

## Chainsaws: Essential Safety Precautions

Chainsaws are powerful tools that require proper training and safety measures to prevent serious injuries. Here are key safety requirements for chainsaw use in NCC T&D workplaces:

### Personal Protective Equipment (PPE)

Workers using chainsaws must wear:

1. **Head Protection - Hard Hat:** Protects against falling objects, especially when working in forestry or areas with overhead hazards.
2. **Eye and Face Protection - Safety Goggles or Glasses:** Shields eyes from wood chips, sawdust, and debris. **Face Shield:** Provides additional protection for the face from flying debris; should be used in combination with safety glasses.
3. **Hearing Protection - Earplugs or Earmuffs:** Reduces exposure to chainsaw noise, which can exceed 85 decibels and cause hearing damage over time.
4. **Hand Protection - Cut-Resistant Gloves:** Protects hands from cuts, abrasions, and vibration-related injuries. Look for gloves with anti-vibration features for prolonged use.
5. **Leg Protection - Chainsaw Chaps or Trousers:** Made of cut-resistant material to protect legs from accidental contact with the chainsaw chain. OSHA and HSE recommend chaps meeting ANSI or EN381 standards.
6. **Foot Protection - Steel-Toe Boots:** Provides protection from heavy objects and chainsaw impact. **Cut-Resistant Boots:** Offers additional protection for feet and ankles. Ensure the boots have slip-resistant soles for stability.
7. **Body Protection - High-Visibility Clothing:** Enhances visibility in forestry or construction sites. **Cut-Resistant Jacket (Optional):** Offers additional protection for the upper body, especially in high-risk scenarios.
8. **Respiratory Protection (if needed):** Dust Mask or Respirator: Recommended when working in environments with excessive sawdust or poor ventilation.

### Proper Safe Operations for Chainsaw Use

Operating a chainsaw safely requires knowledge, skill, and strict adherence to safety guidelines. Here's a comprehensive guide to ensure safe chainsaw operations, aligned with industry best practices:

- **Pre-Operation Checks - Inspect the Chainsaw:** Ensure the chain is sharp, tensioned correctly, and lubricated. Verify that safety features (chain brake, throttle lock, chain catcher, etc.) are functioning properly.
- **Fueling:** Refuel the chainsaw in a well-ventilated area, away from ignition sources. Use the correct fuel mixture.
- **PPE Check:** Wear appropriate personal protective equipment (e.g., helmet, goggles, chaps, gloves, boots).
- **Preparing the Work Area - Clear the Area:** Remove obstacles and debris that could interfere with your footing or chainsaw operation. Ensure bystanders are at a safe distance (at least 50 feet).
- **Plan Your Escape Route:** Identify at least two clear paths to retreat in case of a falling tree or emergency.
- **Starting the Chainsaw - Safe Start Method:** Use the ground start or leg-lock method; never drop start the chainsaw. Engage the chain brake before starting.
- **Inspect the Idle Speed:** Ensure the chain does not move when the engine is idling.
- **Operating the Chainsaw - Maintain Proper Grip and Stance:** Hold the chainsaw firmly with both hands (thumbs wrapped around the handles).
- **Stand with your feet shoulder-width apart for balance. Work at Waist Level:** Avoid cutting above shoulder height to maintain control. **Avoid the Kickback Zone:** Do not let the upper tip of the chainsaw bar touch objects. This can cause dangerous kickback.
- **Cut with the Lower Part of the Bar:** Use the portion closest to the chainsaw body for better control.
- **Cutting Safely - Proper Tree Felling Technique:** Assess the tree's lean, branches, and wind direction before cutting.
- **Create a notch (face cut) in the tree on the side facing the fall direction. Make the back cut slightly above the notch to control the fall.**
- **Limbing and Bucking:** Cut branches (limbing) while standing on the opposite side of the trunk.

- When bucking (cutting a log), avoid cutting from underneath the log to prevent pinching.
- During Operation - Take Breaks: Rest periodically to avoid fatigue, which can lead to accidents.
- Monitor Surroundings: Stay alert for changes in conditions, such as shifting trees, unstable ground, or nearby workers.
- Post-Operation Procedures - Turn Off the Chainsaw: Engage the chain brake and turn off the engine before moving or refueling.
- Clean and Store the Chainsaw: Clean the bar, chain, and air filters. Store the chainsaw in a dry, secure location.
- Emergency Preparedness - First Aid Kit: Have a first aid kit readily available for cuts or injuries.
- Training - Ensure operators are trained to handle emergencies, including kickback and injuries.

### **Common Mistakes to Avoid**

- Operating the chainsaw without proper PPE.
- Using a dull or poorly maintained chain.
- Cutting above shoulder height or in an unstable position.
- Ignoring hazards such as dead branches, unstable trees, or ground obstacles.

By following these guidelines, operators can minimize risks and ensure safe, efficient chainsaw use.

For more information, refer to NCC T&D's relevant IMS procedures or consult our HSE Department for expert guidance and training resources aligned with Saudi Arabian regulatory requirements.