Job Safety Plan for MRO Phase 1 New
Utility Distribution Trench

New Mexico Institute of Mining & Technology

Magdalena Ridge Observatory

May 30, 2005
Job Safety Plan for MRO
Phase 1 New Utility Distribution Trench

Narrative-
This project, is the construction of a new utility trench along Magdalena Ridge, beginning at the junction box on the road to South Knoll, continuing eastwards to the intersection with the Langmuir Lab road, crossing the Langmuir Lab road and then north along the east side of the road to the Single Telescope site where it will terminate as shown on the plans.

OSHA’s Perception of a Successful Program identifies six core elements:

1. Detailed Written Site Safety Assessments
2. Detailed Written Safety Procedures
3. Extensive Employee Training Programs
4. Periodic Reinforcement of Training
5. Sufficient Discipline Regarding Implementation
6. Follow-up

As with all of our construction projects, we seek to be a leader in safety and health. This project follows the same desire and management. Our first priority is SAFETY.

As a sidenote, this document will at times refer to other safety assessments which are attached. All of these materials can are available from the Safety office at 505-835-5401 and from the MRO Construction Coordination and Safety Management office at 505 835 6808. These are some of the following references:

1. Construction Plans, as drawn by Engineers Inc.
2. Our Safety plan, and more specifically, our Excavation plan
3. Our PowerPoint training program, tailored for this job
4. Our Hazard analysis and evaluation of the control in place to prevent loss to people and/or property.

Working numbers

There will always be a minimum of three employees at the job site during all trenching and excavation operations.

Emergency Procedures

In the event of an emergency, the NMT Campus Security Officer assigned to CCSM to monitor the job site will be contacted by radio. This will necessitate a radio at the job site.
In the event of an accident, we will evacuate the work area and NMT Campus Police Officer will immediately contact the Campus Police Dispatcher. NMT employees are not adequately trained in rescue techniques other than in the use of personal protective equipment and the fall protection equipment that we use. We recognize the Socorro City Fire department to be the expert and appreciate their assistance if called upon. We have met with our NMT Campus Police to establish their cooperation and protocol.

In the event of an accident, These are our emergency procedures:

- We will immediately radio the Campus Police Dispatcher via the CCSM Campus Police officer to alert The Socorro Fire Department
- If a cell phone signal is available, we will also call campus police at 835-5434.
- We will relay the following minimum information:
  - The exact location of the accident
  - The number of potential injured parties
  - The nature of the emergency
  - The exact physical dimensions of the shoring on site.
  - Any special hazards we are currently working with
- We keep all life-support and dewatering systems if at all possible
- All workers will be cleared away from the equipment.
- The employee leading the crew, or the individual with the most information, will ensure that all workers comply with these instructions.

The intent is to save TIME.

What Not to do:

- Don’t Panic! It won’t help anything.
- Control would-be rescuers.
- Don’t sacrifice anyone else.
- NEVER attempt to dig some out using motorized equipment.

Key Personnel

David Westpfahl 835 6805 (Deputy MRO PI)
Pierce Howell 835 6965 (MRO Site Project Manager)
Ifan Payne 835 6808 and cell: 505 363 5455 (MRO CCSM Manager)
Jim Shaffner, 835-5533 (Physical Plant Director)
Leo Guerra 835-5533 (Construction Manager)
Mark Waggoner 835-5401(Associate Director-Eng. & Safety)
John Murphy or Aaron Murphy (contact by radio or front desk 835-5533) Lead Operators
It is our policy that ANY NM Tech employee can call a temporary STOP to this project if they see a potential hazard.

**Soil Classification**
Our soil classification has been determined of that of “C”. We are in a high mountain environment and our soil is a mixture of cobbles, rocks and soil. For the purpose of the safety of this project, we have classified (start to finish), Type C. We intend to slope the soil to a degree where shoring is not needed.

**Spot Procedures**
Due to the long period of time over which Magdalena Ridge has been used by Langmuir Atmospheric Laboratory and the many underground utilities that we know exist and/or once existed we have used a triple redundancy.

Our first line of defense has been our internal resources from Langmuir Lab who have spotted power and data lines within the work zone. This was done on the 26th of May 2005.

Our second source is NM1Call, which translates to 1-800-321-2537.

**Traffic**
The Phase 1 trenching work parallels, a few feet to the east of, Forest Road 235 along the crest of Magdalena Ridge. Traffic is already being regulated on Forest Road 235 by the Campus Police officers assigned to CCSM. With the commencement of the trenching and excavation operation traffic passing the work zone along that road will be regulated by the worker designated as the flag man.

**Daily Safety Procedures**
Every day will begin with a 10 to 15 minute safety meeting. This will also be an open forum for any issues that have come up, but primarily a discussion of the hazards that we will be facing that day. There will be a daily excavation inspection. This is a tailored 36 item excavation list that a “competent individual” will fill out. These will be reviewed daily and filed in the safety office.

**Training**
Only “excavation trained” employees will be allowed in the work zone. Our training program will be provided at any time deemed necessary by any of our authorized
competent employees. Our safety program is available to review for our training methods and procedures.

**Job Hazard Analysis**

**Potential hazards controls implemented**

**Underground utilities:** Spot system, stakes, and spotters in the trench.

**Primary failure of dirt:** Avoidance of using vertical digging. We plan to step the trench out so that there is little to no exposure to primary or secondary failure to the dirt.

**Weather (summer storms):** Immediate stoppage of work (see the MRO Storm Safety Plan for Constructing on Magdalena Ridge). If a storm or rain occurs overnight, then the excavation inspection sheet and two competent employees will determine if it is feasible to dig that day. If it is not safe, we will not dig.

**Falls:** Good housekeeping. “Marked” materials; Strict access; Absolutely no bridge structures allowed on this job. Life safety controls, for depth of trench; Anything deeper than 4 feet will follow the OSHA code. Again, we plan to step and slope because we are in cobbled areas.

**Vibration from road traffic:** Traffic will be slowed to minimize vibration.

**General Liability:** Fencing and construction zone protection 24/7 & campus police protection 24/7

**Unauthorized personnel in the construction zone:** Polite escort off the premises. We will use our internal email system to alert the general public of progress on this project.

Note: This is a Work In Progress Document that will without doubt change during the course of the project. I do encourage safety suggestions and will implement any procedure or process that improves the safety of our employees.