

# CONTRACTOR SAFETY ORIENTATION





# Introduction

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- Orientation is given to ensure that contractors are working safely and in accordance OSHA regulations and Lockheed Martin Aeronautics (LM Aero) Contractor Environment Safety & Health Handbook (PM-8013). PM-8013 is received by all general contractors prior to site arrival, and can be obtained from the internet
- Contractors may be instructed to **stop work** if a potential risk to personnel, the environment, equipment, or facilities is observed at LM Aero
- Any willful or repeat violations may result in work being stopped and the offending contractor employee being removed from the worksite

# LM Aero Certifications

- LM Aero's ESH Management System is registered to the ISO 14001 Standard
- ESH Policy Commitments:
  - *Protect people and the environment*
  - *Prevent injuries and incidents*
  - *Ensure full compliance*
  - *Prevent pollution and conserve resources*
  - *Integrate ESH into the business*
  - *Promote continual improvement*
- A person performing tasks that potentially cause ESH impacts shall be competent based on education, training or experience and shall retain records (Contractors included)
- Follow Environmental requirements (hazardous waste, air quality, water quality, spill response, biodiversity)





# ESH Contractor Questionnaire

- Contractors who perform construction, maintenance, equipment installation, etc. must submit a “Contractor Questionnaire” (CQ)
- The CQ is supplied by the LM Aero Buyer or the LM Aero point of contact
- The following can be accessed on the Material Management’s website and the address is shown on the CQ :
  - Contractor Environment Safety & Health Handbook
  - Contractors ESH Site Orientation
  - LM Aero Palmdale's annual “Asbestos Notification”
    - ❖ Acknowledgement required on CQ

Taken from last page of CQ

The video and ES&H Contractor Handbook can be accessed from the Material Management web site at: ["http://www.lockheedmartin.com/us/aeronautics/materialmanagement/scm-terms/scm-terms\\_esh.html"](http://www.lockheedmartin.com/us/aeronautics/materialmanagement/scm-terms/scm-terms_esh.html).

- To view the Contractor’s ES&H Handbook, under Aeronautics click on “Contractor ES&H Handbook”.
- To view the Contractor Safety Briefing/Orientation, under Environment Safety & Health Orientation click under the site you are working.

#### Asbestos Notification (California)

- By checking here, contractors acknowledge receipt of California’s Notification of Known Asbestos Containing Construction Materials locations at the Palmdale site and confirms that their employees and/or subcontractors have been notified of asbestos hazards.

Lockheed Martin Aeronautics Company  
Material Management Center

LOCKHEED MARTIN

Date

Subject **Environment Safety & Health - Contractor Questionnaire**

Attention Lockheed Martin Aeronautics Contractor

**URGENT**  
Inadequate or unsatisfactory response to the **Environment Safety & Health (ESH) Contractor Questionnaire** may result in Contractor’s removal from the bid list or non-renewal of contract.

As a potential contractor, Lockheed Martin Aeronautics requires the contractor to fill out the information below and return to the Lockheed Martin Aeronautics Buyer.

### ESH Contractor Questionnaire

Part I – General Information

Company Name

Company’s Address

City, State, Zip

Company POC Email

Work Site Location  Fort Worth  Marietta  Palmdale  Other

Contractor’s ESH Manager (or Person(S) Responsible for Contractor’s Environment Safety & Health Program)

Name  Email  Phone

Name  Email  Phone

1) North American Industry Classification System (NAICS) code

2) Number of employees (company-wide)

3) Calculate OSHA/CalOSHA Overall Recordable Case Rate company-wide for the last four years. To obtain this number, add the total number of cases entered on lines G, H, I and J from OSHA/CalOSHA Form 300/300A then multiply the total number of cases by 200,000 and divide by hours worked in specified year.

Year	Overall Recordable Case Rate
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
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Page 1 Important Notice: A hard copy of this blank form may not be the version currently in effect. The current version of this form is the version in the LM Intranet. 12100-0322010



# Contractor ESH Handbook

- LM Aero uses this handbook as the safety policy for all work performed on LM Aero premises by contractors
- See the external website for updated information. “current revision”
- Note: some requirements are site specific; e.g. “Palmdale Only”.

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 The current version is ALWAYS the version on the Lockheed Martin Network.

## Contractor Environment Safety & Health Handbook

This handbook has been published by Lockheed Martin Aeronautics Company and applies to all LM Aero locations including satellite plants. Each site is authorized to make appropriate changes such as department names, company address, and emergency telephone numbers, etc., as long as the basic contents remain unchanged.

This publication is a digest of basic applicable standards and should not be considered as a substitute for provision of the Occupational Safety and Health Act of 1970 or other local, state, and federal occupational safety and health programs.

Any discrepancy between this publication and regulatory and contractual requirements shall be resolved by using the most stringent requirement.

Issue	Date	Description or Reason for Change
36		<ul style="list-style-type: none"> <li>• Removed all references to “Fort Worth only” including Attach H; Added Fort Worth Safety Manual as Attach H</li> <li>• Added ESH-04 requirements for contractor notifying LM of OSHA required reporting of fatality and/or injuries (page 12)</li> <li>• Clarified vehicle and equipment refueling while indoors (page 27)</li> <li>• Fixed formatting issues and page numbering</li> </ul>
35	December 2019	<ul style="list-style-type: none"> <li>• Update form for Fort Worth 12745 to 13126 (page 10)</li> </ul>
34	October 2019	<ul style="list-style-type: none"> <li>• Revise evaluation process for subcontractors (page 10)</li> </ul>
33	October 2018	<ul style="list-style-type: none"> <li>• Added blue light requirement for contractor vehicles (Fort Worth)</li> </ul>
32	August 2018	<ul style="list-style-type: none"> <li>• Replaced ESH website links</li> <li>• Added Electrical PPE violation policy</li> <li>• Added concrete waste requirement</li> <li>• Added contractor vehicle parking restriction (Palmdale)</li> <li>• Updated wording for Asbestos</li> <li>• Added gate pass rule change (Palmdale)</li> <li>• Updated labeling asbestos requirement (Palmdale)</li> <li>• Changed welding shield requirement</li> <li>• Added EMCS number</li> <li>• Removed sentence from Attachment B</li> <li>• Added energized work permit</li> </ul>
31	October 2017	<ul style="list-style-type: none"> <li>• Changed sentence under fall protection requirements to read: “Follow the OSHA standard 1926.502 and Cal/Osha Article 24 paragraph Fall Protection. Contact safety with any questions regarding these requirements. Roof access plans require Approval from ESH.”</li> </ul>
30	July 2017	<ul style="list-style-type: none"> <li>• Revised Fall Protection Requirements</li> </ul>
..	..	



# Contractor ESH Handbook - cont.

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- LM Aero specific Environment Safety & Health (ESH) requirements are listed in the Contractor ESH Handbook
- Contractors and their sub-contractors, if applicable, shall report injuries that require medical attention or OSHA notification to the LM POC within 8-hours of incidence.
- Contractors shall document the following as a minimum:
  - *ESH Site Orientation for all personnel prior to working on site*
  - *Competent person(s) (ex. excavation/trenching, scaffolding, etc.)*
  - *Specific OSHA required training (ex. fall prevention, confined space, energy control program (Lockout/Tagout), forklift etc.)*
- Contractors shall identify the following with their company name:
  - *Company vehicles including forklift, aerial-lifts, etc.*
  - *Dumpsters/roll-offs*
  - *Sea-land containers*
  - *Job-site storage containers*

# Contractor ESH Handbook

- Contractors shall submit the following to ESH:
  - Cal-OSHA’s yearly Excavation/Trenching permit if applicable; “yearly”
  - LM Aero’s “Contractor Confined Space Information Verification” form if applicable; “yearly”
  - Submit a CQ to LM Aero ESH department for all sub-contractors hired by you “before work starts”
  - Submit usage of painting and coating products on LM Aero Form 10977 to ESH “monthly”
  - Submit Safety Data Sheets to LM Aero POC and ensure they are approved by ESH “before using the chemical(s) on site”
  - Submit to LM Aero POC “Hazardous Material Review Submittal Form 10121 “for all chemicals used”

**Note: See handbook for additional requirements**



Environment, Safety & Health  
Protecting You and Your World

Confined Space Verification Form

Hazardous Material Review Submittal



# Contractor Safety Rules Handout

- All contractors “should” carry the Contractor Safety Rules handout with them because it contains important information and emergency phone numbers

equipment) carrying hazardous liquids or gases under pressure until the controlling switches and valves have been identified, energy sources positively locked out or otherwise controlled, and appropriately tagged.

- Contractors servicing LM Aero machine y and equipment subject to lockout/tag out requirements shall follow LM Aero LOTO procedures (call 2-5191 to obtain), using their own locks and tags.



- Notify the POC before locking out LM Aero equipment and after completing the work so equipment power can be resumed.
- Do not enter an electrical control room unless escorted by the LM POC or other authorized LM Aero representative.

#### PROTECTIVE CLOTHING AND EQUIPMENT

- Wear personal protective equipment (PPE) - such as hard hats, safety glasses, safety shoes, and respirators - when required by the work being done.
- Contractors will furnish required PPE for their employees, train employees, and meet all applicable requirements for personal protective clothing and equipment.



#### TRAFFIC RULES

- Observe all traffic rules. Speed limits (23 mph on roadways and 10 mph in parking lots unless otherwise posted) are strictly enforced.
- Do not park in fire lanes or other unauthorized areas. Do not drive on flight line. Do not park in or drive into buildings without your POC's approval.
- Turn vehicle off and set parking brakes when left unattended.
- Wear seat belts
- Do not use hand held cell phones while driving - use a hands-free device or pull over.



#### TRAINING

Training records for required safety training, including certifications for high risk activities (Confined Space Entry, Excavation/Trenching, Fall Protection, Hazardous Energy Control, High Voltage Electrical Work, Scaffolding, and Steel Erection) and safety plans must be available for review at all times.

#### WARNINGS AND BARRICADES

- Contractors shall erect and properly maintain at all times, necessary safeguards to protect Contractor personnel, LM Aero employees, and others. Isolate work areas from LM Aero operations and employees by using warning tape, barricades, or another effective means.
- Before beginning work, inform the LM POC of any work posing a potential danger to LM Aero personnel and obtain written authorization from the POC to proceed.



Lockheed Martin  
Aeronautics Company - Palmdale

ISSUE DATE: September 2011  
APPROVAL: Michael Haro

P11-1155562

11772-09202011

LOCKHEED MARTIN AERONAUTICS COMPANY - Palmdale

## CONTRACTOR SAFETY RULES

For additional information refer to your Contractor Environment, Safety & Health Handbook (PM-8013) <http://www.lockheedmartin.com/data/assets/6686.pdf>

**LM AERO TAKES SAFETY VERY SERIOUSLY. FAILURE TO COMPLY WITH THESE RULES MAY RESULT IN WORK STOPPAGE, AND IN SOME SITUATIONS, BEING REMOVED FROM LM AERO PROPERTY AND EXCLUSION FROM FUTURE BUSINESS.**

#### IMPORTANT LM AERO NUMBERS:

- Environment, Safety & Health (ESH)	2-4302
- HazMat	2-2314
- Facilities Protection	2-2010
- Fire Prevention	2-2230
- LM POC	

#### IN CASE OF EMERGENCY:

Report a spill, fire, medical or other emergency to LM Aero's Security Forces Control Center at:

**Palmdale - Plant 10**, 911 from LM Aero phone system, Sites 2, 7 or 8 or 661-572-2010 from cell phone

**Helendale** 4200 from LM Aero phone system, or 760-952-4200 from cell phone

**Rye Canyon** 9-572-3473 from LM Aero phone system, or 661-572-3473 from cell phone

Identify the nearest emergency exit route in the work area. During an alarm activation (alarm sounds like horn, looks like flashing light), evacuate the building using the nearest exit, and report to the Building Manager in orange vest. Do not re-enter building until the all-clear is given.

#### ASBESTOS AND LEAD

Immediately report any contact with suspect or confirmed asbestos or lead-containing materials to your Lockheed Martin Point of Contact (POC). Cease work immediately until your POC gives approval to resume work.

#### CONFINED SPACE ENTRY

Do not enter posted confined spaces (such as tanks, pits, vessels, sewers, etc.) without completing a Contractor Confined Space Entry Checklist and obtaining approval from ESH and your LM POC. If unsure whether a confined space exists, contact ESH. Provide proof of training on request.

#### CUTTING AND WELDING

Before doing any hot work (such as welding or torch cutting outside of a welding booth), obtain a hot work permit from LM Aero's Fire Prevention Dept. Use welding screens to prevent flash exposure to others. Fire watch employees must be trained in their responsibilities and in using equipment (such as fire extinguishers.)



#### ELECTRICAL SAFETY

Any electrical work and electrical equipment brought onto LM Aero property must comply with applicable Cal-OSHA standards and electrical codes. Electrical cords must be in good condition (not frayed, cut or exposed wiring); no openings in junction boxes.



#### ELECTROMAGNETIC RADIATION

The following must be coordinated through ESH or your LM POC: Any work involving radioactive materials, radiation producing machines (x-ray), or Class 3B or Class 4 lasers.



#### ENVIRONMENTAL COMPLIANCE

- Obtain written approval from ESH before discharging anything to sinks, floor drains, storm drains, or sewers.
- If your equipment operations require AQMD permit(s):
  - Maintain copies on-site and make them available to LM Aero upon request;
  - Follow permit conditions/other rules
- Contact LM Aero HazMat for disposal of ALL contractor-generated hazardous waste in the Scope of Work.
- Report all spills IMMEDIATELY to HazMat and your LM POC.
- Notify ESH before:
  - Beginning work that disturbs an acre or more of land;
  - Purchasing, receiving, building, installing, altering, relocating, replacing or modifying equipment or processes that emit air pollutants;
  - Installing or constructing equipment that generates/creates industrial wastewater.
- Do not dispose of any waste/debris on LM Aero/Air Force property without authorization from ESH/POC.



#### EXCAVATIONS

Obtain appropriate Cal/OSHA permits for excavations, and provide required shoring where required. Provide proof of training on request.

#### FALL PROTECTION

Use harnesses, lanyards and other required equipment to protect against fall hazards. Equipment must be inspected and employees trained - provide proof of training on request.

#### HAZARDOUS MATERIALS

- Do not bring hazardous materials into the facility unless previously approved by ESH/your POC.
- Material Safety Data Sheets (MSDS) for hazardous substances brought onto LM Aero property must be readily available (must be organized alphabetically or have a table of contents). Make MSDSs immediately available to LM Aero personnel on request.
- Record chemical usage weekly for materials containing volatile organic compounds (VOCs) using form supplied by ESH/POC.
- Keep material containers closed when not in use.
- Label hazardous materials containers with the product's name, appropriate hazard warnings, and the manufacturer's name and address.
- Contractors can obtain information from their LM POC on any hazardous chemicals used in LM Aero operations to which Contractor employees may be exposed.



#### LM AERO MATERIALS AND EQUIPMENT

Do not start, stop, adjust, move or use LM Aero production or process equipment without your LM POC's approval.

#### LADDER USE

- Employees shall be trained on the safe use of ladders.
- Ladders shall be inspected before use, and not used if damaged or otherwise unsafe to use.

#### LOCKOUT/TAGOUT

- To prevent injury to employees and/or damage to equipment from unexpected start-up, do not work on electrical circuits, machinery, or lines (or connected







# Emergencies & Incident Reporting

- Fire / Rescue / Injury / Emergency Medical / Security
  - Dial **911** from a plant telephone
  - If calling from a wireless telephone dial **661-572-2010**
- For fires you can activate a fire alarm pull-station
- Review with your supervisor and become familiar with the nearest exits, evacuation routes and evacuation assembly areas
- If the fire alarm sounds, proceed to the nearest exit, leave the building, and go to your evacuation assembly area
- After calling emergency number, notify supervisor and LM Aero POC
- All injuries, near misses, or property damage no matter how small, must be reported immediately to your LM Aero POC. This applies even if you have already called emergency services





# Hazard Communication

- Approval is required for all chemicals brought on site
  - *Safety Data Sheet shall be available for all chemicals on site*
- Dial Emergency Number in case of spill – see Safety Rules Handout
- Labeling requirements – all containers must be labeled
- Flammables shall be stored in flammable storage cabinets
- Flammable and combustible liquids, such as solvents, paint thinners, gasoline, and diesel fuel shall be used and handled in a safe manner
- No more than five (5) gallons of these materials may be stored at one location without specific approval from LM Aero Facility Protection (Fire)





# ***Personal Protective Equipment (PPE)***

- Requirements for the use of PPE will be determined by your employer
- PPE must be provided by your employer before starting any hazardous work
- Employee must be trained on the use and care of PPE



**Ear Muffs**



**Ear Plugs**



**Safety Glasses**



**Dust Mask**



**Gloves**



**Hard Hat**



**Footgear**



**Respirator**

# Hearing Protection

- Must be used when exposed to high noise levels
- Rule of Thumb: If you have difficulty hearing or understanding a "normal" tone of voice at a distance of about three feet, noise levels are probably exceeding safe levels
- Employer must provide hearing protection equipment
- Employer must ensure employees are trained in the proper use and care of their hearing protection equipment

DECIBEL - dB(A)	EQUIPMENT
112	Pile driver
110	Air arcing gouging
108	Impact wrench
107	Bulldozer - no muffle
102-104	Air grinder
102	Crane - uninsulated cab
101-103	Bulldozer - no cab
97	Chipping concrete
96	Circular saw and hammering
96	Jack hammer
96	Quick-cut saw
95	Masonry saw
94	Compactor - no cab
90	Crane - insulated cab
87	Loader/backhoe - insulated cab
86	Grinder
85-90	Welding machine
85	Bulldozer - insulated cab
60-70	Speaking voice

Double protection recommended above 105 dB(A)

Hearing protection recommended above 85 dB(A)

Table 1: Some typical noise levels found on construction sites

# Contractor Vehicles

- Contractors shall ensure equipment used on-site are registered/permitted with the California Air Resources Board (CARB)
  - *Portable generators: demonstrate CARB Permit*
  - *Off-road diesel equipment (e.g., backhoes, front-loaders, etc.): CARB registration*
  - *Look for red/white label*
  - *Large spark ignition equipment: propane, gasoline, or electric equipment rated at 25 bhp and >1 liter displacement (e.g., forklifts, tow tractor, etc.): CARB registration*



# Contractor Vehicle Safety

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- Seat belts must be worn at all times
- Cell phones - no talking while driving unless hands-free device is used. No texting and driving
- Follow posted traffic and speed limit signs:
  - In-plant speed limits:
    - 20 mph (unless otherwise marked)
    - 15 mph through gates
    - 10 mph in parking lots
    - 5 mph within buildings
- Pedestrians, aircraft, and emergency vehicles always have the right of way
- Motorized vehicles operating during hours of darkness, inclement weather, or in poorly illuminated areas shall be equipped with operating headlights and tail lights. This includes golf carts and non-standard vehicles such as all-terrain vehicles
- Traffic rules enforced by Facility Protection
- LM Aero ESH or Facilities Protection has the right to suspend/revoke driving privileges for unsafe driving practices

Low Speed Vehicles (LSVs): Additional Orientation and Badging are needed for LSV operation.

Generally; Low Speed Vehicles (LSVs) - are motorized or non-motorized vehicles designed to operate at or below 25 mph and are not permitted to operate on public roadways.

- Motorized LSV examples are: golf carts, Miles/Tiger trucks, scooters, all-terrain vehicles, and mobility scooters.
- Non-motorized LSV examples are: manually powered, bicycles and tricycles.

If Low Speed Vehicles are utilized; operators must complete the Contractor Low Speed Vehicle Orientation. Document and sign a completion record. Posses a valid operator badge, issued by Visitor Control/ID Badging. Operators display the badge at all times while operating LSVs.



# ***Flightline Safety***

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- Contractor personnel are not permitted on the flightline unless in the performance of a contractual job task and with the coordination of the LM Aero POC
- Contractor employees must receive Foreign Object Debris (FOD) training prior to entering flightline area
- Training is set up through the LM Aero POC
- Entry onto the flightline requires LM Aero POC authorization and shall only be through the designated FOD checkpoints

# Fall Protection

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LM Aero Palmdale has mandatory fall protection requirements:

- Type of protection determined by competent person
  - Full body harness, shock absorbing lanyard
  - Anchorage point capable of 5,000 lbs. of static force
- Harness storage
- 100% Tie-off - use double lanyard if needed
- Fall protection D-rings only, no rigging chokers
- No knots in lanyards



**Failure to follow Fall Protection requirements may result in removal from the site**





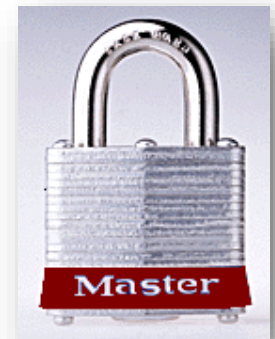
# Lockout / Tagout Safety (LOTO)

- Each contractor shall have a written LOTO program: if applicable
- You must be trained on your company's LOTO program
- All hazardous sources of energy must be locked and tagged out (e.g., electrical, mechanical, gravitational, hydraulic, pneumatic, chemical, thermal etc.)
- Notify LM Aero POC before LOTO if the lockout will include an LM Aero employee and exchange information



*An example of LM Aero energy control lockout and tagout device is shown*

*here > >*





# Lockout / Tagout Safety - cont.

LM Aero equipment and machinery which have specific machinery LOTO procedures, have an attached placard identifying the energy sources and other important information. Shown here

**"REMOVAL OF THIS PLACARD WILL RESULT IN DISCIPLINARY ACTION"**

Equipment Tagout / Lockout Procedures  
Local ID: 03AW501 Equipment: PE000002453 - #2 Water Softener  
Tagout ID: 03AW501 - #2 Water Softener  
Lockout EQ: PE000002453 Required State: ISOLATION Rev: -

1. Notify/Contact B603 Central Plant Operations Crew and request a lockout/tagout of this equipment along with the purpose of the work.
2. Central Plant Operations Crew will perform device isolation and equipment lockout/tagout as necessary for this specific equipment as indicated on the Equipment Lockout/Tagout Procedures for this equipment and listed below.  
A: Central Plant (B603 & 603A) Lockout/Tagout Out Procedure  
Central Plant Operating Procedures - 25 (OP-25)  
B: #2 Water Softener - Central Plant LOTO Procedure CP-47
3. Central Plant Operations crew will walk through/review the lockout/tagout locations and devices with the Authorized Employee(s) to ensure all locks and tags are in place, and to ensure the work being performed is covered under the boundaries of what has been locked out and tagged.
4. Requesting Authorized employee(s) will use his or her personal LOTO lock to secure the key(s) that were used in the lockout/tagout of the equipment inside a lockbox that will be located inside the Control Room of Building 603.

**Basic lockout/tagout task procedure:**

1. Notify affected employees (working in the immediate area where service or maintenance is performed) that a lockout/tagout system is being used and why.
2. Know the type and magnitude of machine energy and understand hazards. Check if machine has a machine specific procedure.
3. If machine is operating, stop it by normal procedures (depress stop button, open toggle switch, etc.) and operate switch, valve or other device to isolate machine from its energy sources.
4. Dissipate or restrain stored energy (in springs elevate machine members rotating flywheels, hydraulic systems, air gas, stem, water pressure, heat, etc.) by repositioning, blocking, bleeding, etc.
5. Lockout and tag the energy-isolating devices with assigned locks and tags. If device is not lockable and a lockout adapter cannot be used, isolate machine from its power source (remove leads, disconnect pipes, blind flanges, remove fuses, etc.), ensuring all energy sources cannot transmit or release energy. Place a LOTO tag at the disconnection point.
6. Operate the push button or other normal operating controls (or otherwise test) to verify power is off; stored energy dissipated and return controls to neutral/off position.
7. If multiple employees are to lockout/tagout machinery, each places their LOTO lock and tag on the energy isolating device(s). When an energy isolating device cannot accept multiple locks or tags use multiple LOTO hasp.
8. To disable machinery with multiple energy isolation devices use gang locks to lockout the devices, tag each energy isolation device, lock the key to the lock in a lockable container and lock and tag the container using personal LOTO locks for employees working on the machinery.

**RETURN TO NORMAL OPERATIONS:**

1. After service/maintenance is completed and machine is ready for production, notify affected employees.
2. Check surrounding area to ensure no one is exposed, tools are removed from the machine, and guards are reinstalled.
3. Lockout/tagout devices are to be removed by employees who applied them.
4. Remove lockout/tagout devices.
5. Restart machine.

NOTE: Isolate to the extent necessary to de-energy/remove hazard(s) for the system or sub-system(s)  
Important Notice: A hard copy of this blank form may not be the version currently in effect. The current version of this form is the version in the LM intranet. Form - 12869-08072012

Note: Complex system(s) such as Building 603, LOTO is managed through the area operator

**"REMOVAL OF THIS PLACARD WILL RESULT IN DISCIPLINARY ACTION"**

Equipment Tagout / Lockout Procedures  
Local ID: 7ACC01 Equipment #10148957 - CORE COATER  
Tagout ID: 10148957 - COATING MACHINE

Lockout EQ: 10148957 Required State: ISOLATION Rev: -

App-Rem	Description	Specific Location	Energy Source	Isolation Method	Isolation Tool
1-4	CORE COATER	@ equipment	Electrical - 480VAC	Switch On Control Panel	LOTO Lock & Tag
2-3	CORE COATER	@ equipment	Gravity	Lower or Block	Block & Tag
3-2	CORE COATER	@ equipment	Pneumatic	Valve - Close	Apply Valve Lock & Tag
4-1	CORE COATER	@ equipment	Stored-Air Pressure	Break Pipe Union	Drain & Tag
P	CORE COATER CONVEYOR ONLY	@ equipment	Electrical - 480VAC	Switch On Control Panel	LOTO Lock & Tag

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**RETURN TO NORMAL OPERATIONS:**


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# Excavation / Trenching

- LM Aero have and issue “Excavation Permits” which are issued by Facilities Engineering or Plant Engineering. They will make the determination if:
  - An LM Aero issued Excavation Permit is required due to the scope of the job
  - Or if an outside company will do the underground utilities survey
- Access to excavation / trenching
  - Ladder or stairs are required when excavation depth is four feet or greater
  - There can be no more than 25 feet of travel in any direction to reach an access point
- Inspection
  - Newly excavated areas must be inspected by a “Competent Person” prior to personnel entering the excavation area
  - An excavated area must be inspected prior to start of shift or anytime conditions change

LOCKHEED MARTIN  
Sawcutting/Demolition & Excavation Permit  
05/02/2016 Rev. 3

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**EXCAVATION PERMIT**  
THIS PERMIT MUST BE FULLY COMPLETED PRIOR TO CONSIDERATION

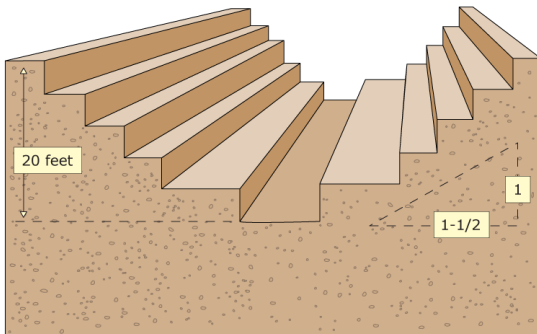
APPLICANT	NAME OF APPLICANT:	PHONE:																													
	PROJECT TITLE:	CELL:																													
	PO NUMBER / ESR NUMBER:																														
APPLICANT	NAME OF EXCAVATOR: <i>(IF DIFFERENT FROM APPLICANT)</i>	PHONE:																													
	CITY/STATE:	CELL:																													
	ANTICIPATED START DATE:	ANTICIPATED FINISH DATE:																													
<b>EXCAVATION DETAILS (Attach Drawing Separately)</b>																															
WORK SCOPE:																															
SPECIFIC LOCATION:																															
EXCAVATION DIMENSIONS: LENGTH: WIDTH: DEPTH:																															
Lockheed Martin	<b>PROJ MGR - CONDITIONS REVIEWED</b> (Initial or Mark NA if Not Applicable)	<b>AUTHORIZING ENGINEER</b>																													
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	Date: _____	Date: _____																													
<b>SAWCUTTING/DEMOLITION CONTRACTOR</b>	<b>COMMENTS</b>																														
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Date: _____																															
	<b>COMMENTS</b>																														

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# Excavation / Trenching - cont.

- Protective Systems:
  - Are required for excavations with a depth of 4 feet or more
  - May also be required if less than 4 feet when soil conditions pose a potential risk to employees
  - Spoils must be kept back from the edge of excavation a minimum of two feet
  - Engineered shielding systems must have tableted data available
  - Ensure Bench and Slope methods, when utilized, are regulatory compliant.



Shoring



Soil Type	Height/Depth ratio	Slope Angle
Stable Rock	Vertical	90 deg.
Type A	3/4 : 1	53 deg.
Type B	1 : 1	45 deg.
Type C	1 1/2 : 1	34 deg.

TYPE A SOIL Simple Slope Excavation	TYPE B SOIL Simple Slope Excavation	TYPE C SOIL Simple Slope Excavation
<p>20' Maximum</p>	<p>20' Maximum</p>	<p>20' Maximum</p>

NOTE: Pictures for illustration only!

# Hot Work & Housekeeping

## Hot Work

- Any hot work involving arc welding, torch cutting, open flames, grinding or sparks requires a **Hot Work Permit**
- **Hot Work Permits** are issued by the LM Aero Fire Prevention
- Instructions for obtaining a **Hot Work Permit** may be obtained through your LM Aero POC
- Permits must remain in the work area and be available for inspection by LM Aero ESH

## Housekeeping / Fire Prevention

- All work areas shall be kept clean and orderly
- Outside dumpsters shall be kept covered and closed unless in use
- Aisles and exits must be kept clear at all times
- Electrical cords and hoses shall be kept out of walkways
- Fuel must be stored in approved safety cans
- No storage of flammable liquids inside buildings unless in approved flammable cabinet
- Propane cylinders
  - Must be stored outside
  - Refueling of propane equipment must be performed outside

# Confined Space Entry

## Confined Space Entry

- Your company MUST have a written confined space program; if applicable
- All entrants and attendants must be trained on the program and how to use confined space equipment
- All sources of hazardous energy must be locked and tagged out prior to entering confined space
- All confined spaces must be reviewed by a competent person prior to entry
- Rescue stand-by services must be arranged for all Permit Required Confined Space (PRCS) entries by your company
- Provide completed PRCS form and feed back to LM Aero ESH when job completed



**DANGER**  
**PERMIT REQUIRED**  
**CONFINED SPACE**  
**DO NOT ENTER**  
 MAY CONTAIN HAZARDOUS ATMOSPHERE  
 MAY CAUSE ENGULFMENT



# Asbestos

- You must have a written asbestos program; if applicable
- Review LM Aero yearly asbestos notification for locations that are know to contain asbestos
- If you find or suspect asbestos - stop work and notify your supervisor and your LM Aero POC
  - LM Aero will arrange for sampling and analysis
  - See the LM Aero annual asbestos notification for know areas



# Lead-Based Paint

Lead:

- Is a toxic metal
- The chemical symbol for lead is “Pb”
- Older paints are more likely to have lead
- Lead effects the:
  - Nervous system
  - Reproductive systems
  - Circulatory system





# Conclusion



*Thank you.....*

*for making Lockheed Martin a safer place to work*