

Job Hazard Analysis

JHA Name: Chain Saw (Gas)



Assessment Date: 12-31-13

Revision Date: 04-04-17

Building or Location: North Mankato Campus

Department or Program: Maintenace

Description of Individual Tasks or Assignments: Grounds keeping tasks involving chain saws (e.g., Low Branch Trimming & Tree Felling).

Tools, Equipment, or Machinery Used when Performing Task: Chain Saw (Gas Powered), Fuel (Gas)

Hazard Type(s) Associated with Task or Assignment:		Check for Exposure:	Specific Hazard Exposure:	Check if Exposure Recommends or Requires a Style of PPE?
1	Impact <u>Example:</u> Person(s) can strike an object, or be struck by a moving or flying/falling object (e.g., fragments, chips, particles, sand, dirt/debris).	X	Potential exposure to flying/blowing cutting debris (e.g., injuries to eyes and face), Chain saw operators and personnel (in areas where chain saw cutting is performed) have potential exposure to be struck by felled branches/trees	X
2	Penetration or Cut <u>Example:</u> Person(s) can strike an object, be struck by an object, or fall upon an object or tool that would cut or otherwise break the skin.	X	Potential exposure to bladed/cutting equipment (e.g., injuries to hands, legs, and feet)	X
3	Crush or Pinch <u>Example:</u> An object(s) or equipment/machine may crush or pinch a body or body part	X	Chain saw operators and personnel (in areas where chain saw cutting is performed) have potential exposure to be struck by felled branches/trees	X
4	Chemical or Harmful Dust <u>Example:</u> Exposure to chemicals (i.e., hazardous substances and harmful physical agents), infectious agents from spills, splashing, physical contact, and/ or exposure to dusts, vapors, fumes, or gases that could cause illness, irritation, burns, asphyxiation, breathing/vision difficulty, sensitization, infection, or other toxic health effects (i.e., acute or chronic). Note: "May also have or create ignition potential."	X	Potential exposure to CO from combustion engine chain saws (e.g., respiratory illness), chemical splash, chemical inhalation (e.g., injuries to eyes/skin, respiratory illness) and flammable vapors (e.g., flammable atmosphere) during chain saw refueling	
5	Heat <u>Example:</u> Exposure to radiant heat sources, sparks, and splashes or spills of hot material			
6	Light (optical) Radiation <u>Example:</u> Exposure to strong light sources, glare, or intense light exposure which is a byproduct or a process. Note: "This category may also include hazards presented from lack of light (e.g., working in dark spaces/areas)."			
7	Electrical Contact <u>Example:</u> Exposure, contact, or proximity to live or potentially live electrical objects.	X	Potential exposure to power lines (e.g., shock and electrocution)	
8	Ergonomic/ Human Factors <u>Example:</u> Working in cramped spaces, repetitive movements, awkward postures, vibration, heavy lifting, etc... Note: "This category may also include unique hazards presented from tasks that require demanding or challenging degrees of mental and/or physical effort to be exerted by an individual. See <i>Physical Effort Definition/Examples</i> category for further explanation of physical effort."	X	Potential exposure to source of vibration (chain saw) (e.g., injuries to hands, arms), potential exposure to repetitive movements, lifting light to moderately heavy loads, and bending/twisting (when moving felled logs/branches) (e.g., Muscular Skeletal Disorders)	X
9	Environmental <u>Example:</u> Exposure to noisy environments, hot or cold work environments, poor weather conditions, working at a height, and any other conditions in the workplace that could cause danger, discomfort, and/or negative health effects.	X	Potential exposure to loud/prolonged noise (chain saw), high heat/temperatures (summer months), poor weather conditions (strong wind, rain, lightening)	

Job Hazard Analysis

JHA Name: Chain Saw (Gas)



Assessment Date: 12-31-13

Revision Date: 04-04-17

Building or Location: North Mankato Campus

Department or Program: Maintenance

Description of Individual Tasks or Assignments: Grounds keeping tasks involving chain saws (e.g., Low Branch Trimming & Tree Felling).

Tools, Equipment, or Machinery Used when Performing Task: Chain Saw (Gas Powered), Fuel (Gas)

Personal Protective Equipment Requirements:

Eyes & Face:	Face-shield worn over Safety Glasses with Side Shields (Required when operating chain saws)
Head & Ears:	Hearing Protection Devices (Required when operating chain saws), Hard Hats (Required when chance of falling branches or trees)
Whole Body:	Cut-Resistant Leggings (Required when operating chain saws)
Feet:	Safety Shoes (Required when operating chain saws)
Hands:	Cut Resistant/Anti-Vibration Gloves (Required when operating chain saws)
Respiratory:	
Other:	Personnel should select appropriate clothing consistent with weather conditions and seasonal operations

Other Control Measures or Requirements (Engineering & Administrative Controls):

#4) Chemical or Harmful Dust: Personnel should receive Right-to-Know training (e.g., regarding chemical & physical hazards). SDS should be provided/available for all hazardous chemicals. Chain saws utilizing combustion engines emit CO and should not be operated in indoor or poorly ventilated work areas. Prior to refueling chain saws operators must be trained by an authorized college trainer. Never start chain saws within 10' from where their tanks are refueled and in any areas where flammable vapors are present. **#7) Electrical Shock Hazards:** College personnel are not permitted to fell trees or trim branches in areas near power lines. These cutting/trimming tasks will be contracted to an approved vendor. **#8) Ergonomic Hazards:** Personnel should receive Ergonomics training (including warning signs and conditions of ergonomic/human factors hazards). Chain saws should be selected in anticipation of the operator's need (e.g., type of tree or branch cutting situation) and physiological stature (e.g., ergonomic/human factors considerations). Chain saw transfer vibrations can be reduced/minimized by regular preventive maintenance of the equipment (keeps equipment running smoothly). "NOTE: Chain saws are only operated for very short periods of times in most college environments in comparison to other General Industry, Construction, and/or Logging applications." Make sure your grip and footing are secure when using chain saws to prevent strains and slips. Keep all chain saws sharp (dull chains can cause personnel to use more force to complete tasks, which can increase chances of slipping or breaking). **#9) Environmental Hazards:** Personnel should receive Hearing Conservation training (e.g., regarding noise hazards). Personnel using chain saws should be included in the Hearing Conservation Program. Personnel should be trained in the basic understanding of heat stress and recognizing warning signs. Personnel should take more frequent short breaks on hot days in shaded or air-conditioned areas. Personnel should drink plenty of cool beverages (water), and avoid drinks with caffeine (coffee, tea, or pop). When possible schedule/perform work during the coolest part of the day. **Miscellaneous Considerations:** Pay close attention to changing weather conditions when logging/cutting (e.g., high or gusty winds, rain, and lightning). Never fall, limb, buck or bore a tree/log without first "Sizing Up" the situation (e.g., "What will happen if or when..."), and always warn surrounding personnel that trees/branches being worked on are going to fall. Never fall trees within 2 ½ tree lengths of people, animals, structures, power lines, and/or any equipment. Know/plan for chain saw "Kickback" situations (at all times) when cutting. Never limb or cut logs while you are positioned downhill (e.g., cut off logs, rounds, branches can roll). Cut off "Root Wads/Systems" can stand back up and/or roll in uncertain directions after release from the upper tree segment. Always cut dead tree snags from standing positions; do not squat downward or bend over when cutting them. Pay close attention to tree limbs above you as broken branches/tops can fall at unexpected times and when cutting lower sections of the tree. Never leave trees partially cut (e.g., still standing), or "Hung Up." Never "Air Drop-Start" chain saws. Never operate chain saws when standing on ladders. Never operate chain saws one-hand. Never operate chain saws above shoulder height. Never use a chain saw whose chain turns when the engine idles. Never walk with a running chain saw and its chain brake not engaged. Operators of tools, equipment, and machinery should read and follow all Manufacturers' recommendations/ requirements (e.g., inspections, servicing/maintenance, safe usage, etc...). Any tools, equipment, or machinery found damaged, defective, or otherwise unsafe should immediately be removed from service and not used until repaired or replaced. Personnel should always consult their Supervisors on the selection and use of PPE for the tasks being performed.

Physical Effort Definition/Examples

1.) Physical Mobility- Movement from place to place on the job, considering distance and speed **2.) Physical Agility-** ability to maneuver body while in place or in static position **3.) Physical Strength (Light to Moderate)-** Ability to handle routine office materials and tools **4.) Physical Strength (Moderate to Heavy)-** Ability to handle 50lbs+ objects, considering frequency **5.) Dexterity-** skill and ability in using hands, fingers, and feet **6.) Physical Balance-** ability to maintain balance and physical control **7.) Coordination-** harmonious functioning of body parts (e.g., eye/hand, hand/foot, etc...) **8.) Endurance-** ability to sustain a prolonged stressful effort or activity with limited opportunity to rest

Note: "This JHA provides only the minimum PPE/safety requirements necessary to safely complete the task or assignment, and the JHA only covers the hazards or exposures that are most likely to be encountered. Nothing within this JHA bars or restricts personnel from requesting higher degrees of PPE or control to mitigate workplace hazards. In addition, South Central College personnel (e.g., employees and students) are required to complete any applicable safety or on-the-job trainings required prior to performing their positions or participating in their programs of study. Finally, South Central College personnel should consult their supervisors/instructors, the college's written safety programs/policies, and/or the Security & Safety Director whenever they have questions or concerns."

Certification: This document certifies a hazard assessment was conducted meeting the provisions specified under 29 CFR 1910.132 (d) and South Central College's related safety programs and policies.

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Date: 04-04-17