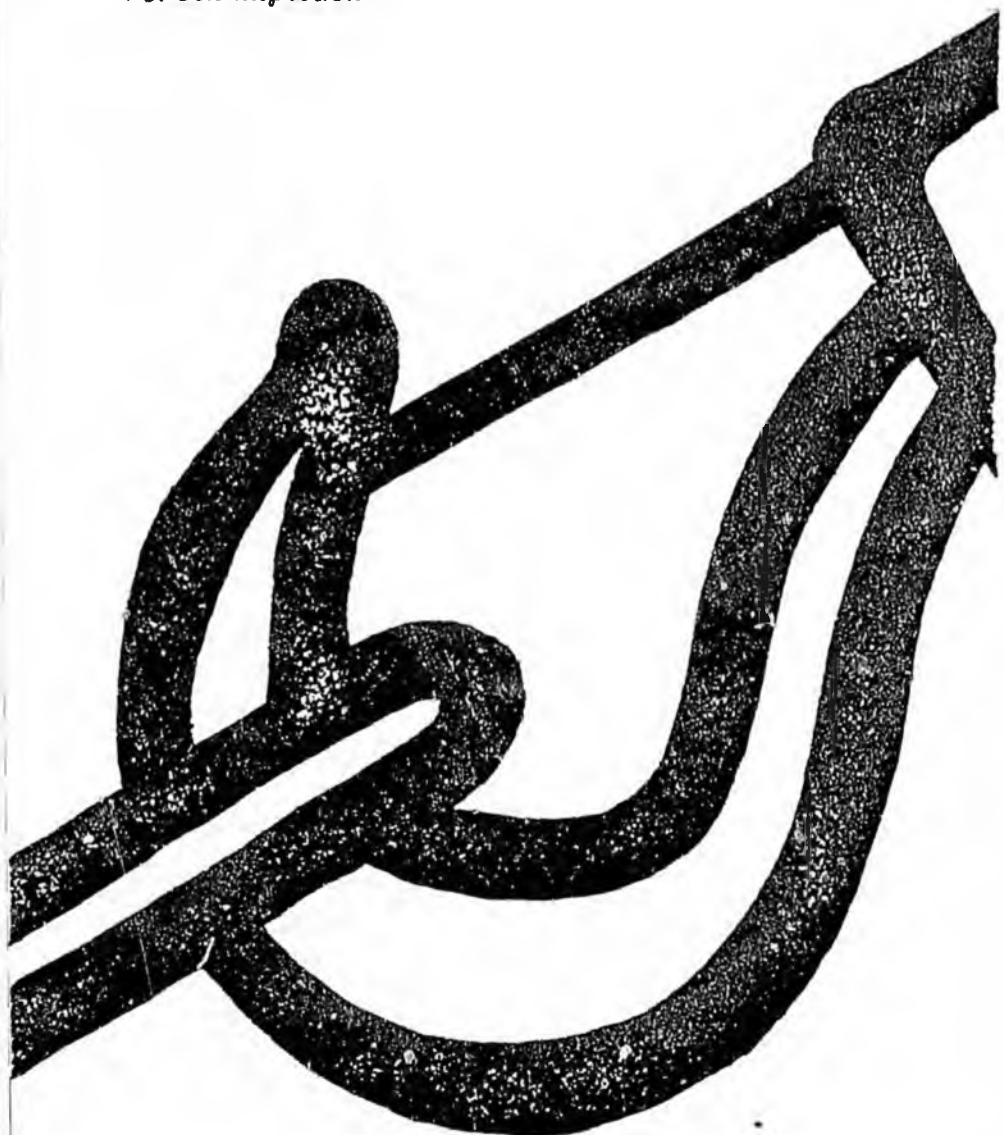
a. Whenever materials are dropped more than 20 feet to any exterior point, an enclosed chute shall be used.

b. When debris is dropped through holes in the floor without the use of chutes, the area where the material is dropped shall be enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected opening.

DIVISION OF LABOR STANDARDS AND SAFETY

Occupational Safety and Health

Construction Checklist
For Self-Inspection



		Yes	Needs Action
15.	Are safety nets installed where the potential fall distance exceeds two stories or 25 feet?	☐	☐
16.	Is a safety railing installed around temporarily floored openings?	☐	☐

DOSH Administration Phone Numbers

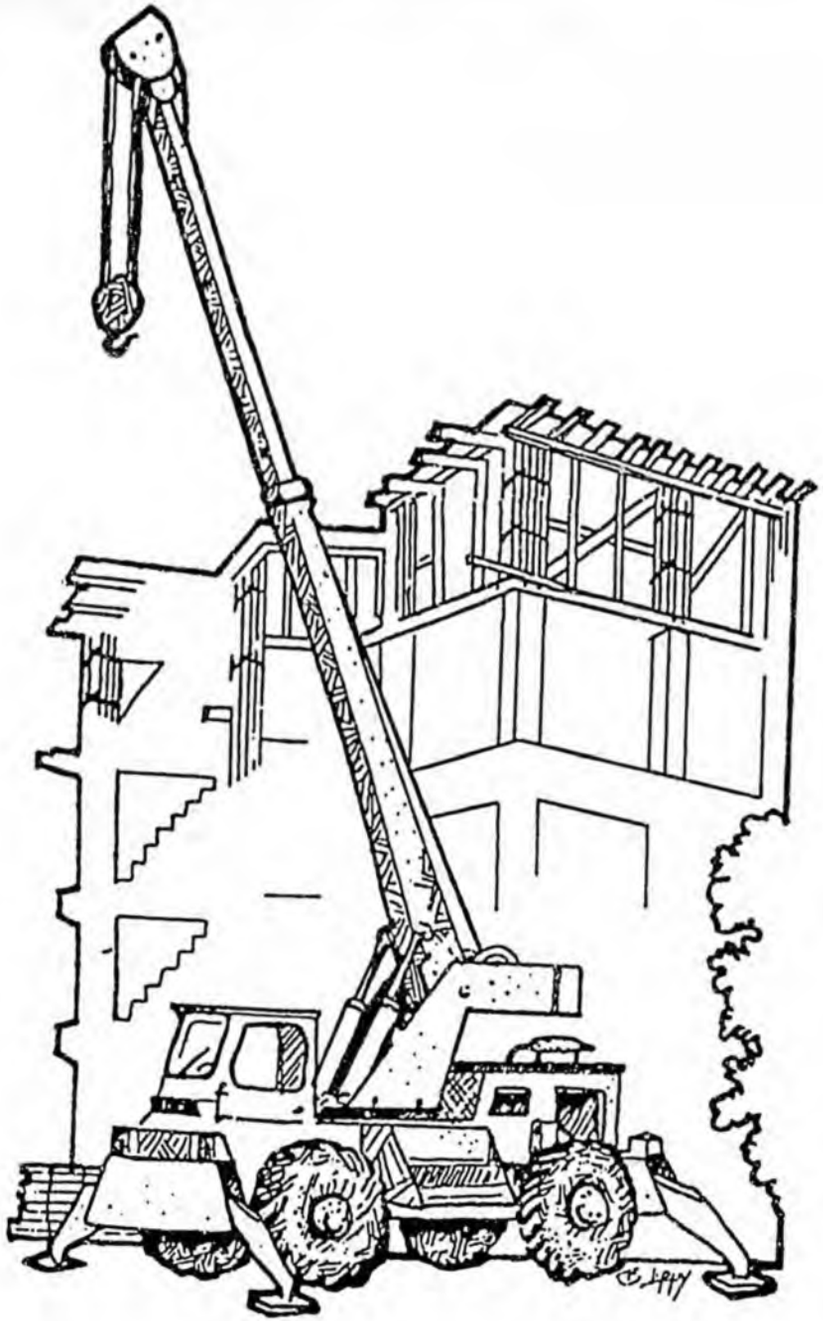
Consultation Services
Phone: (907) 284-2599

Complaints and Inspections
Phone: (907) 284-2697

Director
Phone: (907) 465-4855

CRANES

1.	Are deadman controls in working order on powered traveling machines?	☐	☐
2.	Does crane operation comply with manufacturer's specifications?	☐	☐
3.	Are rated load capacities, operating speed, and instructions posted and visible to the operator?	☐	☐
4.	Is machinery inspected daily prior to use to make sure it is in proper operating condition?	☐	☐
5.	Are wire ropes, chains, ropes, and other rigging equipment inspected prior to use?	☐	☐
6.	Are appropriate safety precautions taken when operating on electrical lines? (Reference to DOSH Standard)	☐	☐
7.	Are accessible areas within swing radius barricaded?	☐	☐
8.	Are cranes or derricks restricted from operating within ten feet or more of any electrical distribution or transmission line?	☐	☐



		Yes	Needs Action
9.	Is a fire extinguisher of at least 5 BC provided on the crane?	☐	☐
10.	Are illustrations of hand signals to crane and derrick operators posted on the job site?	☐	☐
11.	Does the hook-up man use correct signals for crane operator to follow?	☐	☐
12.	Are crane outriggers used as required?	☐	☐
13.	Are crane hooks safely latched or "moused" if applicable?	☐	☐

MATERIAL HOISTS

1.	Are workers prohibited from riding the hoist?	☐	☐
2.	Is overhead protection provided over the cage or platform?	☐	☐
3.	Is a load rating plate attached to the hoist?	☐	☐
4.	Has wire rope been inspected for harmful defects?	☐	☐
5.	Are there at least three full wraps on the winding drum when the platform is at the lowest point of travel?	☐	☐
6.	Is there at least three feet of clearance between the cathead sheave and the top of cage when it is at the uppermost terminal or landing?	☐	☐
7.	Are sheave bearings well lubricated?	☐	☐
8.	Are brakes capable of stopping and holding 125 percent of the rated load?	☐	☐
9.	Does the operator remain at the controls while the load is suspended or the master clutch is engaged?	☐	☐
10.	Are gears on the hoisting machine well guarded?	☐	☐

SB 393

SENATE COMMITTEE REPORT
FIRST COMMITTEE OF REFERRAL

DATE: January 18, 1990 FURTHER:

Date of 5-Day Notice: 2/8/90
(in accordance with Uniform Rule 23)

DATE TURNED INTO OFFICE: 2/12/90

Labor and Commerce Committee considered SENATE BILL NO. 393

"An Act relating to sale or rental of recreational motor vehicles; and providing for an effective date."

and recommended:

[ ] replace with _____ CS _____ [ ] same title [ ] new title

[ ] attached amendment(s)

[ ] _____ letter of intent adopted

[✓] do pass

[ ] do not pass

[ ] no recommendation

[ ] individual recommendations

[ ] further referral to _____

ATTACHES NEW FISCAL NOTE(S):

Department(s)/Date:

[ ] fiscal note(s) _____

Department(s)/Date:

[✓] zero fiscal note(s) Dept of Public Safety

[ ] appropriation-no fiscal note

[ ] Governor's bill w/fiscal note

SIGNING DO PASS:

OTHER RECOMMENDATIONS:

Chair: Signature and Recommendation

Alaska State Legislature

SENATOR BETTYE FAHRENKAMP
CHAIRMAN, RESOURCES COMMITTEE
119 N. CUSHMAN STREET, SUITE 201
FAIRBANKS, ALASKA 99701
OFFICE (907) 452-4882
HOME (907) 456-2899

Senate

WHILE IN JUNEAU
P.O. BOX V
JUNEAU, ALASKA 99811
CAPITOL, ROOM 125
OFFICE (907) 465-3834
HOME (907) 780-6027

M E M O R A N D U M

TO: Senator Richard Eliason, Chairman
Senate Labor & Commerce Committee

FROM: Senator Bettye Fahrenkamp

DATE: February 12, 1990

SUBJECT: Senate Bill 393
"An Act relating to sale or rental of recreational motor vehicles; efd."

I was approached by several people in Fairbanks and urged to sponsor legislation to require that propane detectors be required in all recreational vehicles sold or rented in Alaska. Their promptings came as a result of a particularly bad accident in Fairbanks. A couple had just purchased a motor home and decided to spend the night in it while it was parked out in their driveway, just to see what it was like before they took it traveling. There was a propane leak resulting from a faulty factory-installed hookup, and an explosion. Both the husband and wife were burned, with the wife suffering very serious injuries.

Propane detectors are relatively inexpensive (approximately $100 for a 12 volt detector with an adaptor for 120 volt current). They sound an alarm when a certain percentage of the lower explosion limit of propane is detected in the air. This percentage varies with the device. The $100 unit referred to above sounds when 25% of the lower explosion limit is detected. Another unit, which also automatically shuts off the gas flow and sells for $180, sounds when 10% of the lower limit is detected.

In a recent conversation with the serviceman at Petrolane here in Juneau, I was told that many people try to perform their own servicing on motor homes. Improper maintenance, over-use of appliances and systems (e.g., living full time in a motor home that was designed for weekend and recreational use), and trying to modify devices all contribute to leaky propane systems. Petrolane will no longer send people out to service RVs because they are so concerned about liability and safety.

This bill would require installation of propane gas detectors on newer RVs (1990 models and newer) sold or rented after January 1, 1992. I think it is a positive step toward safety and consumer protection, and urge your favorable consideration.

STATE OF ALASKA
1990 LEGISLATIVE SESSION

BILL VERSION: SB 393
PUBLISH DATE: _____

FISCAL NOTE

REQUEST:

Revision Date: _____
Title: Safety of Propane Gas Devices on RV'S
Sponsor: Fahrenkamp
Requestor: Senate Labor & Commerce

Agency Affected: Public Safety
BRU: DMV
Component: _____

EXPENDITURES/REVENUES: (Thousands of Dollars) (Inflation not included)

OPERATING	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	-0-	-0-	-0-	-0-	-0-	-0-
CAPITAL	-0-	-0-	-0-	-0-	-0-	-0-
REVENUE	-0-	-0-	-0-	-0-	-0-	-0-

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS:

FULL-TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART-TIME	-0-	-0-	-0-	-0-	-0-	-0-
TEMPORARY	-0-	-0-	-0-	-0-	-0-	-0-

ANALYSIS: (Attach a separate page if necessary)

No fiscal impact.

Prepared by: Juanita M. Hensley
Division: DMV
Phone: 465-4361
Date: 02/12/90

Approved by Commissioner: Arthur English
Agency: Department of Public Safety
Date: 2-12-90

2/12/90

SB 401

STATE OF ALASKA
1990 LEGISLATIVE SESSION

BILL VERSION: SB 401
PUBLISH DATE:

FISCAL NOTE

REQUEST:
Revision Date:
Agency Affected: Labor
Title: "An Act related to the rights of correctional industries workers..."
BRU: Workers' Compensation
Sponsor: Rules Committee
Components: Workers' Compensation
Requestor: Senate Labor & Commerce

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND&STRUCTURES						
GRANTS,CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

Note: There is no fiscal impact in FY 90.

Prepared by: Elaine VanderSande Phone: 465-2790
Division: Workers' Compensation Date: 2/5/90

Approved by Commissioner: Jim Sampson Date: 2/5/90
Agency: Department of Labor

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

S B
411

SENATE COMMITTEE REPORT

DATE: 3/8/90

FURTHER:

DATE TURNED INTO OFFICE: 3/22/90

Labor & Commerce Committee considered SB 411

"An Act relating to sale of alcoholic beverages by a package store licensee."

and recommended:

[ ] replace with _____ CS _____ [ ] same title
[ ] or adopt _____ CS _____ [ ] new title
[ ] technical title change (HB only)

[ ] attached amendment(s)
[ ] _____ letter of intent adopted

[✓] do pass

[ ] do not pass

[ ] no recommendation

[ ] individual recommendations

[ ] further referral to _____

ATTACHES NEW FISCAL NOTE(S): Dept/Date:

[ ] fiscal note(s) _____

[ ] zero fiscal note(s) _____

[ ] appropriation-no fiscal note

APPROVES PREVIOUS: Dept/Date:

[ ] fiscal note(s) _____

[✓] zero fiscal note(s) Dept of Revenue 2/9/90

[ ] Governor's bill w/fiscal note

SIGNING ~~DO PASS~~:

OTHER RECOMMENDATIONS:

Chair: Signature and Recommendation

STATE OF ALASKA
1990 LEGISLATIVE SESSION

BILL VERSION: SB 411
PUBLISH DATE: _____

FISCAL NOTE

REQUEST:

Revision Date: _____
Title: Sale of alcoholic beverages by a package store licensee
Sponsor: Sen. Binkley et al
Requestor: Sen. Ness Committee

Agency Affected: Department of Revenue
BRU: Alcoholic Beverage Control Board
Components: _____

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96
PERSONAL SERVICES	-0-	-0-	-0-	-0-	-0-	-0-
TRAVEL	-0-	-0-	-0-	-0-	-0-	-0-
CONTRACTUAL	-0-	-0-	-0-	-0-	-0-	-0-
SUPPLIES	-0-	-0-	-0-	-0-	-0-	-0-
EQUIPMENT	-0-	-0-	-0-	-0-	-0-	-0-
LAND & STRUCTURES	-0-	-0-	-0-	-0-	-0-	-0-
GRANTS, CLAIMS	-0-	-0-	-0-	-0-	-0-	-0-
MISCELLANEOUS	-0-	-0-	-0-	-0-	-0-	-0-
TOTAL OPERATING	-0-	-0-	-0-	-0-	-0-	-0-
CAPITAL	-0-	-0-	-0-	-0-	-0-	-0-
REVENUE	-0-	-0-	-0-	-0-	-0-	-0-

FUNDING: (Thousands of Dollars)

GENERAL FUND	-0-	-0-	-0-	-0-	-0-	-0-
FEDERAL FUNDS	-0-	-0-	-0-	-0-	-0-	-0-
OTHER	-0-	-0-	-0-	-0-	-0-	-0-
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS:

FULL-TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART-TIME	-0-	-0-	-0-	-0-	-0-	-0-
TEMPORARY	-0-	-0-	-0-	-0-	-0-	-0-

ANALYSIS: (Attach a separate page if necessary)

This legislation does not impact the ABC Board's FY 90 budget.

Prepared by: Patrick L. Sharrock, Director
Phone: 277-8638
Division: Alcoholic Beverage Control Board
Date: 2/8/90

Approved by Commissioner: _____
Date: 2/9/90
Agency: Department of Revenue

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

Alaska State Legislature

SENATE

Committee on Finance

Official Business

P.O. Box V
State Capitol
Juneau, Alaska 99811

MEMORANDUM March 8, 1990

TO: Senator Dick Eliason, Chairman
Senate Labor and Commerce Committee

FROM: Senator Johne Binkley

RE: SB 411 - Relating to sale of alcoholic beverages by package liquor store

---

This is to request a hearing in your committee of SB 411 at the earliest possible time.

SB 411 is one of a package of bills which target the problems of Fetal Alcohol Syndrome. This particular bill is a part of the public education and awareness initiatives related to the problem. Last session we passed legislation which required the posting of signs which warn of the dangers of drinking alcohol during pregnancy. We've had feedback which indicates the signs have been successful. Many rural residents, however, don't have the benefit of seeing the warning because they purchase their alcohol through mail orders.

Thirty-nine businesses are currently licensed to sell alcohol through mail order shipments in the state. SB 411 would require those licensees to include a written notice which warns of the dangers of drinking alcoholic beverages during pregnancy. The March of Dimes produces a brochure which can be purchased for a nominal cost. The sample attached to this memorandum costs just 2.5 cents each, and if purchased in bulk quantities a 10% discount can be applied.

The bill has a -0- fiscal note and is supported by the Alcohol Beverage Control Board.

Thank you for your consideration.

Alaska State Legislature

SENATE

Committee on Finance

Official Business

P.O. Box V
State Capitol
Juneau, Alaska 99811

MEMORANDUM March 20, 1990

TO: Senator Dick Eliaison, Chairman
Senate Labor and Commerce Committee

FROM: Senator Johne Binkley

RE: SB 411 - relating to sale of alcoholic beverages by a package store licensee

---

Sectional Analysis

Section 1. Amends licensing section of Alcoholic Beverage statutes to require that package store licensees include a brochure or other written material warning of the dangers of drinking alcohol during pregnancy.

The posting of the signs warning of the dangers of drinking alcoholic beverages during pregnancy has been a positive step. Alaskans who purchase their alcohol by mail, however, don't have the benefit of seeing this important message.

Several organizations, including the March of Dimes, produce inexpensive brochures which are designed to pass on the message. Attached is a sample which can be purchased for the small sum of $2.50 for 100 brochures. That's just 2.5 cents each.

This bill has a -0- fiscal note and is supported by the Alcoholic Beverage Control Board.

STEVE COWPER, GOVERNOR

DEPARTMENT OF REVENUE

550 W. 7TH AVE
ANCHORAGE, ALASKA 99501-0698

ALCOHOLIC BEVERAGE CONTROL BOARD

February 28, 1990

The Honorable Johne Binkley
Alaska State Senate
Pouch V
Juneau, Alaska 99811

RE: SB 410 and SB 411
Attention: Pat Jackson

Dear Senator Binkley:

The Alcoholic Beverage Control Board has had an opportunity to review SB 410 and SB 411. The board does not have concerns or objections to the legislation and lends its encouragement for adoption.

If you have any questions, please do not hesitate to call.

Sincerely,

Patrick L. Sharrock
Director, ABC Board

PS/cl

90-41

Would You Give Your Newborn Baby A Drink of Liquor or Wine or Beer?

Of course you wouldn't. You know that a baby doesn't need or want alcohol in any form. You wouldn't think of putting an alcoholic drink in your baby's bottle because you know it's not good for him or her.

Well, exactly the same is true *before* your baby is born. When you are pregnant, every time you take a drink, your baby takes one too. The drink he gets is just as strong as the one you get, and because he is so much smaller than you are, it hits him a lot harder.

What is worse, his hangover could last a lifetime.

What Is Fetal Alcohol Syndrome?

Fetal alcohol syndrome (FAS) is a pattern of physical and mental birth defects that are the direct result of the mother's drinking alcohol while pregnant.

FAS babies are abnormally small at birth, especially in head size. Unlike many newborns who are too small, few of these children catch up to normal growth. Most of them have small brains and show some amount of mental retardation. Many are jittery and poorly coordinated. They have short attention spans and behavioral problems. Their mental problems may not improve with age.

FAS babies usually have narrow eyes and short upturned noses. Some have heart defects, which may require surgery.

I Don't Drink That Much. Could It Happen To My Baby?

We don't know how much alcohol is "safe." The best decision is not to have any while you are pregnant—or when you might be.

About *one out of every 750 babies born has FAS!** That's a lot of damaged babies. We don't realize how common FAS is because we don't hear about it as much as other birth defects. We haven't known about FAS for very long.

What Can I Do About It?

Everything. Unlike many other birth defects, FAS is *completely preventable*. By you. Nobody else can do it for you—not your doctor or your mother or the baby's father.

FAS is forever. There is no cure. But it doesn't have to happen at all. All you have to do is say "no" to the next drink, and keep on saying it until after your baby is born.

Other Than The Tragedy Of FAS, Are There Any Other Reasons Not To Drink While I'm Pregnant?

Alcohol is a drug that adds calories, but no food value, to the diet—your diet and your developing baby's. Having an alcoholic drink instead of milk or fruit juice deprives your baby of the nourishment it needs to grow and develop normally.

Women who drink heavily during pregnancy have more miscarriages and more stillbirths (babies born dead) than other women. Even moderate drinking is suspected of causing those problems. It is also suspected of causing learning disabilities and minor physical problems. There is much we still have to learn, but pregnancy is no time for guessing how much is too much.

When Should I Stop?

It's never too soon.

From the moment of conception, your baby's organs start forming. Alcohol can damage them. For example, brain, heart and blood vessels start to develop in the third week of pregnancy. The heart begins to beat by the fourth week, even though the embryo is less than ¼ of an inch long.

Since most women do not know that they are pregnant until a month or more has passed, they may have been drinking all along. So the best time to stop drinking is *before* you become pregnant. If you are pregnant and are still drinking, the time to stop is *now*. If you need help, ask your doctor.

THE ONLY SAFE ADVICE IS: IF YOU DRINK HEAVILY, DON'T GET PREGNANT; IF YOU'RE PREGNANT, DON'T DRINK.

YOUR BABY CAN'T SAY NO. SAY IT FOR YOUR BABY.

* Centers for Disease Control. US Dept of Health and Human Services/Public Health Service. *Morbidity and Mortality Weekly Report*. January 13, 1984.

Will My Drinking Hurt My Baby?

March of Dimes
Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains NY 10605

For more information on drinking and pregnancy, ask your doctor or your local March of Dimes chapter.

This pamphlet is made possible through contributions to the March of Dimes.

For additional copies contact your local March of Dimes chapter.

09-165 00

10/86

March of Dimes Birth Defects Foundation

Say No For Your Baby.

You wouldn't get your baby drunk after it's born. But it's just as harmful for your baby if you drink while you're pregnant.

Every time a pregnant woman takes a drink, she risks damaging her unborn baby (fetus).

When a pregnant woman drinks, the alcohol passes swiftly through the placenta to her unborn baby. It hits the baby harder than it would an adult because the baby's developing organs cannot break down the alcohol as fast as an adult's can. That means the baby can have more alcohol in its blood than the mother does . . . *and can suffer lifelong damage before it is even born.*

How Does Drinking Hurt An Unborn Baby?

Each year, 5,000 American babies are born with fetal alcohol syndrome (FAS). This is a pattern of physical and mental birth defects that is the direct result of drinking by the mother during pregnancy. FAS does not have to happen to any baby. It is *completely preventable.*

Babies with FAS:

- Are smaller than they should be when they are born. Most of them don't ever catch up to the size of other children.
- Have heads and brains that are too small, and varying degrees of mental retardation. Many are jittery and poorly coordinated; they may have short attention spans and behavior problems, too.
- May have defects of the heart and other body parts.
- Often have narrow eyes, a short nose, thin upper lip, absent upper lip crease, and underdeveloped jaws.

Babies with FAS have one thing in common — a mother who drank a lot during pregnancy.

How Much Is Too Much?

Heavy drinkers aren't the only ones who risk damage to the fetus. The baby of a "moderate" drinker may be born with one or more FAS features. Some women who drink moderately have babies with lesser forms of alcohol-related damage, often called fetal alcohol effects (FAE).

There are other dangers besides birth defects. Women who drink heavily have more miscarriages and stillbirths than other women. Even moderate drinking is suspected of causing these problems.

If you know a woman who drank while pregnant and delivered a baby who seems healthy, you can't count on this happening in your case.

- There is no way to tell which babies will be affected by the alcohol their mothers drink.
- There is no known "safe" level of alcohol consumption during pregnancy.

The only way to keep from risking severe damage to your baby is not to drink throughout pregnancy and while nursing.

When To Stop

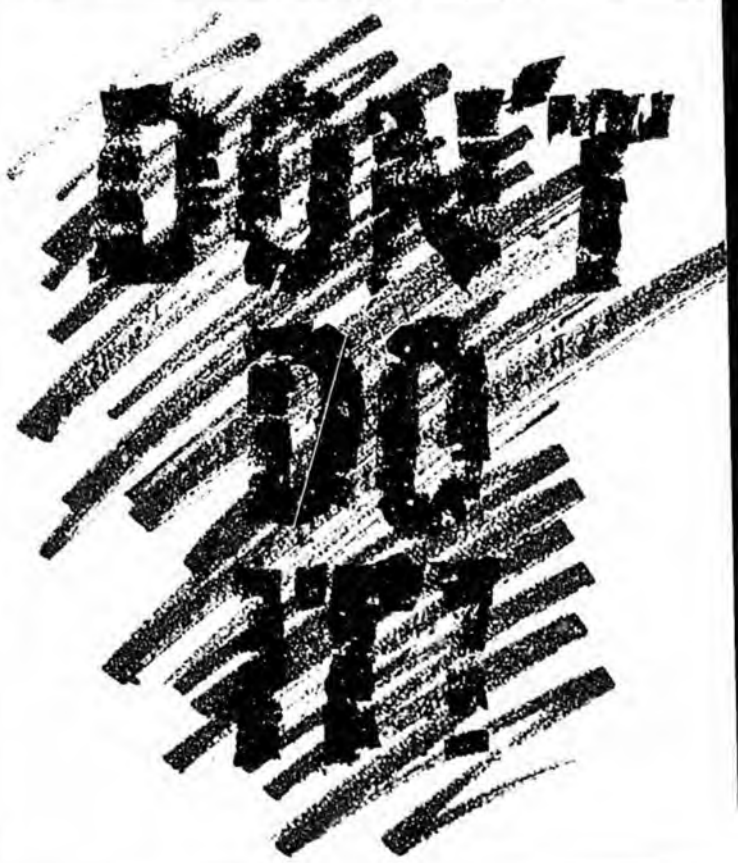
If you're pregnant and have just learned about the dangers of drinking, the time to stop is now.

If you're thinking about having a baby, stop drinking before you get pregnant. During the weeks before a woman may know she is pregnant, the baby's brain, heart and other organs begin to form and are especially vulnerable to damage from alcohol.

Fetal alcohol syndrome can't be cured, but it can be prevented. What it takes is a choice between pregnancy and drinking:

- If you want to become a mother of a healthy baby, stop drinking.
- If you are a heavy drinker, do not get pregnant until you are sure you have your drinking under control and will not drink throughout your pregnancy.

words about drinking while pregnant:



March of Dimes
Preventing Birth Defects

March of Dimes
Birth Defects Foundation
National Office
1275 Mamaroneck Avenue
White Plains New York 10605

This pamphlet is made possible through contributions to the March of Dimes.

For additional copies contact your local March of Dimes chapter.

11/69 09-165-00

MEN, ALCOHOL and BABIES

Having a healthy baby was once thought to be the woman's responsibility...

It's true that what a mother-to-be eats and drinks affects her baby. That's why pregnant women are advised not to drink alcohol - because it can cause a birth defect called **FETAL ALCOHOL SYNDROME (FAS).** With **FAS** the baby is growth and mentally retarded, and has facial deformities as well as other physical problems.

BUT THE FATHER'S DRINKING ALSO AFFECTS HIS CHILDREN:

- It affects his ability to father children.
- It increases the chance of other birth defects in his children.
- It lowers his babies' birthweight.

The father's support of the mother during the pregnancy is the most important action a man can do to have a healthy baby. The father can:

- Make an agreement that neither you nor the mother-to-be will drink alcohol, smoke cigarettes or marijuana, or use any drugs during the pregnancy. This agreement makes it easier for a woman to maintain a healthy life style.

- Encourage regular prenatal care, and go with her to the checkups.

- See to it she eats a balanced diet, and takes prenatal vitamins and iron if prescribed.

- Remind her not to take any medicine during the pregnancy unless told to by her doctor.

REMEMBER, IT'S YOUR BABY TOO!

NCADD FACT SHEET: ALCOHOL-RELATED BIRTH DEFECTS

DEFINITIONS

- Fetal alcohol syndrome (FAS) is one of the top three known causes of birth defects with accompanying mental retardation—and the only preventable cause among those three. FAS can be prevented by abstaining from alcohol consumption during pregnancy.[1]

  FAS is characterized by a cluster of congenital birth defects that develop in the infants of some women who drink heavily during pregnancy. These defects include prenatal and postnatal growth deficiency; facial malformations such as a small head circumference, flattened midface, sunken nasal bridge and flattened and elongated philtrum; central nervous system dysfunction; and varying degrees of major organ system malformations.[2]

- Fetal alcohol effects (FAE), a less severe version of FAS, is characterized by milder or less frequent FAS signs. Low birthweight, subtle behavioral problems or a partial display of physical malformations, for example, may be seen in the newborns of women who consumed less alcohol during pregnancy than women with FAS newborns.[3]

INCIDENCE AND RISK FACTORS

- Nearly 5,000 babies – one in every 750—are born with FAS every year. (FAS prevalence rates range from one in 1,000 to one in 200.) Comparatively, FAE may affect 36,000 newborns each year.[4]
- One in six women in the peak childbearing years of 18-34 may drink enough, either chronically or episodically, to present a hazard to an unborn infant.[5]
- Alcoholic women are at highest risk of bearing children with FAS. Alcoholism is a chronic, progressive and potentially fatal disease characterized by tolerance and physical dependency or pathologic organ changes, or both.[6]
- FAS is prevalent in 9.8 of every 1,000 American Indians from a particular high risk culture. Other American Indian populations have rates ranging from 1.3 to 10.3 for every 1,000.[7]
- An average of one to two reported drinks daily is linked to decreased birthweight, growth abnormalities and behavioral problems in the newborn and infant. Increased risk of spontaneous abortion has been found at an even lower dose: one to two drinks twice weekly.[8]
- The probability of having a child with FAS or FAE increases with the amount and frequency of alcohol consumed. Whenever a pregnant woman stops drinking, she reduces the risks of FAE and the consequences of alcohol exposure.[9]
- There is no known safe dose of alcohol during pregnancy, nor does there appear to be a safe time to drink during pregnancy. Although 90 percent of the public is aware that drinking during pregnancy may damage the fetus, one study showed that one-third of women interviewed believed that drinking more than three drinks a day during pregnancy was safe.[10]

ECONOMIC FACTORS

- Assuming a conservative estimate of one FAS newborn for every 1,000 live births in 1980, it cost approximately $14.8 million to treat them; $670 million to treat the 68 000 FAS children under 18; and $760 million to treat 160,000 FAS adults. Plus, indirect productivity losses were $510.5 million.[11]
- Women are now heavily targeted for marketing of alcoholic beverages. (Women will spend $30 billion on alcoholic beverages in 1994, up from $20 billion in 1984.)[12]

PUBLIC HEALTH RECOMMENDATIONS

- The best advice for pregnant women is to abstain from alcohol consumption during pregnancy. There is no evidence to establish an alcohol consumption level free of risks to the fetus.[13]
- Women who breastfeed should continue to abstain from drinking alcohol until their babies are weaned. Alcohol readily enters breast milk and heavy alcohol consumption has been shown to reduce lactation.[14]
- As of January 1990, nine states and 17 cities/counties require that signs warning of the dangers of drinking during pregnancy be posted wherever alcoholic beverages are served or sold.[15]

SOURCES

[1]H.J. Harwood et al., Economic Costs to Society of Alcohol and Drug Abuse and Mental Illness—1980 (Research Triangle Park, N.C.: Research Triangle Institute, 1984), p. B-3. [2]"Fetal Alcohol Syndrome," Alcohol Topics in Brief, National Institute on Alcohol Abuse and Alcoholism (NIAAA), April 1985, p. 1; K. Warren, "Alcohol-Related Birth Defects: Current Trends in Research," Alcohol Health and Research World, NIAAA, Vol. 10, No. 1 (Fall 1985), p. 4. [3]R. Little and C. Ervin, "Alcohol Use and Reproduction," eds. S. Wilsnack and L. Beckman, Alcohol Problems in Women (New York: The Guilford Press, 1984), p. 158. [4]Harwood et al., op. cit., p. B-3; H.J. Harwood and D.M. Napolitano, "Economic Implications of the Fetal Alcohol Syndrome," Alcohol Health and Research World, NIAAA, Vol. 10, No. 1 (Fall 1985), p. 41. [5]"Behavior Risk—Factor Surveillance—Selected States," Morbidity and Mortality Weekly Report, February 1983, pp. 32 – 155. [6]NIAAA, Fourth Special Report to the U.S. Congress on Alcohol and Health, ed. J.R. DeLuca, DHHS Pub. No. (ADM) 82 – 1080, 1981, p. 36. [7]P. May, et al., "Epidemiology of Fetal Alcohol Syndrome among American Indians of the Southwest," Social Biology, Vol. 30 (1983), pp. 374 – 387. [8]Little and Ervin, loc. cit., p. 162. [9]J. Funkhouser and R. Denniston, "Preventing Alcohol-Related Birth Defects," Alcohol Health and Research World, NIAAA, Vol. 10, No. 1 (Fall 1985), p. 56. [10]Ibid., p. 54. [11]Harwood et al., Economic Costs to Society, p. B-11 and B-15. [12]"Betty Briefcase Buys More Bottles," Advertising Age, Thursday, September 12, 1985; Impact, Vol. 19, No. 15 (August 1, 1989). [13]NIAAA, Sixth Special Report to the U.S. Congress on Alcohol and Health from the Secretary of Health and Human Services, DHHS Pub. No. (ADM) 87-1519, 1987, p. 93. [14]R. Niven, "Alcoholism—A Problem in Perspective," Journal of the American Medical Association, Vol. 249 (1983), pp. 2029-2033. [15]NCADD Office for Public Policy, Washington, D.C.

WHAT IS NCADD?

NCADD is a national nonprofit organization combating alcoholism, other drug addictions and related problems through its national office, 200 state and local Affiliates, and thousands of volunteers in communities throughout America. Founded in 1944, NCADD's primary mission is education, prevention and public policy advocacy.

NCADD provides education about alcoholism and other drug addictions as treatable diseases; offers prevention programs for schools, organizations and communities; disperses medical/scientific information, answers questions from the public, legislative bodies and the media, and distributes a variety of publications. NCADD also offers information and referral services to children, teenagers, and adults seeking help with alcoholism, other drug dependencies, and related problems.

NCADD conducts, as it has every year since 1952, a prestigious national conference where leaders in the field convene to report their latest findings and to discuss emerging trends and issues of concern. NCADD also sponsors National Alcohol Awareness Month in April and National Alcohol-Related Birth Defects Awareness Week beginning on Mother's Day each year.

People seeking more information and/or referral to a local NCADD Affiliate in their area or use NCADD's national toll-free help line: 1-800-NCA-CALL.

NATIONAL COUNCIL ON ALCOHOLISM AND DRUG DEPENDENCE, INC

12 West 21st Street, New York, NY 10010 • (212) 206-6770

1511 K Street, N.W., Washington, D.C. 20005 • (202) 737-8122

Revised 1/90

S B 419

A T M C

January 22, 1990

The Honorable Tim Kelly
President of the Senate
P. O. Box V
Juneau, Alaska 99811

Dear Senator Kelly:

The Alaska Tourism Marketing Council unanimously passed two resolutions at its January 18, 1990, meeting in Juneau, and asked that I bring them to your attention.

The first addresses the names generated by the cooperative tourism marketing program, and asks that the ATMC enabling statute be revised to exempt the names from the terms of the Freedom of Information Act. The Council considers the names to be the product of considerable investment, and urges that they be considered the property of the Council.

The second addresses infrastructure development in Alaska, specifically the proposed Seibu development at Alyeska Ski Resort.

Copies of both resolutions are attached for your information. Please call me if you have questions or would like additional information.

Sincerely,

Bob Miller
Executive Director

Attachments

cc: State Senate

ALASKA TOURISM MARKETING COUNCIL
Frontier Building
3601 C Street, Suite 700
Anchorage, Alaska 99503
(907) 563-2289
(907) 563-3575 (FAX)

A T M C

ATMC RESOLUTION IN FAVOR OF INFRASTRUCTURE DEVELOPMENT

The Alaska Tourism Marketing Council encourages the Governor and the Legislature to include $6.1 million in the 1991 capital budget to meet the growing infrastructure needs of Southcentral Alaska and for the support of Alaska tourism in general.

Passed unanimously January 18, 1990, Juneau, Alaska.

ALASKA TOURISM MARKETING COUNCIL
Frontier Building
3601 C Street, Suite 700
Anchorage, Alaska 99503
(907) 563-2289
(907) 563-3575 (FAX)

A T M C

ATMC RESOLUTION TO PROTECT NAMES AND OTHER PRODUCTS OF COOPERATIVE TOURISM MARKETING PROGRAM

The Alaska Tourism Marketing Council urges the Administration and the Legislature to proceed expeditiously with revisions to the ATMC enabling statute which will declare that

1. All information collected by the ATMC is a product of the cooperative marketing program;

2. All products of the cooperative marketing program are the property of the Council; and

3. Granting distribution rights to all products of the cooperative marketing program is the exclusive right of the Council.

Passed unanimously January 18, 1990, Juneau, Alaska.

ALASKA TOURISM MARKETING COUNCIL
Frontier Building
3601 C Street, Suite 700
Anchorage, Alaska 99503
(907) 563-2289
(907) 563-3575 (FAX)

SB 425

SENATE COMMITTEE REPORT
FIRST COMMITTEE OF REFERRAL

DATE: 1/31/90

FURTHER:

Date of 5-Day Notice: 2/15/90
(in accordance with Uniform Rule 23)

DATE TURNED INTO OFFICE: 2/22/90

Labor and Commerce Committee considered SB 425

"An Act relating to disclosure of agency by holders of real estate licenses; and providing for an effective date."

and recommended:

[✓] replace with _____ CS SB 425 [✓] same title [ ] new title

[ ] attached amendment(s)

[ ] _____ letter of intent adopted

[✓] do pass

[ ] do not pass

[ ] no recommendation

[ ] individual recommendations

[ ] further referral to _____

ATTACHES NEW FISCAL NOTE(S):

Department(s)/Date:

[ ] fiscal note(s) _____

Department(s)/Date:

[✓] zero fiscal note(s) Dept of Commerce 2/7/90

[ ] appropriation-no fiscal note

[ ] Governor's bill w/fiscal note

SIGNING DO PASS:

OTHER RECOMMENDATIONS:

Chair: Signature and Recommendation

STATE OF ALASKA
1990 LEGISLATIVE SESSION

BILL VERSION: SB 425
PUBLISH DATE: _____

FISCAL NOTE

REQUEST:

Revision Date: _____
Title: An Act relating to disclosure of agency by holders of real estate licenses; . . .
Sponsor: Sen. Sturgulewski
Requestor: Senate Labor & Commerce

Agency Affected: Commerce & Economic Dev.
BRU: Occupational Licensing
Components: _____

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE	0	0	0	0	0	0

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL	0	0	0	0	0	0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

The bill requires real estate licensees to disclose the licensee's agency relationship with the seller to each prospective buyer; and when a licensee acts as an agent for a prospective buyer, to disclose the relationship with the buyer to a prospective seller of real estate. New funds are not required to implement this bill.

Prepared by: Jennifer Strickler, Administrative Officer
Phone: 465-2144
Division: Occupational Licensing
Date: 2/2/90

Approved by Commissioner: Larry Merculieff
Date: 2/7/90
Agency: Department of Commerce & Economic Development

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

JS/dg16241D/2290a

Department of Commerce & Economic Development / POSITION PAPER

6

SB 425: "An Act relating to disclosure of agency by holders of real estate licenses; and providing for an effective date."

Background

When a real estate broker consents to market a property for a seller, the relationship established between the seller (also known as the principal) and the broker is called an "agency" relationship because the broker becomes an agent for the seller. The agent (broker) is authorized by the principal (seller) to act on the principal's behalf, subject to the principal's control.

Because the relationship is a fiduciary one, the agent owes his principal the following:

1. good faith and fidelity;

2. exercise of reasonable care, skill, and judgment in securing the best price and terms possible for the principal;

3. avoidance of representing any interest contrary to that of the principal without the express written consent of the principal; and

4. full, fair, and timely disclosure to the principal of all facts which are/may be material to the principal's interest or which may influence his/her actions.

In the real world of real estate practice, this basic agency relationship has traditionally been between a seller and the broker who has a listing contract to market his property (commonly known as the "listing broker"). All of the sales associates in the listing broker's office, and sales associates affiliated with any other broker who works in cooperation with the listing broker are "subagents" for the same principal (seller). As subagents, they have the same level of fiduciary responsibilities to the principal as the agent (listing broker).

Problem

When one of these subagents introduces the property to a prospective buyer, prepares an offer to purchase, helps to negotiate a "good buy" for the buyer, assists the prospective buyer in obtaining financing, and serves as the conduit for information between the buyer and the seller, the buyer may think that the subagent is acting as a buyer's agent. This is NOT the case; the only duty to represent that has been established thus far is with the seller via the listing broker. However, if the buyer continues to believe the "subagent" is his agent and looking out for his interests as a buyer, that buyer is likely to feel he has been deceived or betrayed if and when he is finally informed that the seller was the one really being represented throughout the transaction.

It is not uncommon for lawsuits charging misrepresentation to follow. The Courts have ruled that the actions of an agent which imply that the agent was working on behalf of the buyer, representing the buyer's interests to the seller, are, in fact, sufficient to create that relationship. If this happens, a buyer becomes a principal and the real estate licensee is a "dual agent" with fiduciary responsibilities to both the buyer and the seller. Dual agency is recognized as valid only if both principals are informed and agree to it in writing. Failure to obtain this consent can result in transactions negotiated under such circumstances being rescinded by the Court.

This is not an isolated problem. In the 1980's, a Federal Trade Commission survey reported that 80% of the consumers in real estate transactions did not realize that real estate salespersons were actually agents of the seller in most cases. Both the National Association of Realtors (NAR) and the National Association of Real Estate License Law Officials (NARELLO) created task forces to study this issue and suggest solutions. In addition to the general lack of understanding of "agency" by consumers and the potential for inadvertent dual agency, the task forces also recognized that there were increasing industry efforts by brokers to represent a buyer's interest in a real estate transaction by executing an agency contract between a buyer and a broker in addition to the usual seller/broker relationship.

Recommended Solution

Since 1986, both NAR and NARELLO have supported the introduction and passage of agency disclosure laws as the most effective means of addressing this issue. By the beginning of 1988, twenty-six (26) states had enacted agency disclosure laws; legislation was pending in seven (7) more states. A one-line summary of the agency disclosure requirements in these states is attached. These were compiled by the NARELLO Agency Subcommittee in 1987 and published in the 1988 NARELLO DIGEST. No updates were published in 1989.

In 1988, the Alaska Real Estate Commission created its own task force to study the issue. The task force recommended the addition of an agency disclosure requirement to Alaska's real estate license law; the recommendation was endorsed by the full commission.

SB 425

The proposed language in SB 425 recognizes that an agency relationship can be established by a broker with either the buyer or the seller. Either is workable, but all parties involved in a real estate transaction should know exactly what these relationships are. SB 425, by requiring real estate agents to make written disclosures of the nature of these relationships to all parties of a real estate transaction, will minimize any misconceptions as to who is representing whom.

Through this disclosure, buyers will be advised of what the agents representing a seller must do for their principal, and what service they can still provide to a prospective buyer. Likewise, sellers will be put on notice that, when an agent is representing a buyer, he will be negotiating with the buyer's best interests in mind and that agent's fiduciary responsibilities will be to the buyer.