Ergonomics (January 2025)

Purpose

This policy aims to support a safe and hazard-free environment for our employees via the establishment of an ergonomics process for E Light Electric Services Inc. operations. This process has been developed to establish consistency in implementing ergonomics processes at all E Light Electric Services Inc work locations.

This policy establishes the minimum requirements for an integrated, effective, and sustainable process to protect employees from the risk factors which cause work-related Musculoskeletal Disorder (MSD) injuries.

The primary focus of the process is to establish a systematic approach for the proactive and effective reduction of these risk factors in existing workstations and future designs. The common goal is to reduce MSD risk factors to the lowest level that is feasible.

Scope

This policy applies globally to all E Light employees and to all operations at each location under the direct control of E Light including contract personnel and visitors.

This policy includes new and existing equipment, processes, and products.

In addition, this policy requires compliance with all applicable ergonomics regulatory requirements.

Objectives

- Prevention of Ergonomic Injuries: Identify and address ergonomics-related risks to prevent injuries, including strains, sprains, and repetitive motion injuries.
- Increase Awareness: Educate employees on proper ergonomics practices and encourage them to proactively identify potential hazards.
- Improve Work Efficiency: By optimizing work practices and environments, the program aims to improve employee comfort and efficiency.
- Regulatory Compliance: Ensure that the company complies with OSHA standards and best practices regarding ergonomics in both the office and construction environments.

Definitions

- Ergonomics: The science of fitting jobs to people. It is accomplished at E Light Electric Services Inc. using a systematic process for anticipating, identifying, analyzing, and controlling MSD hazards.
- Job Task: Series of motions and activities performed during one cycle with a specific machine or tool.
- Program Review: Comprehensive audit of the status and effectiveness of program components.

- Risk Assessment: An objective, repeatable process to systematically identify and measure the presence and significance of risk factors.
- Risk Factors (of MSDs): Characteristics of work that can cause or aggravate a work-related musculoskeletal disorder (MSD).
- Work-related Musculoskeletal Disorders (MSDs): MSDs are conditions of the nerves, tendons, muscles and supporting structures of the musculoskeletal system that can result in discomfort, pain, swelling, numbness and/or tingling and are a major cause of disability.

Responsibility

Ergonomics Program Coordinator will:

- Ensure evaluators performing worksite evaluations and training are properly trained.
- Ensure control measures are implemented in a timely manner.
- Ensure a system is in place for employees to report MSD signs or symptoms and suspected work-related risk factors to managers and supervisors.

Managers – Duties of all managers will include:

- Accountability for the health and safety of all employees within their departments through the active support of the ergonomics program
- Allocating human and/or financial resources
- Attending ergonomics training to familiarize themselves with the elements of the program, recognition and control of work-related ergonomic risk factors, MSD signs and symptoms, early reporting requirements and procedures, and medical management.

Supervisors –Duties of all supervisors will include:

- Attending ergonomics training to familiarize themselves with the elements of the program, recognition and control of work-related ergonomics risk factors, MSD signs and symptoms, early reporting requirements and procedures, and medical management.
- Ensuring employees have received the appropriate training.
- Ensuring employees are provided with and use the appropriate tools, equipment, parts and materials in accordance with ergonomic requirements.

Employees –Every employee is responsible for conducting himself/herself in accordance with this policy and program. All employees will:

- When provided, use the appropriate tools, equipment, parts, materials, and procedures in the manner established by managers and supervisors.
- Ensure equipment is properly maintained in good condition and when not, report it immediately.
- Provide feedback to supervisors regarding the effectiveness of design changes, new tools or equipment, or other interventions.

Risk Factors

- Repetitive motions - Hourly or daily production targets may require a worker's wrists, arms, back, neck, or knees to perform repeated movements at a fast pace. Frequent repetitive motions fatigue the muscles and can damage nerves, joints, and ligaments.
- Repetitive Motion Injury (RMI) – Injuries that result from performing the same motion or series of motions repeatedly over time, leading to strain or damage to muscles, tendons, nerves, and other soft tissues. These injuries are typically caused by repetitive tasks that involve prolonged use of the same muscles or joints, especially when the motion is performed incorrectly or with inadequate rest. RMIs are commonly associated with musculoskeletal disorders (MSDs) and often affect areas such as the hands, wrists, elbows, shoulders, back, or neck. The symptoms can include pain, swelling, numbness, tingling, weakness, and reduced range of motion.
- Musculoskeletal Disorder (MSD) is a general term used to describe a range of injuries and conditions that affect the muscles, tendons, ligaments, nerves, joints, cartilage, and spinal discs. These disorders are typically caused or aggravated by repetitive movements, poor posture, heavy lifting, vibration, or other physical stresses that strain the musculoskeletal system. MSDs can range from mild to severe and can affect various parts of the body, including the back, neck, shoulders, wrists, hands, elbows, knees, and legs. Common examples of MSDs include:
    - Carpal Tunnel Syndrome (CTS)
    - Tendinitis (inflammation of the tendons)
    - Bursitis (inflammation of the bursa, a fluid-filled sac that cushions joints)
    - Herniated discs or spinal disc injuries
    - Epicondylitis (commonly known as tennis elbow or golfer’s elbow)
    - Rotator cuff injuries
    - Osteoarthritis
- Excessive force - Many work tasks require moments of excessive force or localized pressure, such as removing a rusty bolt. Force requires muscle effort, which causes fatigue and increases the chances of MSDs.
- Awkward postures - Neutral postures lessen stress on muscles, tendons, nerves, and bones. Bending, reaching, or twisting the neck, back, arms, or legs can put muscles and tendons at a disadvantage and increase the probability of MSDs.
- Vibration - Whole-body or hand-arm vibrations increase shoulder, hand, and neck MSDs. Work tasks such as using grinders, sanders, needle guns, chipping hammers, impact wrenches, or chainsaws can slowly rob the body of much-needed blood flow and result in injury to the blood vessels, nerves, or muscles.
- Force - Forceful exertion, such as lifting, pulling, gripping, or pushing heavy or awkward items, can overload muscles and lead to MSDs.
- Cold temperatures - Colder temperatures can increase muscle tension and reduce both dexterity and sensitivity. Cold environments may also cause a worker to grip a tool more

tightly, restricting blood flow or causing the tissue to become stiff, creating discomfort and pain.

- Stationary positions - Static or stationary positions rob the muscles of needed oxygen and can result in fatigue and MSDs. Examples of potentially damaging postures include standing in the same position for eight hours, holding a hand tool for 60 minutes straight, or keeping arms raised overhead for 30 minutes.
- Contact stress - Contact stress results from constant rubbing between hard or sharp surfaces and sensitive body tissue, usually on the fingers, palms, thighs, or feet. The localized pressure contact stress places on an area of the body can reduce blood flow, nerve function, and the movement of tendons and muscles.

General Ergonomics Policy – Administrative Tasks

1. Desks and chairs must be adjustable, ensuring that feet are flat on the floor and knees are at a 90-degree angle.
2. The computer monitor should be positioned at eye level, with the top of the screen no higher than eye level to minimize neck strain.
3. Keyboards and mice should be positioned close to the body with elbows at 90 degrees and wrists in a neutral position.
4. Maintain a neutral sitting posture with proper back support. Avoid slumping or leaning forward.
5. Keep wrists straight and relaxed while typing or using a mouse.
6. Take breaks every 30 minutes to stand up, stretch, or walk around to avoid prolonged sitting.
7. Take 5–10-minute breaks for every hour of work to rest from repetitive tasks like typing and mouse use.
8. Use ergonomic accessories such as wrist rests and ergonomic chairs to reduce strain.
9. Position the keyboard and mouse at a height that allows for neutral wrist alignment and a relaxed shoulder posture.
10. Ensure the monitor is positioned about an arm’s length away with the top of the screen at eye level to prevent neck strain.
11. For dual monitors, position them at the same height and distance to minimize head movement.
12. Ensure work areas have adequate lighting, with a focus on reducing glare on screens. Use anti-glare filters if necessary.
13. Position commonly used items within easy reach to avoid unnecessary stretching or twisting.

General Ergonomics Policy – Construction and Labor Tasks

1. Stretch & Flex – All E Light employees are required to participate in stretch & flex prior to the start of work each shift.

2. Team Lifting Requirement: Employees lifting awkward loads or loads weighing more than 50 lbs. must use team lifting techniques to avoid strain and injury.
3. Proper Lifting Techniques: Lift with your legs, not your back. Keep the load close to your body and avoid twisting or jerking motions when lifting.
4. Use Mechanical Aids: Whenever possible, use mechanical aids such as forklifts, hoists, or dollies to move heavy or awkward loads.
5. Breaks and Rest Periods: Take regular breaks to rest your muscles and prevent fatigue, particularly when performing repetitive tasks or heavy lifting.
6. Ensure that workstations are designed to reduce awkward postures. Tools and materials should be positioned at a comfortable height and within easy reach to minimize bending, twisting, or stretching.
7. Work areas should be kept clean and organized to avoid unnecessary movement or risk of injury from tripping or reaching for tools.
8. Use ergonomically designed hand tools with padded grips or adjustable handles to reduce strain on your hands, wrists, and arms.
9. Regularly inspect tools and equipment to ensure they are in good working condition, as malfunctioning tools can cause strain or injury.
10. Task Rotation: For jobs requiring repetitive movements (e.g., cutting, assembly, or lifting), rotate tasks among employees to avoid prolonged use of the same muscles.
11. Rest and Stretching: Take frequent breaks and perform stretching exercises to help reduce muscle fatigue during repetitive tasks.
12. Ergonomic Equipment: Use automated tools, power tools, or machines designed to reduce the need for repetitive hand movements and excessive force.
13. Maintain proper posture by avoiding slouching or overextending while performing tasks. Ensure that you are standing or sitting in a neutral position, particularly when performing tasks that involve fine motor skills or prolonged periods of standing or sitting.
14. Adjustable Workstations: Use adjustable workstations or tools to accommodate your body size and comfort level, especially for tasks that require fine precision (e.g., assembly or wiring).
15. Avoid Overhead Work: When possible, avoid working overhead for prolonged periods. Use ladders or scaffolding to adjust the height of work tasks to prevent neck, shoulder, and back strain.
16. Seated and Standing Work: Alternate between sitting and standing positions throughout the day to avoid prolonged static postures and use anti-fatigue mats when standing for extended periods.
17. Maintain a steady work pace that allows you to perform tasks without rushing. Taking frequent short breaks helps prevent overexertion.
18. Listen to Your Body: If you feel pain, discomfort, or fatigue, stop and report it to your supervisor immediately. Do not push through pain as this could lead to serious injury.

19. Always wear the required PPE, such as gloves, knee pads, back supports, and safety footwear, to protect against injury and strain.
20. Ensure that your PPE is properly fitted and in good condition to maximize its protective effect.

Stretch and Flex

At E Light Electric Services Inc., we recognize the physical demands of construction and prefabrication work and are committed to reducing the risk of musculoskeletal injuries and improving the overall well-being of our employees. As part of our ergonomics policy, we implement a Stretch and Flex Program designed to prepare workers physically for their tasks, improve flexibility, and enhance mobility. This proactive approach helps prevent strains, sprains, and other musculoskeletal disorders (MSDs).

Overview

The Stretch and Flex Program will be conducted at the beginning of each workday, prior to engaging in physical tasks, and will be part of our standard safety routine. This program is mandatory for all field labor employees, including those working in construction and prefabrication, to ensure proper warm-up and injury prevention before beginning work.

Objectives

- Prevent Injuries: Warm up muscles, joints, and ligaments to reduce the risk of strains, sprains, and other musculoskeletal disorders.
- Increase Flexibility: Enhance the range of motion and muscle elasticity, preparing employees for physical tasks such as lifting, bending, twisting, and repetitive movements.
- Promote Physical Well-Being: Encourage healthy habits and reduce muscle stiffness, helping workers perform their duties more effectively throughout the day.
- Boost Team Morale: Foster a culture of teamwork and safety by engaging in group stretches, building camaraderie, and promoting a shared commitment to health.

Guidelines

Pre-Work Stretching

- Timing: Stretching exercises should be performed before the start of the shift and before engaging in any physically demanding tasks. All field employees are expected to participate in the Stretch and Flex Program.
- Duration: The stretching routine should take approximately 5 minutes.
- Frequency: Stretch and Flex sessions should be conducted daily and at the start of any work requiring strenuous physical activity.

Key Areas to Focus On

- Neck and Shoulders: Prevent stiffness and reduce the risk of neck and upper back injuries due to overhead work or heavy lifting.

- Back and Spine: Improve spinal flexibility to reduce the risk of lower back injuries from bending or lifting.
- Arms and Wrists: Warm up muscles and joints used in gripping, lifting, and using hand tools.
- Legs and Hips: Stretch lower body muscles, especially the legs and hips, which are essential for balance, lifting, and climbing.
- Hands and Wrists: To alleviate repetitive strain from fine motor tasks and tool usage.

Group Participation

All employees working on the job site are required to participate in the Stretch and Flex routine. Supervisors or safety leaders should facilitate the exercises to ensure that everyone participates.

The Stretch and Flex Program should be incorporated into the morning safety meetings, reinforcing its importance for injury prevention.

Exercise Technique

- Neck Rolls: Slowly rotate your neck in circles to release tension in the neck and upper back.
- Arm Circles: Extend arms outward and make small to large circles to warm up the shoulders.
- Torso Twists: Stand with feet shoulder-width apart, twist the torso gently left to right, ensuring a good stretch in the back.
- Hamstring Stretches: Reach for the toes to stretch the hamstrings and lower back.
- Leg Stretches: Perform quad stretches, calf stretches, and hip openers to prepare the lower body for physical tasks.

Injury Reporting

- Any discomfort or pain experienced during Stretch and Flex exercises or throughout the workday should be immediately reported to a supervisor. Early identification of discomfort helps to prevent more serious injuries.
- Employees should be encouraged to speak up about any physical limitations that may affect their ability to perform the exercises or tasks.

Program Oversight

- Supervisors and Managers are responsible for ensuring that the Stretch and Flex Program is consistently implemented on the job site. They should lead the exercises, check for participation, and monitor for effectiveness.
- Regular training on proper stretching techniques and ergonomics will be provided to ensure that employees are using the correct form to prevent injury.
- Onsite Safety Personnel shall monitor employees during stretch and flex to ensure participation and safe execution of the movements.

General Tool Hazard Assessment

Handheld Power Tools (e.g., drills, saws, grinders)

- Ergonomic Hazards:
  - Repetitive hand and wrist motion
  - Vibration-related disorders (e.g., hand-arm vibration syndrome)
  - Awkward body postures during use
- Recommended Controls:
  - Use tools with vibration-reducing features.
  - Rotate tasks to avoid prolonged use of vibrating tools.
  - Ensure proper posture and grip.

Wire Cutters/Strippers

- Ergonomic Hazards:
  - Repetitive gripping and hand force
  - Risk of hand and wrist strain
- Recommended Controls:
  - Use ergonomically designed handles with cushioning.
  - Take regular breaks to avoid strain.

Cable Pulling Tools (e.g., cable winches, tuggers)

- Ergonomic Hazards:
  - Forceful exertion during cable pulls
  - Risk of muscle strain from awkward body positions
- Recommended Controls:
  - Use mechanical aids to assist with pulling heavy cables.
  - Team lifting for cables over 50 lbs.

Ladders

- Ergonomic Hazards:
  - Risk of falls from improper ladder use
  - Muscle strain from awkward reaching and climbing.
- Recommended Controls:
  - Ensure proper ladder placement and use of stable footing.
  - Use ladders with comfortable handrails for support.

Conduit Benders

- Ergonomic Hazards:

    - Repetitive bending and twisting motions
    - Forceful exertion on tools
- Recommended Controls:
    - Use conduit benders with ergonomically designed handles.
    - Rotate tasks to avoid prolonged bending.

Hammers and Sledgehammers

- Ergonomic Hazards:
    - Vibration and shock to the hands and wrists
    - Forceful exertion during strikes
- Recommended Controls:
    - Use tools with vibration-damping features.
    - Alternate tasks to minimize repetitive use.

Power Drills (Cordless and Corded)

- Ergonomic Hazards:
    - Repetitive wrist movement
    - Vibration exposure
- Recommended Controls:
    - Use ergonomic grip drills.
    - Implement vibration reduction measures.

Wrenches and Ratchets

- Ergonomic Hazards:
    - Awkward wrist postures and repetitive movements
    - Risk of strain from excessive torque application
- Recommended Controls:
    - Use tools with ergonomically designed handles and grips.
    - Consider hydraulic or powered wrenches for heavy jobs.

Pipe Benders

- Ergonomic Hazards:
    - Risk of muscle strain and repetitive motion
    - Forceful exertion during bending
- Recommended Controls:
    - Use power-assisted pipe benders.

- Use ergonomic handles and work in a proper stance.

Heavy Equipment (e.g., Forklifts, Cranes, Aerial Lifts)

- Ergonomic Hazards:
  - Risk of prolonged sitting and static posture
  - Vibration from equipment
- Recommended Controls:
  - Provide adjustable seats and support.
  - Regularly rotate drivers and operators to minimize fatigue.

Tool Belts and Pouches

- Ergonomic Hazards:
  - Shoulder, back, and hip strain from carrying heavy tools.

Awkward postures when retrieving tools.

- Recommended Controls:
  - Ensure tool belts are not excessively heavy.
  - Use tool belts with padded straps and ensure even weight distribution.

Wire Pulling Tools (e.g., fish tapes, rods)

- Ergonomic Hazards:
  - Awkward arm positioning during use
  - Force exertion during pulling.
- Recommended Controls:
  - Use assisted devices to reduce the force required.
  - Team-lift when handling heavy or difficult wire pulls

Repetitive Motion Injury (RMI) Action Response Plan

The RMI Action Response Plan is a proactive measure activated at E Light Electric Services Inc. when a repetitive motion injury (RMI) has occurred to more than one employee under specific conditions. The goal of this plan is to minimize RMIs by identifying and addressing the underlying causes of these injuries, ensuring a safer work environment, and providing the necessary training to employees.

Conditions for RMI Action Response Plan Activation

RMI Action Response Plan shall be initiated for a job, process, or operation where a repetitive motion injury (RMI) has occurred to more than one employee under the following conditions:

1. Work-Related Causation: The repetitive motion injuries (RMIs) were predominantly caused by a repetitive job, process, or operation. Specifically, these injuries must have been caused 50% or more by the repetitive tasks involved in the job or process in question.

2. Relationship Between RMIs at the Workplace: The employees who incurred the RMIs were performing a job, process, or operation that involves identical work activity. This means the employees were exposed to the same repetitive motion task, such as but not limited to:
    a. Word processing
    b. Assembly line work
    c. Loading/unloading tasks.
    d. Any other repetitive manual or cognitive tasks that expose workers to similar strain or stress.
3. Medical Requirements: The RMIs involved must have been musculoskeletal injuries that a licensed physician objectively diagnosed. The injuries must be directly linked to repetitive motion activities, as confirmed by medical evaluation and diagnosis.
4. Time Requirements: The RMIs must have been reported by the affected employees to the employer within the last 12 months. The injuries need to be recent enough to prompt a timely investigation and response.

RMI Action Plan Procedures

Once the RMI Action Response Plan is activated, E Light shall establish and implement an enhanced program specifically designed to minimize the occurrence of RMIs. The program shall include the following key components:

1. Worksite Evaluation: A worksite evaluation will be conducted for each job, process, or operation involving identical work activities where RMIs have occurred, or for a representative sample of such jobs. This evaluation will focus on identifying the exposures or ergonomic risk factors that have caused RMIs. The evaluation shall include:
    a. Observing the tasks being performed.
    b. Identifying physical stressors, such as awkward postures, repetitive motions, and forceful exertions.
    c. Analyzing the frequency, duration, and intensity of exposure to these risk factors.
2. Control of Exposures That Have Caused RMIs: Any identified exposures that have caused RMIs shall have corrective actions assigned to prevent future injuries. E Light shall consider a combination of engineering controls and administrative controls to correct or minimize these exposures, including but not limited to:
    a. Engineering Controls:
        i. Workstation redesign (e.g., adjustable desks, seating, or tools).
        ii. Tool redesign to reduce forceful exertions or awkward postures.
        iii. Adjustable fixtures to accommodate various body sizes and task needs.
    b. Administrative Controls:
        i. Job rotation to reduce the duration of repetitive tasks performed by any one individual.

ii. Adjusting work pacing or implementing rest breaks to minimize the repetitive strain on employees.

iii. Ergonomic adjustments to task sequences or work schedules.

3. Enhanced Employee Training

   Employees must be provided with comprehensive enhanced ergonomics training, which shall include the following topics:

   - Explanation of the Ergonomics Program: A clear outline of the company's approach to preventing RMIs, including goals, responsibilities, and timelines for corrective actions.
   - Exposures Associated with RMIs: Information on the specific ergonomic hazards and repetitive tasks that contribute to RMIs, such as awkward postures, repetitive movements, and excessive force.
   - Symptoms and Consequences of Repetitive Motion Injuries: Training on recognizing early signs of RMIs (e.g., pain, swelling, numbness, tingling) and understanding the long-term consequences of ignoring these symptoms.
   - Importance of Reporting Symptoms and Injuries: Encouragement for employees to report symptoms of RMIs early to prevent further injury and ensure prompt corrective actions.
   - Methods Used to Minimize RMIs: Information on the engineering and administrative controls implemented by the employer to reduce RMI risks and the role of employees in implementing and adhering to these measures.
   - Corrective Actions taken to prevent reoccurrence of RMIs.

Training

At E-Light Electric Services Inc., the health and safety of our employees is a top priority. To promote safe work practices and reduce the risk of musculoskeletal disorders, all employees will receive ergonomics training.

Employees will be trained on the following:

- E Light’s Ergonomics Policy
- Identifying ergonomic risks in the workplace
- Proper workstation setup and tool use
- Safe lifting techniques
- Correct posture and movement practices
- Stretching and exercise techniques to prevent injury.
- Job-specific hazards and mitigations

Training Schedule:

- Initial Training: New employees will receive ergonomics training as part of their onboarding process.

- Annual Training: All employees will undergo refresher ergonomics training on an annual basis.

Training Records: The Training Department will maintain records of all employee training, ensuring that documentation is kept up to date and accessible for review.