



**2005**  
**ITSC**  
**St. Louis**



National Telecommunications Safety Panel

# Ergonomic Sub-Committee 2005 Summary

# Team Members

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Marie Robinson SBC / AT&T  
John F. Quinlan Verizon / MCI  
Co Chairperson

Eric Allgaier  
Nextel / Sprint

Lynn Aipaugh  
AT&T / SBC

Frank Bannister  
Sprint / Nextel

Marshall Berry  
Bell South

Art Farmer  
Cincinnati Bell

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# OSHA Alliance



Work together on ergonomics training

Share information

Raise awareness

Quarterly Meetings / Conference calls

Agreement in effect for 2 years

## Ergonomic Guidelines for Common Job Functions Within The Telecommunications Industry



Prepared by the National Telecommunications  
Safety Panel  
*Ergonomics Subcommittee*

Access our document on the NTSP website  
<http://www.telsafe.org/ntsp/publications.htm>

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Privileged and Confidential

# Ergonomic Guidelines for Common Job Functions Within The Telecommunications Industry

Introduction - Title page, Table of contents, Introduction, disclaimer, and Ergonomics Program Elements

## Outside Plant Environment

Handling Extension Ladders

Handling Lashing Machine

Removing a Manhole Cover

Coin Collecting

Splicing Cable

Handling Cable Reels

Placing Equipment in / out of manholes

Pole Climbing

Power Tools

Jack Hammer

\* Handling equipment in Aerial Operations

\* Handling compressed gas cylinders

\* Sawing a Utility Pole

\* Shoveling

## Central Office Environment

Wire Wrapping / Unwrapping

Wire Stripping

Working on a ladder in the Central Office

Handling wire reels

Pushing and dragging material

Kneeling while working

\* **Climbing a ladder in the central office**

## Office Environment

Typing

Mousing and Alternative input devices

Sitting

Reaching

Phone Use

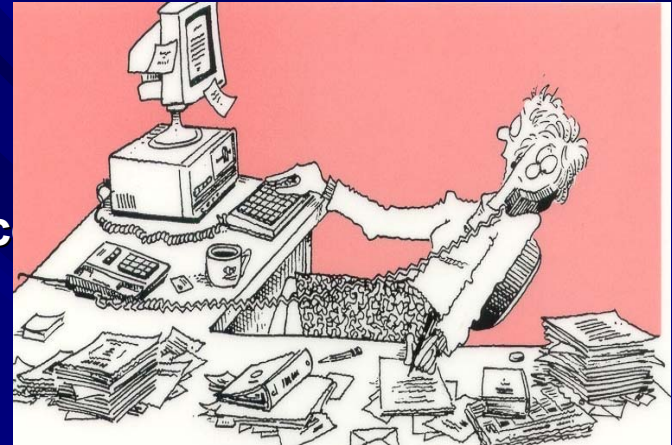
Viewing Monitor

\* **Writing in a computer environment**

\* **Laptop**

## Retail Environment

\* **Wireless Retail Operation**



In addition:

Glossary of terms

Exercises for the

office environment

## Path forward

- Future of OSHA Alliance
- Mergers
- New topics for Guideline?
- New projects for Committee?



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# Addressing Work Related Musculoskeletal Disorders

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## Alliances and Other Cooperative Programs

**Brett Besser, CIH, CPE**  
**Salt Lake Technical**  
**Center**

**US Department of**  
**Labor/OSHA**

# Hopefully You Are On Track

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## ■ Traditional Safety and Health Issues

- Electrical Hazards
- Working At Heights
- Lock Out -Tag Out
- Radiation
- PPE
- Record Keeping



# But Then There Is Ergo

- **Do You Feel Like You Are In Over your Head**
  - Hard to Measure Outcomes
  - Few Specification Standards “Rules”
  - Often At Remote Site
  - Variability in Affected Population
  - Success is Measured in Anecdotes
  - Few Universal Corrections



# What is the Right Direction

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# Who Are 'We'

- **Enforcement - Occupational Safety and Health Administration**
  - Since 1971
  - Department of Labor
- **Research - National Institute of Occupational Health and Safety**
  - Research Agency
    - Same legislation that created OSHA
    - Department of Health and Human Services

# In The Old Days

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- **Enforcement Was the Traditional / Historical Response**
  - Complaint
  - Scheduled Inspection
  - Special Emphasis Program
    - Local
    - National
  - Targeted Inspections
- **Inspected to see if You Followed the Rules**



# Possible Outcomes

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- **> 2800 Inspections 1/1/02 to 6/30/05**
- **Citation**
  - **16**; 10 Nursing Homes & 6 General Industry
- **Hazard Alert Letter**
  - **380**; 154 Nursing Homes & 226 General Industry
  - Follow-up in one year
- **Recognition Letter**
  - About **10**

# Have We Accomplished Our Goal?

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- What Is the Goal?

**Send Every Worker Home at the End of the Day in the Same Condition As When They Came to Work**

- Mission Accomplished?

- For 400+ or – Workplaces in 3 years

- What About the Rest?

- Maybe a Safety or a Free Throw

- How To Reach the Rest

# New Approaches to The Goal

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- **Enforcement is Still Necessary as a Component to Ensure Companies Follow Their Best Instincts**
  - Levels the Playing Field
- **I believe:**
  - Most employers want to protect their employees.
  - They need and want assistance and guidance so they can do the right thing.

# Working Together

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- We Really are Both on the Same Side
- Develop Non-Enforcement Approaches to Achieving the Goals
- More Emphasis Under Henshaw
  - VPP
  - Partnerships
  - Alliances

# Cooperative and Voluntary Programs

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- VPP – The Best of the Best
  - Star, Merit
  - Initial evaluation By OSHA Staff
  - Annual self evaluation – On-going
  - VPPPA – Safety and Health Ambassadors
    - Sharing with the Agency and others in the industry
    - Currently a Base of Operations in New Orleans

# Cooperative and Voluntary Programs

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- Partnerships – Working Proactively Together for a Safer Workplace
  - Multiple Worksites
  - Targeted Problems
  - Preliminary Agency Inspection of Site
  - Limited Time – 3 years

**PARTNERSHIP**  
An OSHA Cooperative Program

# Cooperative and Voluntary Programs

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- **Alliances - Build trust and cooperation**
  - Network
  - Leverage resources
  - Recognize industry and employer efforts
    - **Industry Developed Guideline**
      - NTSP, AAFA, AFMA
- **Enforcement still applies**



# Lessons Learned Are Transferable

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- Transferal is a Two Way Street
- Initially
  - We Learned from Multiple Inspections and Alliances had Comments
    - Grocery Warehousing
    - Beverage Delivery
    - Computer Workstations
    - Baggage Handling

# Lessons Learned Are Transferable

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## ■ Now

– Alliances Develop Suggestions and We Comment

- Electrical Contractors

- NTSP

- AAFA – American Apparel and Footwear Assoc

- AFMA – American Furniture Manufacturers Assoc

## ■ Not an Expert in Your Field; But

– Some Commonality with Other Work Places

# Outreach, Education and Compliance Assistance

- Consultation
  - Run by States
  - Free
- OSHA Website – [www.osha.gov](http://www.osha.gov)
  - E-Tools
    - Stand Alone Training Product
  - Safety and Health Topics Pages
    - Mini-Google Search
    - What we have learned
    - What you Have learned
  - Laws, Interpretation, and Variances

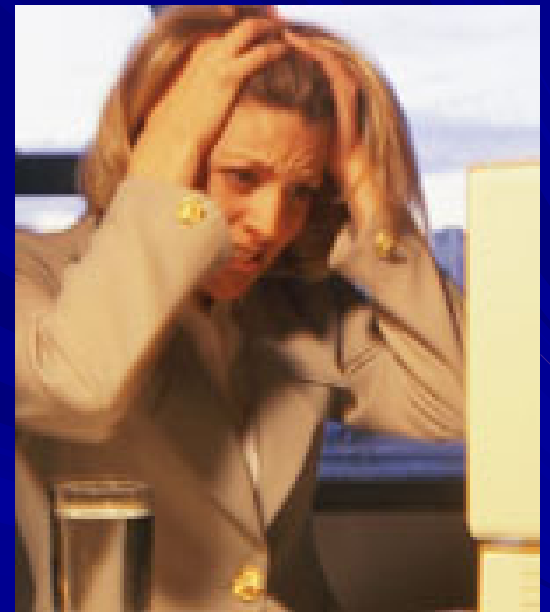


# Who are You - Telecommunications

## Your Ergo Are Different; But Not Unique

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- Workers At Remote Sites
- Changing Product Characteristics
- Changing Environmental Conditions
- Independent Spirit, Technical Training
- Irregular Hours
- Retail, Construction, General Industry, Warehouse
- What can I do; It's Impossible





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# Addressing Work Related Musculoskeletal Disorders

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## The Next Frontier

**Brett Besser, CIH, CPE**  
**Salt Lake Technical**  
**Center**

**US Department of**  
**Labor/OSHA**

# What Are You Expected To Do

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- We Understand It May Be Difficult But:  
**”Doing Nothing Is Not An Option”**
  
- OSHA Standards Apply
  - 5(a)1 – Must Maintain a Workplace Free of Recognized Hazards
  
- Others Are Also Interested
  - Insurance
    - Workers Comp, Loss Control
  - Share Holders
  - Unions
  
- **Your Most Valuable Asset**
  - Highly Trained, Quality, Reputation



# Ergonomic Investigation Not Inspection

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- **We Conduct Our Investigation the Way We Think You Might Conduct Yours**
  - Injury/Illness data (rates, severity, trends)
  - Walk-through and Interviews
  - Video Taping
  - On-Site Visit from Experts
  - Evaluation of Interventions



# Ergonomics Inspections

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- Required to Maintain a Workplace Free of Recognized **Hazards**
- General Duty Clause also Known as 5(a)1
  - Hazard Must:
    - Exist
    - Be Recognized
    - Be Capable of Causing Death or Serious Physical Harm
    - Have Feasible Abatement



# 5(a)(1) Requirement Hazard Must Exist

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- Ergonomic risk factors are present & **employees are exposed**
  - Repetition, Force, Awkward Postures, Contact Stress, Vibration
- Injuries, Illness, or pain consistent with those risk factors



# 5(a)(1) Hazard Must be Recognized

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## ■ Means of Recognition:

- Employer
  - Injury and Illness Logs
- Industry
  - Trade journals
- Trade groups
- Unions
- Insurer
- Guidelines



# **5(a)(1) Requirement Causing Serious Physical Harm**

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- **Interferes with the normal life functions**
- **Successive days away from work**
- **Days on light or restricted duty**
- **Surgeries**
- **Transfer**

# 5(a)(1) Requirement Feasible Abatement

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- Feasible is a financial matter as well as a technological matter
  - Engineering
  - Administrative or Work Practice
- Can we reduce any of the five risk factors
- Are others in the field operating differently



# Possible Outcomes

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# So What Do We Expect

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## ■ Do What You Can Do

Things alter for the worse spontaneously, if they be not altered for the better designedly.

Francis Bacon

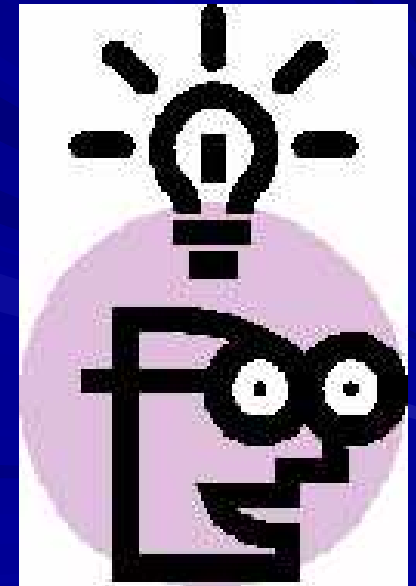
## ■ Develop a Plan of Action



# Consider an “ate” Plan of Action

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- Educate
- Cooperate/Communicate
- Evaluate
- Negotiate/Remediate
- Re-evaluate
  
- You Can't Do It Alone



# Educate

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- Now You Know and Knowing is Half the Battle

G I Joe

# Educate - What

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## ■ Reporting and Recordkeeping

### ■ Not a Burden, An Opportunity

- All staff – symptoms and reporting procedures
- Early and accurate reporting

### ■ Details

## ■ Provide Basic Ergonomic Understanding

- All involved (operators, supervisors, administrators, purchasing, maintenance, sales (SYSCO))



# Educate

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- **Provide Advanced Training to Develop Internal Resources**
  - Safety and Health Committees
- **Identify Outside Resources (initial evaluation, follow ups, medical providers)**
- **Outside Providers - Familiarity**
  - Understand the nature of the job
  - Develop return to work program
  - Assist with remediation
  - Suppliers (product modification)



# Educate

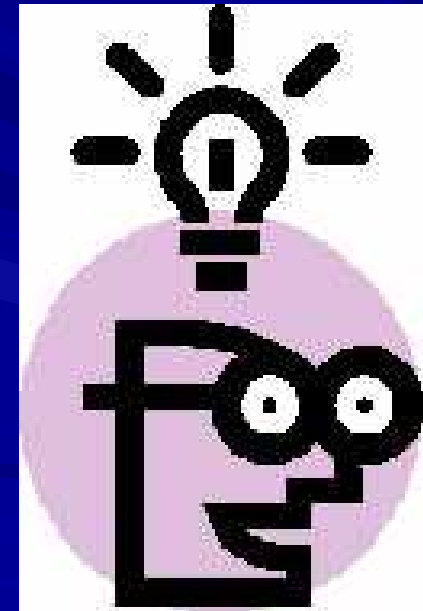
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## ■ Task Specific

- How to do each job under specific circumstances
- Work restrictions

## ■ Frequency of Training

- New Hires
- New Jobs
- Job Modifications
- **Golden Moment**



# Cooperate

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**A dwarf standing on the  
shoulders of a giant may see  
farther than a giant himself**

**Robert Burton**

# Cooperate

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- **You Can Not Do This Alone**
- **Communicate with staff**
  - **Seek input for hazard identification**
    - **Sales Staff, Outside workers, Safety and Health Professionals**
  - **Seek input in developing hazard correction**
    - **Same as Above and**
      - **Vendors**
      - **Consultants**

# COOPERATE

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- **Safety and health/ergonomic committee**
- **Think inside and outside the box**
  - Look to other industries or occupations for ideas
  - Governmental Agencies
  - Universities – Class Projects



# Evaluate

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**You can observe a lot by just watching.**

Yogi Berra

# Evaluate/Co-Operate

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- **Utilize Employees and Management**
  - **Get Supervisors and Safety Staff Involved**
    - **Make periodic visits To Sites**
    - **Ride Along - Shows it is Our Project**
    - **When Process or Product Changes**
  - **Utilize Video to Take Site To Committees**
    - **Helps Make Task Specific Video Training**

# Evaluate

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- **All Current Operations and New Proposals for Change**
  - **Sales/Management/Safety - New Areas/contracts, Changes, Proposals**
  - **Operators - Current Operations**
  - **Management/Safety - Evaluates Staff and How they are Performing A Task**

# Evaluate

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- **Ergonomic Stressors Associated With all Aspects of the Task**
  - Awkward Postures
  - Forceful Exertions
  - Repetition
  - Contact Trauma
  - Vibration
  - **Combinations of all of the Above!!**

# Evaluate

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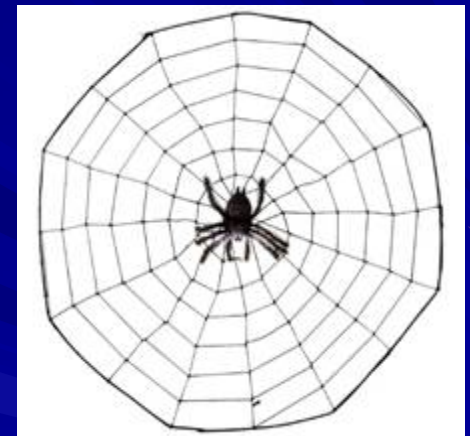
- **Injury/ Illness Logs**
- **Internal documents**
  - **Union Evaluations**
  - **Safety and Health Reports**
  - **Reports from other Company Facilities**
- **Complaints**
- **Medical Logs**
- **Insurance documents**
- **Trade Journals**

# Evaluate

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## ■ Develop and Use Evaluation Tools To Assess Ergonomic Parameters

- SYSCO – Sales Checklist of Every Delivery Site
- ErgoWeb – Delivery Site Checklist - <http://forum.ergoweb.com/cgi-bin/forum/gforum.cgi?>
- University of South Florida - <http://hsc.usf.edu/~tbernard/ergotools/>
- OSHA Web Site – [www.osha.gov](http://www.osha.gov)
- NTSP Site - <http://www.telsafe.org/ntsp/ergonomics.htm>



# Evaluate

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## ■ Awkward Postures

### – Bending

- Torso Forward

- Neck Back

### – Twisting

- Limited Room to Move Feet for Better Positioning

- Neck to look at Monitor



# Evaluate

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## ■ Awkward Postures

### – Reaching

- In Front

- To the Side

- Behind

- Elbows Above Shoulder

### – Especially With A Load In the Hand



# Evaluate

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- Awkward Postures

- Wide Hand Postures

- Tools

- Wrist Up, Down, Sideways

- Tools

- Position of Operations



# Evaluate

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## ■ Forceful exertions

- Lifting and Maneuvering
  - Limit 50 pounds
- Pushing, Pulling:
  - >50 # needs assist
- Forceful pinch grip to activate crimpers, pliers



# Evaluate

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## ■ Repetition

- Same motions every few seconds
  - Crimping
  - Screwing
- Prolonged Shifts
  - Need to incorporate rest periods in extended shifts



# Evaluate

---

## ■ Repetition

### – Prolonged Exertions

- Standing
- Turning Neck
- Lifting Arms
- Holding pinch grips
- Eye Strain



# Evaluate

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## ■ Contact Trauma

- Ladders on Shoulder
- Keyboard or Equipment surfaces

## ■ Vibration

- Saws
- Hammer Drill



# Evaluate

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- **Concentrate on Areas Where Two or More Factors Are Present**
  - Repeated Lifting
  - Forceful Gripping with Vibration
  - Prolonged Periods of Lifting Arms
  - Lifting While Bent Over
  - Pushing and Pulling with Directional Change or Start and Stop

# Remediate

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- **Engineering Controls**
  - Preferred since compliance is automatic
- **Administrative Controls – Work Practice**
  - If These Are to be Used Must Be Monitored Continually and Need Extensive Training
- **“Ergonomic Guidelines for Common Job Functions Within The Telecommunications Industry”**

# Remediate

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- **Engineering Controls**
  - Strap on Wheels for Ladders
  - Ergonomically Designed hand Tools
  - Powered Tools – Electric screwdrivers
  - Slide in Connectors
  - Transport Assists for Heavy Items
    - Hand Trucks, Dollies
    - Minimize Debris
    - Plan Path of Travel



# Remediate

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- **Engineering Controls – Continued**
  - **Lighter Weight Tools and Materials**
  - **Self Lowering Truck Racks**
  - **Telescoping Truck Boxes**



# Remediate

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## ■ Administrative Controls

- Crewing
  - Objective measures
- Training on “Proper” Techniques
- Can Some Items be Pre-assembled in Fab Units?
- Scheduling Jobs to Minimize Travel Time



# Remediate

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- **Administrative Controls –**
  - **Rotation to different procedure based on evaluation**
    - **Evaluate to determine risk factors**
    - **Other days – lighter load**
    - **Additional Days Overtime Not Longer Days**
    - **Break Schedules**

# Negotiate

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**You Will Never Get What You Don't Ask  
For**

**Brett Besser**

# Negotiate

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## ■ Based on Evaluation

### – Internal Entities

- Unions
- Other Staff
- Purchasing
- Maintenance
- Leasing, building, land acquisition

### – External Entities

- Customers
- Vendors
- Other Company Work Units

# Negotiate

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## ■ Internal Entities

- **Modify to Create Adjustability – Vertical Handles**
- **Reduce shifts – Develop Rotations**
- **Routine Maintenance or Modifications – Hand Trucks**
- **Buy or Build Vaults to specs**
- **Tools in sizes**
- **Routes – Response Times**
- **Seated – vs- Standing**

# Negotiate

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## ■ External Entities

- Packaging – Wire, cable, connectors
- Adjustability
- Access
- External –vs- Internal Cable Trays
- Determine Customer Needs

# Re-evaluate

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- **When you are through changing, you are through**

Bruce Barton

- **Any change, even a change for the better, is always accompanied by drawbacks and discomforts**

Arnold Bennett

# Program Evaluation

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- **Reevaluate efforts continuously to check for success or need for renewed efforts.**
  - **Management**
  - **Operators**
  - **Other staff**
  - **Customers**
  - **Maintenance**

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# ALWAYS THINK SAFETY BEFORE LIFTING A HEAVY LOAD

Legge 626. Menzione speciale



# Contact Information

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