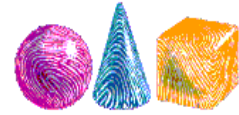




# ETC



ERGONOMIC TECHNOLOGIES CORPORATION  
- Ergonomic Results within Reach



## Public Utility/Construction/Telecommunications Profiting Through Ergonomics

### Overview

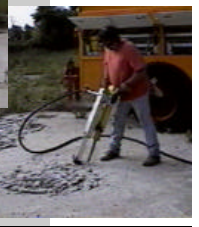
Public Utilities, Transportation Industries, and Telecommunications are generally classified as similar type of industries. For all these industries combined, statistics show that 220,600 Injury/Illnesses resulted in lost time in 1997, of which "Overexertion" accounted for 66,800, Lifting related injuries were 37,600, and 5002 were due to Repetitive Motion.

The tasks in these industries involve high degree of technical skill (encompassing electrical, mechanical and civil engineering fields), with highly intelligent workers. Majority of the work is performed alone or in small groups of 2 or 3. Many of the tasks are self paced operations with a high degree of task variation. Travel time between sites can be used as an opportunity for recovery; hence there is less risk of repetition induced injuries.

However, the jobs generally expose the worker to the elements such as rain, snow, wind, humidity, heat and cold, and there is a lack of consistent workplace design factors which leads to unpredictable working environments. Clothes and personal protective equipment can adversely affect movement, comfort and strength, and there can be periodic episodes of heavy physical effort.

### Risk Factors

- Elements - Temperature, Humidity, Rain, Snow, Ice, Dust, Pollen, Thunderstorms, Blizzards, Tornadoes, Floods, Allergic dermatitis due to contact with plants (poison ivy, poison oak etc.)
- Hazards - Traffic Hazards, Electrocutation due to maintenance done with power connected, risk of electrical shock where high voltages are present
- Use of lifting gear and mobile machinery
- Risk of falling during ascent and descent of poles, radio masts, ladders, etc.
- Most accidents due to failure to follow safe work methods
  - Handling of materials and falls were major causes of accidents mainly affecting back and foot, followed by wrist and hand
  - Most injuries involve body parts which can be protected such as head, eyes, trunk, hands and feet
  - Most injuries Personal Protective Equipment (PPE) can affect range of motion and comfort
  - INCREASED likelihood of slips-trips-falls
  - REDUCED dexterity



### Benefits of Ergonomics

- Reduce injuries and associated costs
- Improve productivity, job satisfaction, morale
- Assuring the worker's health, safety and well being
- Continually improve the knowledge base used to design tools and equipment for the industry
- Provide appropriate PPE such as helmets, eye shields, gloves and dust masks
- Provide mechanical aids such as cranes, hydraulic manhole cover lifters, mounted cable reels
- Provide training and awareness in the use of mechanical aids and job-specific safe work methods
- Provide appropriate hand tools based on ergonomic criteria
- Follow safe procedures for approaching energized overhead power lines (provide properly insulated gloves)
- Maintain tools, equipment and personal protective equipment (periodic inspection)
- Rubber insulating gloves could be torn; should be protected with heavy outer canvas or leather gloves
- Provide periodic re-testing of rubber insulating gloves and blankets
- Provide appropriate personal climbing equipment such as body belts, safety straps and lanyards
- Body belts should be cushioned and contain no exposed rivets on the inside
- Redesign equipment, trucks, storage and access to equipment and tools
- Provide manual materials handling (MMH) aids
- Provide Flexible staffing for harsh conditions
- Pre-employment screening, health surveillance and return-to-work programs
  - Conduct assessment to determine risk and priority
  - Develop solutions, involve vendors
  - Test and implement solutions
  - Develop job demand descriptions
  - Develop & administer training

### Customer Reference List

Brooklyn Union Gas  
Con Edison  
Eagle Electric Corporation  
Edison Electric Group  
Florida Power & Light  
Gas Research Institute  
Keyspan  
Louisville Gas & Electric Company  
Rochester Gas & Electric  
Salt River Project



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