Irrigation System Accidents

• There are different types of potential accidents that can cause injury or death when working on or around irrigation systems including:
  – Electrical Contacts/Accidents
  – Contacts/Entanglements with Moving Parts
  – Chemical Exposures/Poisonings
  – Falls from the System
  – Drowning
  – Physical (Head, Eye, Ear, Hand & Foot) Accidents
Irrigation Hazard
Electrical Contacts

• Electrical safety concerns related to irrigation systems are important because:
  – Pumps and other equipment operating in a wet or damp environment increases the chance of equipment failure if parts become wet.
  – Personnel working around this equipment are often wet or damp so their susceptibility to electric shock is greater.
  – Many of these systems may not have had proper maintenance performed on them over the years.
Irrigation Hazard

Electrical Contact Accidents

- Faulty Equipment & Wiring Installations & Maintenance.
- Unsafe Work Practices
  - Failure to turn off power before working on system.
- Overhead Power Lines
  - Irrigation Pipe, Standing on Systems, Spraying Water on Overhead Lines.
- Lightning
Electrical Safety Goal

- Don’t let any part of your body be a path for electricity to flow through you.
Back-Hand the System

- Make it a practice to always lightly brush the BACK of your hand against any irrigation system metal structure or enclosure before grasping with your palm.
- Grasping an energized metal component will cause your hand to clamp around it.

Don’t test this way!  Do Test This Way.
Broken/Separated/Corroded Electrical Conduit
Electrical Enclosures

Note: Openings are unsealed and it is not installed at the required height or mounted to a permanent structure.
Equipment & Installation Problems
Irrigation Hazard
Overhead Power Lines

- Irrigation concerns with overhead power lines include:
  - Lifting aluminum irrigation pipe into overhead power lines.
  - Standing on irrigation systems while performing maintenance near overhead power lines.
Irrigation Hazard
Spraying Water on Power Lines

- Don’t touch irrigation systems while they are spraying water on power lines.

End gun spraying power lines & transformers
Irrigation Hazard - Lightning

- Stay away from irrigation machines during storms. They make great lightning rods!
Electrical Disconnects
Irrigation Machine Disconnect
Irrigation Hazard - Entanglements

- Do not approach or work around unguarded power take-off shafts, belts and other power transmitting devices.
- Alert others in the vicinity and the owners or operators to the hazard.
- Avoid wearing loose clothing or long hair in the vicinity of rotating equipment.
Irrigation Hazard - Entanglements

• Be alert to unguarded power take-off shafts, belts, and other power transmitting devices.
• Replacements and retro-fit guards are available from dealers for older machines.
Irrigation Hazard - Entanglements
Irrigation Hazard - Run Overs

• Keep vehicles and other equipment out of the paths of self-propelled machines.

• Many of these machines have excellent traction and can “climb” over and crush fairly large objects like cars, pick-ups, and even small buildings due to their weight.

It’s not funny when it’s your vehicle.
Irrigation Hazard
Chemical Exposure/Poisoning

- Increased use of chemigation/fertigation through irrigation systems has resulted in increased numbers of chemical exposures & poisonings.
- Chemical exposures can be through exposure to system water, standing water, crops, or drinking water from systems used for this purpose.
Other Dangers

• Falls from Equipment
• Drowning – Irrigation Ponds
• High Pressure Water and/or Fuel
• Injuries to Head, Eyes, Hands, and Feet
Precautionary Measures

- Gloves
- Hardhat
- Ear Plugs
- Safety Glasses
- Proper Clothing
- Bio-Security (wastewater application)