



EXELIS

THE POWER OF INGENUITY

Safety is Everyone's Responsibility!

Employee Participation

Employees should be involved in activities and decision making related to safety. Examples of employee participation include:

- Immediate reporting of mishaps and close calls
- Notify Safety Manager of all planned changes to facilities or operations that have Environmental, Safety and Health impacts
- Assisting in Job Safety Analysis or other hazard analysis
- Participating in safety committee
- Attend safety training
- Assist in workplace inspections (SLR Monthly Inspections)



Workplace Analysis

Active means of workplace analysis to identify ES&H requirements and hazards. Examples include:

- Perform baseline hazard analysis
- Complete workplace inspections
- Conduct ES&H audits/risk assessments
- Develop Job Safety Analysis for evaluation of routine tasks
- Manage change to identify and control hazards systems, tasks, materials, equipment, and processes are modified

Management Commitment

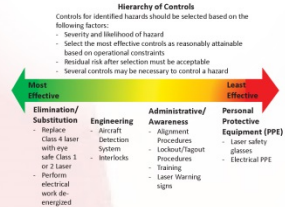
Management Commitment to personnel safety is foundation for an effective safety and health program. Demonstrated by:

- Publish Policy Statement outlining commitment to Safety Program
- Make resources available to support safety program (financial and human capital)
- Develop annual safety goals and objectives
- Establish safety responsibilities for all personnel
- Provide oversight of contractors

Hazard Prevention and Control

Safety program must have a system to eliminate or control hazards identified to prevent injuries, illnesses, and property damage before they occur.

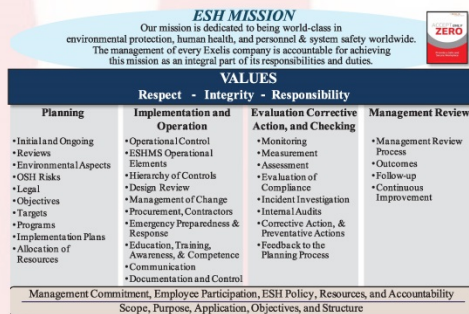
- Establish controls based on the "Hierarchy of Controls" and risk assessments
- Perform incident investigations and root cause analysis
- Track hazard control implementation to completion and verify effectiveness
- Ensure Emergency procedures are in place for all sites



Key Elements of an Effective Safety Program

Overview of the Exelis Environmental, Safety and Health (ES&H) Management System

Provides the process to implement the key elements illustrated above



Training and Certification

Training is important to ensure personnel have the ability to recognize hazards and implement required controls for injury prevention at SLR stations.

- Employer should certify personnel to perform hazardous tasks to verify they have the knowledge, skills, and ability to perform the function
- Important Safety training at SLR Tracking Stations:
 - Laser Custodian and Users
 - Qualified Electrical Worker
 - Lockout/Tagout
 - First Aid/CPR/AED
 - Hazard Communication



SLR Top 5 Identified Hazards from Safety and Health Risk Analysis



Control of Hazardous Energy

Hazardous energy present on site

- Electrical equipment
- Rotational equipment – mount, radar, trailer doors, etc.)

Controls

- Implement Lockout/Tagout program
- De-energize equipment prior to service
- Verify hazard is controlled prior to work
- Train personnel on hazards and Lockout/Tagout procedures
- Develop equipment specific Lockout/Tagout procedures to ensure personnel follow all the steps

Mishaps from not controlling hazardous energy typically lead to severe injuries. Employees injured by hazardous energy lose on average 24 workdays per event.



MOBLAS Electrical Safety

SLR Electrical Hazards

- Laser power supply and capacitors
- Other equipment testing and troubleshooting >50 volts

Controls

- De-energize and lockout equipment prior to performing service; live work should be limited to necessary testing and troubleshooting
- Ensure only Qualified Person perform electrical work or testing and troubleshooting
- Wear appropriate PPE and tools for the voltage for testing (NFPA 70E provides consensus standard for U.S.)
- Ensure all electrical components and circuits are guarded and marked
 - Do not wear jewelry, watches, or other metallic items



Over 200 worker fatalities occur each year in the United States alone from electrocution – Bureau of Labor Statistics 2003-2009



Fall from Heights

Fall Hazards

- Work on SLR trailer roof
- Ladder use

Controls

- Install railings in place prior to performing work on roof
- Inspect ladders prior to use
- Ensure ladders are Type IA (Industrial)
- Secure ladder in place
- Follow manufacturer instructions for safe use
- Setup ladder with 1:4 ratio
- Train personnel working at heights



25 percent of the 668 fatalities from slips, trips, and falls in the United States occurred from 10 feet or less – Bureau of Labor Statistics 2013



Non-ionizing Radiation (Laser)

Hazard

- Stations use Nd:YAG Class IV laser and HeNe Class IIIb lasers
- Electrical hazards
- Eye hazard (personnel/pilots)
- Chemical hazard (only for dye lasers)
- Potential RF exposure (SLR radar exposure below exposure limits)

Controls

- Designate a Laser Safety Officer (LSO) to implement Station Laser Program
- Provide training and verify qualifications for laser custodians, operators, and LSO
- Implement fail safe engineering controls to protect personnel and aircraft
 - > Laser Hazard Reduction System (LHRS) – Aircraft Safety System
 - > Examples include door interlocks, beam blocks, shutters, etc.)
- Post laser signage and develop administrative procedures (alignment procedures, etc.)
- Select laser eye wear. Factors to consider:
 - > Risk assessment based on laser hazards (exposure time, etc.)
 - > Optical Density
 - > Other factors (e.g., damage testing, transmittance)
 - > Perform monthly inspection of safety devices



Emergencies – Are You Prepared!

- Develop emergency procedures and ensure station personnel are ready for emergency situations
- Identify possible emergency events and complete a risk assessment (medical emergencies, fire, earthquake, local fauna, hurricane, etc.)
- Review emergency procedures annually
- Perform table top exercises to verify preparedness

"There's no harm in hoping for the best as long as you're prepared for the worst."
– Stephen King, Author

Lone Operator

Hazard

- Many SLR stations are operated by a single crew member and working alone presents potential hazards
- No one available to call emergency services or render assistance

Controls

- Complete risk assessments for tasks and draft guidance
- Establish process to ensure accountability after shifts
- Determine low risk tasks - What work can be performed safely alone – tracking operations
- Determine high risk tasks that must be performed with at least two persons on station or with other controls in place – electrical testing and troubleshooting
- Identify tasks that may require coordination with personnel off-station prior to and immediately following work
- Ensure there are no risks to individual personnel that put them at greater risk under working conditions

