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# Section 47.0 CONSTRUCTION SAFE PRACTICES

## A. Purpose

The purpose of this procedure is to establish guidelines for all personnel in Construction Safe Practices.

## B. Scope

This procedure applies to all personnel including JAGUAR ENERGY SERVICES, LLC, client, and/or visitors while at a JAGUAR ENERGY SERVICES, LLC or client facility.

## C. Responsibilities

- 1. The Safety Coordinator orhis/her designee is responsible for ensuring that employees have completed the training required by this procedure.
  - (a) Additional responsibilities include:
    - (i) The implementation of this Policy.
    - (ii) Take corrective actions on all violations or suspected violations of this procedure.
    - (iii) Documentation of completion by each employee.
- 2. The Safety Director is responsible for providing assistance in the implementation of this Policy.
- 3. The Supervisor is responsible for providing assistance in the implementation of this policy.
- 4. All employees are responsible for understanding the requirements of this procedure and conducting all work-related tasks according to these requirements.

#### D. Procedure

## 1. Subcontractors

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All subcontractors used shall meet or exceed **JAGUAR ENERGY SERVICES**, **LLC** safety, health and equipment requirements, including provisions for protecting employees and the public from any work hazards.

- (a) Each subcontractor is expected to have a formal safety program, with proper documentation.
- 2. A formal Pre-Job Safety Conference will be held with the client and all contractors, and subcontractors to discuss the scope of work, safety rules, plans and schedules of the project.
  - (a) The Pre-Job Safety Conference will be attended by the Client's Management, **JAGUAR ENERGY SERVICES**, **LLC** Safety Director, and Superintendent/Foreman.
  - (b) Regular meetings of this group will be held to review and revise the Safety Plan as needed.
- 3. Each meeting will be properly documented.
  - (a) Purpose:
    - (i) Evaluation of job organization and operating procedures.
    - (ii) Discussion of job organization and operating procedures.
    - (iii) Pre-planning the work and agreement as means for practical application of standard procedures.
    - (iv) Notification to all parties.
    - (v) Evaluation of proposed programs.
  - (b) Agenda for conference.
    - (i) Orientation.
      - (i) Explain why we have a program.
      - (ii) Advantages in terms of economy and efficiency.
      - (iii) Prescribed safety standards.
    - (ii) Review of:
      - (i) Accident prevention agreements.
      - (ii) General conditions of specifications on safety.
      - (iii) Special conditions of specifications on safety.
    - (iii) Other requirements:
      - (i) Local
      - (ii) State
      - (iii) Federal
      - (iv) Supervision
      - (v) Organization at project site.

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	(, ;i)	Functions of negotians at the site
	(vi)	Functions of personnel at the site
	(vii)	Responsibilities of personnel at the
		site.
	(viii)	Delegated authorities.
	(ix)	Relations regarding enforcement
		and discipline.
(iv)		n of proposed program.
	(i)	Plans as to layout of temporary
		construction
	(ii)	Site
	(iii)	Buildings
	(iv)	Etc.
	(v)	Action taken toward planning and
		coordinating activities between
		different operations and crafts.
	(vi)	Access to work areas.
	(vii)	Safety indoctrination and safety
	( )	education.
	(viii)	Delegation of safety responsibilities
	(*)	to supervisors.
	(ix)	Integration of safety into operating
	(IX)	methods and procedures.
	(x)	Housekeeping Program.
	(x) (xi)	Traffic control and parking facilities.
	(xii)	Fire protection.
	(xiii)	Lighting
	` ,	Ventilation
	(xiv)	
	(xv)	Protective Apparel
	(xvi)	Medical Care.
	(xvii)	Safe operating condition of
0		equipment and maintenance.
General:		

- (c) General:
  - (i) Methods for meeting objectives.
  - (ii) Plans for periodic readjustments of safety objectives.
  - (iii) Handling of safety deficiencies.
  - (iv) Arrangements for additional meetings and periodic staff meetings.
  - (v) Follow up agreements in preconstruction meetings.
  - (vi) Three cardinal rules to observe for a workable safety program:
    - (i) All agreements must be fair.
    - (ii) Paper work should be kept to a minimum.

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(iii) The program should be simple and deal with facts.

#### 4. Demolition

Only minor demolition should be done by operating or maintenance personnel.

- (a) Contractors specializing in this type of work are better equipped and are required to do this type of work in compliance with all applicable government and JAGUAR ENERGY SERVICES, LLC codes and regulations.
- (b) When doing demolition work, provisions should be made to keep unauthorized plant employees and the public at least 15 feet away from the structures.
- (c) A competent person will make a survey of the structure prior to start of work to determine:
  - (i) Condition of framing, floors, wall, piping, vessels or equipment.
  - (ii) Any unanticipated hazardous conditions such as:
  - (iii) Hazardous Chemicals.
  - (iv) Gases.
  - (v) Explosives.
  - (vi) Flammable materials.
  - (vii) Electrical circuits that may be engaged.
  - (viii) Asbestos.
  - (ix) Hazardous waste.
- (d) All utility services should be disconnected at the entrance of the project.
  - (i) A temporary water source will be maintained for fire protection.
  - (ii) Hand held and portable fire fighting equipment will be made available.
  - (iii) The fire department may be put on standby if conditions so merit.
- (e) All glass doors and windows will be removed from any structure.
- (f) All lath, plaster or insulation will be removed to eliminate excessive dust.
- (g) All stacks, chimneys, extensions of walls at higher levels will be removed first if safe access is available, all items above roof levels are to be removed from any structure.
- (h) The roof of all structures should be removed.
- (i) Demolish walls by picking them apart with machine or hand tools.

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- (j) All piping and vessels should be flushed and cleaned as per the confined entry procedure. (Refer to Respiratory Protection and Confined Entry)
- (k) All cutting or burning should be done as per cutting and welding procedure.
- (I) Promptly remove all debris:
  - (i) Dust can be minimized by wetting the area down
  - (ii) Hazardous waste will be removed and handled as per hazardous waste disposal plan.
  - (iii) Proper personal protective equipment is required for all personnel working with hazardous waste. (Refer to Personal Protective Equipment.)
- (m) Do not subject walls or upright objects to lateral pressure from stored or demolished materials or impact from falling objects.
- (n) Make proper provisions to store material a safe distance from the structure being demolished.
  - (i) Provide proper trash containers for easy disposal.
- (o) Barricade any area of storage or where material may be falling.
  - (i) Permit no employees to work below others.
- (p) Make sure all personnel are issued, trained and use proper Personal Protective Equipment
  - (i) Proper fall protection harness will be worn by personnel working 6 feet and above ground level. (Refer to Fall Protection)
  - (ii) Use proper ladders and scaffolding.
  - (iii) Safety hats
  - (iv) Goggles
  - (v) Foot protection
  - (vi) Respirators
  - (vii) Gloves
- (q) Develop and follow a plan to handle any hazardous waste.

#### 5. Piping and Steel Erection:

Piping and steel erection involves extensive use of cranes, derricks, hoists, ropes, slings, handtools, powertools and welding equipment.

(a) The use of this equipment will be done as indicated in Section Basic Safety Awareness, Hoisting Apparatus and Cranes.

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- (b) All installation or construction will be done as per JAGUAR ENERGY SERVICES, LLC plans and specifications.
- (c) No changes or revisions to structures, piping or process equipment are to be done without management approval.
- (d) All work should be discontinued during rain, high wind or dust storms that might increase the hazard to workers.
- (e) Proper lighting must be provided at all times.
- (f) When setting columns or sections of piping, install and tighten all flange bolts or anchor bolts before removing lifting device or guy wires.
  - (i) Do not rely on a wrench or drift pin to hold them in place.
  - (ii) Do not tie objects up with ropes.
- (g) Personnel should not walk on pipes or beams.
  - (i) They should use proper ladders and scaffolding.
  - (ii) Personnel working six feet above ground or working platform level will wear safety harnesses. (Refer to Fall Protection.)
- (h) All personnel will be issued, trained and use required Personal Protective Equipment, such as:
  - (i) Hard hats
  - (ii) Steel toed shoes
  - (iii) Gloves
  - (iv) Goggles. (Refer to Section Personal Protective Equipment.)
- (i) When connecting or plumbing up of objects are in process only one person should be in charge.
- (j) Turn buckles, guy wires, chain falls or come-alongs should be fastened securely to the object being installed.
  - (i) Do not use rope to support or fasten these items.
- (k) Every person involved in the process being done should understand the signals being used.
  - (i) Only one person should give signals.
  - (ii) This person should make sure everyone working on the job is in the clear before any object is moved.
  - (iii) All workers should select positions which are clear of all swinging beams or pipes.
- (I) Steel or pipe erection and installation is especially hazardous if the plant or process area is in operation or pressurized.
- (m) Personnel are not permitted to ride loads, hooks or headache balls.

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- (n) Personnel are not permitted to work near electric wires unless all current is shut off or proper insulation is installed.
- (o) No work should be done on wet, freshly painted, or slippery steel objects or structures.

## 6. Construction Machinery

Modern construction requires a large variety of machines.

- (a) Such as:
  - (i) Tractors
  - (ii) Bulldozers
  - (iii) Power shovels
  - (iv) Cranes
  - (v) Drag lines
  - (vi) Concrete mixers
  - (vii) Compressors and generators
- (b) Much of this equipment will be leased or rented.
- (c) All equipment will meet JAGUAR ENERGY SERVICES, LLC safety standards, whether JAGUAR ENERGY SERVICES, LLC owned, leased or rented.
- (d) All equipment will be inspected and maintained as per manufacturer's specifications.
  - (i) Proper maintenance records will be kept and made available upon **JAGUAR ENERGY SERVICES**, **LLC**'s request.
- (e) The following procedures will be implemented:
  - (i) No guards, safety appliances or devices shall be removed or made ineffective unless immediate repairs or adjustments are required, then only after power has been shut off.
    - (i) Guards and devices shall be replaced as soon as repairs and adjustments have been completed.
  - (ii) Current carrying parts of electrically operated equipment should be properly insulated and guarded.
    - (i) All non current carring metal parts should be properly grounded.
  - (iii) High temperature lines on equipment located where they endanger employees or create a fire hazard, should be covered with suitable insulating material, or so protected that contact will be avoided.
  - (iv) Exhausts from all equipment powered by steam or internal combustion engines should

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be properly located so that they do not endanger workers or obstruct the view of the operator.

- (v) Safe access to all equipment will be provided by platforms, foot walks, steps, ladders, ladder cages, hand holds, guard rails, and toe boards.
- (vi) Suitable operating floors and platforms, surfaced with slip-resistant materials, will be provided for all equipment operators.
- (vii) Operators of equipment should have protection against the elements, falling objects, swinging loads, and similar hazards.
  - (i) Proper roll bars will be installed.
- (viii) Cab and enclosure windows on equipment shall be made of safety glass and shall be kept in good condition.
- (ix) Reverse alarms should be installed on all heavy equipment and trucks unless a signaler is provided.
- (x) The starting of equipment by unauthorized personnel will be prevented by removing ignition keys, blocking the starting apparatus or locking the unit.
- (xi) All equipment should be set and locked at the end of each work shift so it cannot be released, dropped or activated in any way.
  - i) Manufacturer's shut down procedures should be followed.
- (xii) All machine implements, such as bulldozer blades and front end loader buckets, should be lowered to the ground when the machine is stopped.
- (xiii) Do not allow oil, grease, oily rags, debris, loose items or waste to accumulate on or in the machines.
- (xiv) Load capacity charts and operating procedures should be posted on all equipment and should not be exceeded.
- (xv) All personnel should be trained in proper equipment operating procedures.
- (xvi) All equipment should be placed on an adequate foundation and properly secured.
- (f) Moving of equipment
  - (i) Before mobile equipment is moved from one location to another, a survey of the area in which it is to be located will be made to check

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for overhead wires, pipelines, excavations, ground conditions and similar hazards.

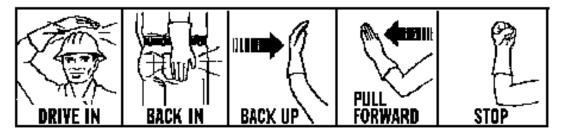
- (ii) If the ground or soil is unstable timber mats may be necessary to stabilize the equipment in movement and operation.
- (iii) Superintendent's approval is required before any equipment with high clearance can be moved into or out of or operated in any area containing electrical power lines.
- (g) Fueling of equipment
  - (i) Gasoline operated equipment will not be refueled while the motor is running.
  - (ii) Continuously operated equipment should be refueled from properly protected tanks located outside the operating room.
  - (iii) All fuel tanks should be grounded and bonded to the equipment to prevent static electricity build up.
- (h) Repair of equipment
  - (i) Any equipment needing repair should be shut down immediately.
    - (i) "Out of order" signs should be posted.
    - (ii) Signs should not be removed until repairs are made.
  - (ii) Any portable or mobile equipment needing repair should be removed to a safe location to allow the repair work to be done in a safe manner, not to interfere with operations.
  - (iii) Equipment suspended by slings or supported by hoists or jacks while being repaired will be blocked or cribbed before anyone is permitted to work underneath it.
  - (iv) When repairs are to be made remote from the power source such as conveyors or other equipment with moving parts, use proper blocking devices to prevent injury in case of accidental starting.
  - (v) When repairs are to be made to electrical powered equipment, proper lockout/tagout procedures should be followed.
- (i) All portable construction equipment powered by internal combustion engines will be equipped with drip pans and insulated exhaust systems.

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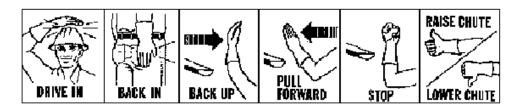
## 7. Trucks and Ginpoles

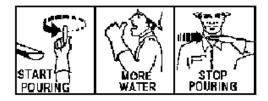
- (a) Riding on trucks not equipped with adequate facilities for transporting passengers is prohibited, except in an emergency.
  - (i) In this case great caution must be taken to prevent injury to riders.
- (b) The driver should never back the truck when an object may cleared by driving forward.
- (c) When a truck is to be maneuvered in confined areas, precaution should be taken to insure that the way is clear and visibility is good at all times.
- (d) If visibility is obstructed, a signalman should be used.
  - (i) The following hand signals will be used:

#### TRUCK HAND SIGNAL



## **READY MIX TRUCK HAND SIGNALS**





## 1. Motor Graders

An operator of a motor grader should keep to the right side of the roadway.

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- (a) In urgent cases where blading against traffic is necessary, extra precautions (flags, barricades, flashing lights, and flag men) should be used to warn traffic.
- (b) When a motor grader is being operated slowly on a highway or roadway in hilly or rolling country, a red flag or one made of reflective material should be displayed on a staff which projects at least six feet above the left rear wheel.

#### 2. Bulldozers

- (a) The operator should set the brakes, land the blade, and put the shift lever in neutral before he/she leaves the bulldozer at the end ofhis/her/her work shift.
  - (i) He/she should put the bulldozer on level ground and, if possible, where it is inaccessible to children and others.
- (b) An operator should not allow other persons to get on the bulldozer while it is running.
- (c) The bulldozer blade should be kept close to the ground for balance when the machine is traveling up a steep grade.
- (d) When a bulldozer is to be ridden down a slope, three or four bowls of dirt should be dozed to the edge of the slope.
  - (i) Then the operator should ride down the slope with this dirt in front of the blade.
- (e) If the dirt is lost on the way down the slope, the operator should not lower the blade to regain the load.
  - (i) Lowering the blade might cause the machine to overturn.
- (f) The bulldozer should not be used as a brake for going down a steep slope, except in extreme emergencies.
- (g) Before moving a bulldozer, the operator should make certain that no one is in the danger area around the equipment.
  - (i) The best procedure is for the operator to walk all around the unit before he/she starts up.
- (h) Only the operator should be on the equipment while it is in use. This rule should be rigidly observed by all personnel.
- (i) The operator should exercise extreme care when working equipment near the edge of cuts or fills.
- (j) On hillside work, the operator must know where the material to be moved will go, so that other employees,

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the public, livestock, and other property will not be injured or damaged.

- (i) The foreman should arrange for sufficient clearance before the operation begins.
- (k) The bulldozer operator should see that all men are in the clear before pushing over trees, bulldozing rock, and rolling logs.
- (I) Operators pushing over large live trees should recognize dead limbs or dead tops as definite hazards.
  - (i) Abrupt contact with the butt of such a tree may crack it or break off a limb that will drop on the top of the machine.
- (m) The roots of such a tree should be cut off on three sides; then dozer power should be applied on the fourth side to push the tree over.
  - (i) A long cable should be used to pull over dead trees.
  - (ii) It should be determined in advance that the falling tree will clear the machine and operator.
- (n) In clearing operations, the operator should expect the greatest danger to come from falling limbs or timber.
  - (i) In general excavation work, he/she should be alert to danger from overhanging dirt and rocks.
  - (ii) In such cases, bulldozers should be equipped with strong canopies to protect operators.
- (o) Bulldozers should be serviced on a regular schedule.
  - (i) When an operator leaves equipment for servicing, he/she should make certain that the shift lever is in neutral, brakes are set, and the blade is lowered to the ground or, if necessary, properly blocked with timbers and engine shut off.
- (p) When reeling cable on a drum or through sheaves, the operator should disengage the master clutch, idle the engine, and lock the brakes.
  - (i) He/she should kill the engine before working with the cable on a front-mounted cable drum.

## 3. Front End Loader

- (a) Minimum personal protective equipment for loader operators is:
  - (i) Safety hats
  - (ii) Safety shoes
  - (iii) Safety glasses.

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- (iv) Hearing protection
- (b) Because of the pinching hazards of front-end loaders no riders other than the driver should be allowed.
- (c) No loader should ever be used as a work platform or staging, because a sudden movement in the hoisting mechanism, such as might be caused by mechanical failure or human error, could result in severe injuries.
- (d) Other unorthodox uses of loaders (such as pushing freight cars or trucks) should be avoided; they can cause undetected damage to the loader even if there is no other accident.
- (e) One of the principal sources of accidents involving mobile loading equipment is improper backing.
  - (i) Side or rearview mirrors must be installed; they are critical in eliminating these accidents.
  - (ii) Good lighting, both front and rear, should be provided for work under conditions of poor visibility and darkness.
  - (iii) Headlights should be mounted over the operator so that their glare does not reflect off the bucket and intohis/her/her eyes.
  - (iv) Horns should be utilized to serve as a warning and to help the operator regulate truck movements aroundhis/her/her machine.
- (f) All loaders will be equipped with back-up alarms to prevent backing accidents.
- (g) Loader operators should be sure that everyone is in the clear before starting.
  - (i) It is good practice to walk completely around the machine before starting and then sound the horn.
- (h) Loader operators should move cautiously, especially in congested areas.
- (i) Trucks should be loaded from the driver's side whenever possible, and the truck driver should be out of the cab.
  - (i) The loader operator and the truck driver should agree where the driver will stay whenhis/her/her truck is being loaded; either in the cab (on cab-protected trucks) or away from both the loader and the truck never on the truck body.
  - (ii) An efficient loading operation will have an established, planned, traffic-flow procedure to eliminate confusion and thereby avoid accidents.

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- (j) When operating a loader on a haul road, the operator should yield the right of way to all loaded hauling vehicles.
- (k) Locations in which loaders are required to operate on grades are particularly hazardous.
- (I) When a loader is being operated near excavations, edges should be guarded by riprap, barricades, or other means to minimize the possibility of an uncontrolled machine running off the side.
- (m) A definite procedure should be followed when descending grades;
  - (i) Loader speed should be regulated to a minimum.
  - (ii) The engine should be left engaged.
  - (iii) Transmission should be in low range.
  - (iv) The bucket should be carried as low as possible and tilted back to minimize bouncing.
- (n) The operator should work the brake conservatively in order to maintain good air pressure for emergencies.
- (o) Dropping the bucket to slow or stop the unit is an ineffective braking device. It may cause the loader to swing aside and turn over.
- (p) Brakes should function quickly and "lock up" when applied hard.
- (q) Ice can cause special problems, but slow speed and proper braking is the proper method to use when it is present.
- (r) Because of the danger in tramming (driving the loader when empty), serious consideration should be given to road conditions and grades to be negotiated when moving loaders.
  - (i) Towing or transporting on a flatbed trailer may be feasible.
- (s) Rubber-tired loaders should be tied down or choked whenever they are transported.
- (t) They should be positively controlled whenever they are moved with an operator.
  - (i) For example, they should not be allowed to roll freely down a ramp when being loaded or unloaded from low-boy trailers; they should be controlled with a tag line.
- (u) Equipment left unattended should be locked or made inoperable so that unauthorized personnel, particularly children, cannot start the engine.
- (v) Units must not be parked on an incline facing uphill or downhill unless they are securely locked.

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## 4. Landclearing

- (a) Prior to starting land clearing operations, efforts shall be made to determine aboveground and underground installations such as: sewer, telephone, water, fuel, electric lines, etc., to be encountered.
  - (i) Where such underground and aboveground installations are located when the land clearing approaches the estimated location of such an installation, the exact location shall be determined and when it is uncovered, proper supports shall be provided for the existing installation.
  - (ii) Utility companies shall be contacted and advised of proposed work prior to the start of actual land clearing.
- (b) Trees, boulders, and other surface encumbrances, located so as to create a hazard to employees involved in land clearing work on in the vicinity thereof at any time during operations, shall be removed or made safe before land clearing is begun.
- (c) The operators of heavy earth moving equipment shall be active able-bodied men who have passed a physical examination and are qualified operators of land clearing equipment.
- (d) All equipment shall be maintained in good working order; motors, chassis, blades, blade holders, tracks, drives, wire ropes, sheaves, hydraulic mechanisms, transmissions and vital parts shall be inspected each day.
- (e) Before a job is started, the Foreman or Crew Pusher shall make certain operator knows exactly what is to be done.
- (f) The operator shall use great care when working equipment near the edges of cuts or fills.
- (g) Operators working at clearing trees should be careful of dead limbs and branches.
- (h) Bulldozers used for clearing work shall be fitted with heavy, well supported, arched, steel canopies to protect operators.
- (i) Installation and use of safety belts are mandatory on all heavy equipment.
- (j) Operating rules on the job will govern traffic on the haul roads and job roadways.
  - (i) On most jobs, the rule is to give loaded equipment the right of way.
- (k) When work is done at night, adequate light should be provided by headlights, general job lighting, or both.

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- 5. Land Clearing with Hand Tools
  - (a) "Felling" is the term used for cutting down a tree.
    - i) Numerous techniques are used, depending on the size and condition of the tree and such physical factors as the lean of the tree, other trees in the area, the slope of the ground and so forth.
    - (ii) Strong wind conditions are hazardous to topping and felling.
  - (b) Generally, inexperienced chain saw operators should not attempt topping or felling large trees, trees in bad condition, or trees which are difficult because of other reasons.
    - (i) Chain saw users should first gain experience in felling small trees while at the same time carefully following these practices.
    - (ii) Decide beforehand which retreat path to follow when the tree begins to fall.
    - (iii) The retreat path should be away from the tree's fall. It is even better if there is another tree to hide behind.
    - (iv) Do not attempt to fell a tree in a high wind.
    - (v) Check the tree to be felled to see if there are dead branches or loose bark which might fall.
      - (i) Dislodge them with a long pole, if possible.
  - (c) Determine the "lean" of the tree by using a plumb bob.
    - (i) A string with anything tied to the end for a weight will do. The line is held out at arm's length and the tree sighted.
    - (ii) The plumb line will be vertical.
    - (iii) If the line of the tree varies from that of the string, that is the direction of the lean.
    - (iv) Sighting should be made from several places to determine the exact direction of the lean.
    - (v) If possible, the tree should be felled in the direction of the lean.
  - (d) Make sure you have good footing and hold the saw firmly with both hands.
  - (e) Stand directly behind the saw when felling a tree.
  - (f) The undercut is made first.
    - (i) The undercut is made on the side the tree will fall and its helps control the direction of the fall.
    - (ii) When the undercut is started, the engine end of the saw should be held firmly against the tree trunk and the bar swung into the cut.

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- (iii) The undercut should be approximately onethird the diameter of the tree.
- (g) The cut-out section should be wide enough to permit the tree to lean 45 degrees form upright before the two faces close together.
  - (i) After the undercut is made and the wedge removed, stop the engine and move around to the back of the tree for the back cut.
  - (ii) Then start the engine again.
- (h) The back cut should be slightly higher than the undercut.
  - (i) After it is started, swing the saw around and cut a short distance into the two sides of the tree.
- (i) This is "cornering" and prevents the bark and the sides from tearing when the tree falls.
- (j) If the tree is too wide for the cutter bar to reach across, cut notches in the sides of the tree.
  - (i) Wedges should be driven in the back cut if the tree tends to lean back and bind on the cutting bar.
  - (ii) The engine should be stopped when the wedges are being hammered in.
  - (iii) The chain or cutter bar should not contact the set wedge when cutting.
  - (iv) The back cut should not go through to the undercut.
- (k) A small "hinge" is left to guide the fall of the tree.
- (I) If the back cut goes completely through the tree may swivel on the stump, slide off erratically or bind on the bar and chain.
- (m) The fall of the tree can be varied from its natural lean by leaving the hinge thicker at one end than the other.
- (n) Call out a warning before the tree begins to fall.
  - (i) As soon as the tree starts to go over, stop the saw, set it quickly on the ground and leave the area by the predetermined retreat path.
- 6. "Bucking" is the term used for cutting felled trees or logs into shorter lengths.
  - (a) The situation should be studied carefully before a bucking cut is begun so that the operator knows just how the log will move when the cut is completed.
  - (b) Hold the saw firmly in both hands.
  - (c) Be sure to have safe, sure footing.
  - (d) Stand to one side of the saw, not behind it.

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- (i) If it is necessary to stand behind the saw, keep legs well apart.
- (e) Clear away brush around the work places.
- (f) Remove limbs from the top and sides of log before bucking.
- (g) Do not allow saw to bite into the dirt.
  - (i) If necessary, clear away stones, earth and bark from the area so the chain will not kick them up.
- (h) When working on sloping ground, stand uphill from the log.
- (i) Make sure no one is below where you are working.
- (j) Avoid "traps" where the two sections of log may come together and bind or pinch the chain and cutting bar when the cut completed.
  - (i) There are numerous traps, depending on how the log is resting. Plan carefully before making a bucking cut.

## 7. Pile Driving

Round timber piles should be heaped in stable pyramids.

- (a) All men shall be clear of the lift before piling is lifted or rolled from a stack.
- (b) Heavy leather faced gloves, safety shoes and hard hats shall be worn by all men handling pilings.
- (c) All area around pile driver shall be kept clear of material and equipment not being used.
- (d) Rope shall be used by the "Top Man" when guiding piles into position.
- (e) A tag line shall be attached to the pile for steadying during the hoisting operation.
- (f) In positioning the Pile Driver in a cut, fill or other area where the soil may be unstable, mats and substantial cribbing shall be used for supports.
- (g) Steam or air hoses shall be securely fastened to the hammer carriage to prevent whipping or from spraying steam or air on workmen in case of breaks.
- (h) Steam or air supply line shutoff valves shall be located within easy reach of the operator.
- (i) All sheaves, cables, machinery, slings and other parts of pile driving equipment shall be inspected at the beginning of reach shift and all work or defective parts shall be promptly repaired in a workman like manner or replaced.
- (j) When shutting down the rig, the hammer shall be lowered to the base of the leads and blocked.

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(k) The pile driver operator shall be able to recognize signals from a designated signal man and from no other person, except in case of emergency.

# B. Training Requirements

- 1. All personnel will be trained on the following topics:
  - (a) Pre-Job Meetings
  - (b) Demolition Piping and Steel Erection
  - (c) Construction Machinery
  - (d) Trucks and Ginpoles
  - (e) Motor Graders
  - (f) Bulldozers
  - (g) Front End Loaders
  - (h) Pile Driving
  - (i) Land Clearing
  - (j) Land Clearing With Hand Tools

# C. Training Frequency

- 1. All **JAGUAR ENERGY SERVICES**, **LLC** personnel will be trained according to the following schedule:
  - (a) Initially upon hire.
  - (b) As necessary thereafter.