1 Status
   1.1 Update of existing policy, effective 06/03/11.

2 Purpose
   2.1 Ergonomic needs are different for each individual because no two people are exactly alike and each has different work habits and tasks. This is why it is important that furniture systems and accessories be adjustable to meet individual needs. The goal of ergonomics is to enhance human performance while improving health, comfort, safety, and job satisfaction.

3 Applicability
   3.1 This policy applies to all subsidiary companies and departments of the Cianbro Companies.
   3.2 All organizations are required to comply with the provisions of this policy and procedure. Any deviation, unless spelled out specifically in the policy, requires the permission of the Corporate Safety Officer or designee.

4 Definitions
   4.1 CTS: Carpal Tunnel Syndrome.
   4.2 EMFs: Electric and magnetic fields.
   4.3 Ergonomics: The study of the relationship between people, their activities, their equipment, and their environment.
   4.4 MSD: Musculoskeletal disorders.
   4.5 NIOSH: National Institute for Occupational Safety and Health.
   4.6 OSHA: National Safety and Health Association.
   4.7 RSI: Repetitive Strain Injuries.
   4.8 VDT: Video Display Terminal.

5 Policy
   5.1 Cianbro intends to have good ergonomic practices in place for office environment. Cianbro has an obligation to provide a safe working environment, and it is a condition of team member’s employment to work safely.

6 Responsibilities
   6.1 Having a proper VDT set up is largely within each VDT user’s control. Making sure they are using correct posture, taking breaks, exercising, varying their tasks and having a proper set-up while using their VDT equipment is essential and reviewed in our mandatory annual VDT training.
   6.2 Corporate Safety is responsible for maintaining this document.
7.1 Ergonomic Disorders
Why do we need to be so concerned with having a proper ergonomic set up? An improper workstation setup or improper use can cause long-term Musculoskeletal Disorders (MSD); which are also known as; Repetitive Strain Injuries (RSI). Repetitive Strain Injuries (RSI) is not limited to users of VDT's. Since it is caused by any repetitive motion and fixed body positions, activities such as playing a musical instrument or kayaking can be a source of an RSI.

7.1.1 Know the Warning Signs
Supervisors should be alert to behaviors that signal a developing problem like:
• Pain gestures
• Rubbing, stretching or shaking of body parts
• Moving constantly (fidgety)
• Team member fixes (such as rolling up a jacket and putting it in their lower back in their chair may indicate they are experiencing some lower back discomfort/pain.)
• Complaints of discomfort
• Low quality productivity
• Self treatment (wearing a brace)

7.1.2 Musculoskeletal Disorders (MSD)
Musculoskeletal Disorders can be serious, if not taken care of early. Chronic symptoms can lead to disabling injuries, even surgery. Remember that early detection and treatment has a more successful outcome.

7.1.3 MSD injuries depend on the following factors;
• Duration of the exposure (How Long?)
• Frequency of the exposure (How Often?)
• Intensity of exposure (How Much?)
Keeping in mind that it could be a combination of these factors.

By asking these questions above you will be able to assess the team members job duties and see how many factors/risks they may have and make adjustments to avoid a possible MSD injury.

7.1.4 Carpal Tunnel Syndrome (CTS)
Inflammation of the tendons in the carpal tunnel of the wrists due to repetitive use of the hand and wrist cause the tendons to swell and can lead to carpal tunnel. Inflammation or other symptoms cause the median nerve to be pinched in the carpal tunnel. Carpal Tunnel Syndrome (CTS) can be caused by performing continuous impact repetitive motions and improper hand positioning.

7.1.5 Symptoms with these Disorders are:
• Soreness
• Swelling
• Skin discoloration
• Numbness
• Tingling
• Burning
• Radiating pain
• Decreases strength
• Decreased movement
These usually develop gradually but sometimes can appear suddenly.
7.2 Ergonomic Risk Factors
Activities involving one or more of the following ergonomic risk factors, either singly or in combination, may contribute to or result in an increased risk of discomfort or injury.

- Static Postures
  Example: prolonged sitting or standing, unsupported back, unsupported arms, neck rotation or side bending and fixed or staring vision. Static body positions can cause your muscles to tense and lead to discomfort and pain. Static body positions, such as using your VDT for long periods at a time, can put strain on your muscles and lead to discomfort and fatigue. You should vary your tasks throughout the day.

- Awkward Postures
  Example: Poor body mechanics, twisted torso, slouching, neck rotation/side bending, bent wrists and reaching overhead

- Prolonged Forceful Exertions
  Example: Pinching, grasping, keying, mousing, writing, and stapling

- Repetitive Motions
  Example: Typing, sorting, and stapling

- Compression or Contact Stress
  Example: this is resting the forearm, wrist or hand on hard or sharp surfaces.

- General Environment
  Example: Lighting, noise, cold conditions

- Job Set Up
  Example: How you arrange your work. Work smarter not harder.

The good news is that injuries from these risk factors can be prevented. Understanding risk factors and practicing basic ergonomic principles is the first defense against possible injury and lost productivity.

7.3 Keys to a Proper Ergonomic Setup
You control many of the circumstances of your VDT work. It is up to you to make sure you use correct postures, take breaks, exercise, vary your tasks, properly set-up and use your VDT equipment appropriately. After reading this Safety Policy and Procedure you will be able to recognize the ergonomic hazards and be able to eliminate them. Team members with questions regarding the ergonomics of individual workstation, or any safety-related matters, should contact their immediate supervisor or jobsite safety specialist.

7.3.1 A comfortable overall working position is the most important consideration in how you setup your VDT workstation equipment. VDT-related work discomfort can be caused by a number of factors that are part of your work requirements. You can minimize stress by controlling some of these factors such as, how you set-up your VDT workstation and how you design and perform your work. Once you have your VDT equipment setup so you are in the most comfortable position, you will be able to use your equipment with less discomfort and become more productive.

7.3.2 OSHA states that the workstation and equipment must have sufficient adjustability so that the team member is able to be in a safe working posture and to make occasional changes in posture while performing VDT tasks.

7.3.3 Posture
- Sit upright
- Thighs slightly declined (hips should be higher)
- Reclined slightly
- Standing
Move throughout these postures during the course of the day.

7.3.4 Sitting Basics
- Hips slightly higher than knees
- Feet supported either on the floor or on a footrest
- Lumbar support below the belt line
- Seat pan should allow for a hand width gap in between the seat pan and the bend behind the knee.
- Back angle upright or slightly reclined
• Arms relaxed or supported

By not sitting up straight up with your back resting on the back of your chair, you cause the natural "S" shape curve of your spine to distort and not be supported. This causes your muscles to assume the forces that would normally be carried by your spine. Incorrect sitting posture, such as slouching forward or being excessively reclined in your chair can result in back pain, muscular fatigue and discomfort. Tingling sensations in your legs or feet can result after sitting with your legs crossed, by sitting too far forward in your chair or by sitting on too firm a seat. Excessive pressure on your thighs, through either improper posture or poor seating cushioning, can cause compression of the nerves in your legs and lead to numbness or the sensation of your legs and feet "falling asleep".

7.3.5 Work Surface Basics
• Designs should be based on job tasks
• Surfaces should be height adjustable
• Reading/writing surface needs to be 2 inches higher than elbow height
• Keyboard/mouse surface elbow height

7.3.6 Keyboard and Mouse Basics
• At or slightly lower than elbow height
• Neutral wrist postures
• Relax shoulders
• Use a light touch (while keying and while grasping the mouse) While keying use a light soft touch (you should not hear a banging and pounding from the keyboard)
• Use shortcut keys and macros for common functions whenever possible

A padded wrist rest can help you avoid resting your arms or wrists on the sharp edges of your desktop. It can also help support the weight of your arms and keep your wrists straight when keying. A wrist rest (even for the mouse) will eliminate contact stress allowing your wrist to rest in-between key strokes. It is very important to position your keyboard height properly to allow you to key with your wrists in "neutral" (ie. straight) and to decrease continuous repetitions by varying your tasks. Proper keyboard height would allow you to keep your wrists straight and your forearms parallel with the floor. If you do not have an adjustable keyboard tray, you can adjust your chair height and use a footrest to compensate. Use of a footrest is essential when feet do not touch the floor. A footrest also helps to promote postural changes.

7.3.7 Monitor Basics
• 25-36 inches from eyes
• At or slightly lower than eye level
• Direct alignment (monitors should never to be off to one side)
• Avoid glare or contrast from bright light sources
• Clean monitor at least one time per month
• Replace monitors that have a perceptible "jitter"
• Adjust the screen angle to reduce glare

Neck and shoulder discomfort or pain can be caused by improperly positioning your monitor and working materials. By positioning your monitor so that the height of the screen is at or just slightly below eye level when seated will help prevent neck and shoulder strain.

Glare is an annoyance that can cause your eyes to fatigue. You should place your monitor to try to eliminate sources of glare from objects such as open windows, overhead lights, etc. If you cannot eliminate glare, you can try an anti-glare filter. Glare and way too close viewing without breaks can contribute to eyestrain. Throughout the workday, light levels change. You may need to adjust your monitor's brightness and contrast controls for greater screen clarity. This will help defend you from eye fatigue.
7.3.8 Telephone Basics
- Avoid cradling the hand set between your shoulder and your head
- Place phone on your desk on opposite side of your dominate hand and hold the hand set with your non-dominate hand (this will help you avoid cradling the phone when you need to grab a pen to write)
- Use the headset or speaker phone when appropriate

7.3.9 Lighting
- Try not to place your screen directly in front of a window (glare from and outside light source creates eye strain)
- Avoid intense light
- Add task lighting if needed

A task lamp (a separate moveable lamp) is useful for illuminating written materials to help relieve eye fatigue. It is important to position the light making sure that it does not cause glare or reflections on your monitor screen.

7.3.10 Document Holders
- Document holder either adjacent to monitor or between monitor and keyboard
- To avoid neck strain when there is a lot of reading and writing purchase a reading/writing slope stand (this can also be achieved with a large 3 ring binder)
- A copy stand or document holder is a necessary piece of your VDT equipment. By placing the copy stand at the same height and distance next to your monitor, you can help reduce both eye and neck discomfort.

7.4 Work/Rest/Stretch Schedules
- Rotate job tasks at least once per hour
- Stretch
- Change postures frequently
- Every 20 minutes look away 20 feet to let your eyes adjust (20/20 rule)
- A minimum of 15 minute break for every 2 hours of usage

Stretching exercises are an important component in helping to prevent discomfort while working with your VDT. Stretching exercises can help relieve and prevent muscular aches and pains when working on your VDT for prolonged periods. For further information on Cianbro stretches please refer to our stretches poster on the SOP.

7.5 Controlling Exposures
VDT operators often spend hours without moving from their chairs. This can lead to tense muscles and poor circulation. The continuous stress on wrists and arms can result in inflammation of tendons, which may pinch nerves to cause numbness and pain.

Detachable keyboards and height-adjustable tables and chairs can help prevent neck, back, and arm discomforts. Flexibility is the key: workers should not have to adjust their bodies to fit VDTs.

Stress causes changes in your body such as making your heartbeat faster, breathing more rapidly and breaking into a sweat. These changes can lead to headaches, muscle tension, neck or back aches, etc., which are the same symptoms of discomfort when using your VDT equipment improperly. By understanding the nature and cause of stress, you can better control your VDT work situation. Proper exercise and a good diet help your body cope with stress. There are also many relaxation exercises that you can use to help minimize stress. Something as small as breathing deeply and stretching exercises to relax tensed muscles can bring your body the relief it needs to rejuvenate. Once the stress factor is identified, you can then begin changing these conditions to help lessen your stress.

7.6 Training
Our annual VDT training consists of an online training program (Ergonome). This web based training experience gives team members a virtual tour through the training and it will prompt them to take a multiple-choice test. In order to complete the training they must pass the test with 100%. It will not log them into the tracking system as completed until they pass. Who must
complete this training annually? If a team member uses a VDT they are considered a user. This program also has a tracking system, which allows managers to know when they have or have not completed the training. Annually Cianbro takes the information from the system and dumps the training information right into CMiC.

We also conduct ergonomic evaluator training as needed. This training teaches team members how to conduct an ergonomic evaluation on VDT terminals. It is imperative in an office environment to have a proper set up. The ergonomic evaluation form is located out on the SOP. Once a trained team member is an evaluator, he/she can use the evaluation to walk through all the areas of a VDT set up and make changes to improve the workspace.

For further information regarding protective measures, proper use of your VDT or training, please contact the Pittsfield Safety Department.

7.7 Safety At Home
When setting up your VDT station at home take all the considerations below.

![Diagram of VDT station setup]

8 Budget / Approval Process

8.1 It is the responsibility of each office location to procure and provide all VDT PPE requirements under this policy and to allow time for the mandatory annual training.

9 Related Documents

9.1 Document available on Cianbro.net

Cianbro Stretches Poster