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JOB HAZARD ANALYSIS

(NGSSSD Space Park)

Contractor Document Control ID:

Revision Date: Revision #:

Contract Company:

Instructions: (Please read)

- 1. In accordance with General Safety and Environmental Rules for Contractors (Systems Form 7847), the contractor is required to complete a Job Hazard Analysis (JHA) for <u>any construction or maintenance task</u> at NGSSSD Space Park. Attached is a NGSSSD template in which all sections and Appendix A are to be completed by the contractor. Contractors can complete their own JHA template providing it contains similar content and an acknowledgement page. Failure of contractor to complete a JHA or sign the JHA prior to project work will result in project delay.
- 2. Section 4 requires the risk to be assessed for each step in the project utilizing the following table. Indicate the risk number in the last column of Section 4 of the table and highlight the number the same color as shown below.

0-5 Low risk 6-10 Moderate risk 11-15 High risk 16-25	Minor injury, insignificant property or equipment damage	Non-reportable injury, minor loss of process or slight property damage	Reportable injury, moderate loss of process, limited property damage	Major injury, single fatality, critical process loss, critical property damage	Multiple fatalities, catastrophic business loss
Unacceptable	1	2	3	4	5
5 Near certain	5	10	15	20	25
4 Probable	4	8	12	16	20
3 Possible	3	6	9	12	15
2 Unlikely	2	4	6	8	10
1 Remote	1	2	3	4	5

- 3. Ensure any applicable ESH program, training and air monitoring calibration records are submitted to ESHM for review prior to work as requested in the ESH Notification List posted in OASIS: <u>Notification List</u>.
- 4. The JHA can be referred to on a similar construction and maintenance project by the same contract company at a different Space Park project location, but it is the responsibility of the contract supervisor or designee is to ensure no new hazards as well as each contract worker has reviewed and signed the JHA at each project location.
- 5. The JHA shall be readily available on the project site.

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SECTION 1: JOB/TAS	K/PROCESS	(Document general information	and review. NGSSSD ES	H must review and accept	ot prior to work.)
FACILITY/CLIENT LOCATION:		BUILDING LOCATION:		PROJECT DATE:	PO (If available):
NGSSSD-Space Park					
SCOPE OF WORK (PLEASE PROVI	DE ENOUGH DETAIL	O ASSESS THE HAZARDS):			DURATION OF PROJECT/TASK (DAYS):
PREPARED BY (Contractor to Pri	nt Name):	TITLE:	ORIGINAL	DATE:	REVISION DATE (if applicable):
REVIEWED BY (Supervisor to Prin	nt Name):	DATE:			

SECTION 2: Chemical/Physical/Biological Hazards (List any job hazard agents.)					
Chemical Agents (Refer to Space Park Contractor Hazardous Material List for Status)	Physical Agents (e.g. Thermal, Noise, etc.)	Biological Agents (e.g. Mold, Hepatitis A, Black Widow Spiders, etc.)			

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SECTION 3: PPE when the PPE wil	HAZARD ASSESSMENT SUMMARY (Check PPE to be worn at any time during the project. Refer to Section 4 I be worn for a given task.)
Head	Hard Hat Class E Electrical Hard Hat Bump Cap Other:
Eyes/Face/Neck	Safety Glasses with Side Shields Goggles - Chemical Goggles - Dust Face Shield Welding Helmet Balaclava (Fire Retardant) Other:
Respiratory	Dust Mask Half-Face Respirator/Cartridge Type: Full Face AP Respirator/Cartridge Type: PAPR/ Cartridge Type: SABA SCBA Other:
Ears/Hearing	Ear Plug Ear Muff Double (Combination Ear Plugs & Ear Muffs) Other: Other:
Hands/Arms	Cotton Gloves Leather Gloves Puncture/Cut Resistant Kevlar PVC Nitrile Anti-vibration Thermal Other:
Body	General Work Uniform (long pants and short sleeve shirt) Chemical Protective Clothing/Type: Fire Retardant Coveralls/Uniform/Type: Apron Sleeves Class 2 Safety Vest Heat Reflective Suit Foul Weather Gear Cool Vest Other:
Feet	Safety-Toe Boots - Leather or Rubber Shoe Metatarsals Booties/ Type: Other: Shoe Metatarsals Shoe Metatarsals

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SECTION 4: HAZARD ANALYSIS PROCESS (Document hazards and controls based on each job step/task. Refer to Appendix A to aid in the identification of the hazards and selecting appropriate controls. Refer to the directions to assign the risk level).					
Sequence Of Job Steps or Tasks	Hazards/Potential Hazards & Effects (What could go wrong?)	Recommended Hazard Control Or Safe Job Procedures (How can the harm be prevented? Indicate type of PPE as the last control.)	Risk = (Severity x Frequency)		
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SECTION 5: Atmospheric Monitoring Required: Yes No [For assistance in determining exposure action levels please refer to your respiratory protection program.]						
List Hazardous Substance(s), mixtures or Material(s) of Concern Below:	Monitoring Instrument	Substance / Mate Level A-hazmat with supplied air respirator & total encapsulating suit	erial Exposure Level B- hazmat with supplied air respirator	Action Levels (In Level C-air purifying respirator	ndicate units) Level D- general work attire	

SECTION 6: Training (Document the required job task training. Otherwise indicate not applicable-N/A.)

SECTION 7: Emergency Procedures (Document the emergency Response Procedures - i.e. First Aid/CPR, emergency call #'s, etc.)

Call Security at 310.812.9911 using cell or x29911 using the on-site phone.

Contact NGSSSD Representative: and cell:

Apply First Aid or CPR to the injured. If greater than 5 contractors on site, ensure one person on site trained in FA/CPR/AED. If not trained, ensure injured contractor is taken to Building S, RM 1371 Health Clinic, Monday through Friday 7:00 AM to 4:30 PM. During non-working hours, working during a NGSSSD off-Friday or contract company requirements, provide a clinic route map in Appendix B.

SECTION 8: Decontamination Procedures (*If applicable, document the decontamination procedures –i.e. people and equipment*)

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SECTION 9: Job Hazard Analysis Verification (<i>Contract supervisor reviews and signs prior to work</i> .)								
 The preparer of the JHA has assessed the worksite conditions and has confirmed with all workers: The JHA addresses the significant steps, applicable hazards and the necessary controls. Workers have the appropriate resources (people and equipment) to do the job safely. Others that could be affected by the work will be informed. Energy isolation (if applicable) has been VERIFIED or an energized permit has been accepted by NGSSSD ESH. This document facilitates compliance with the PPE assessment and hazard analysis pursuant to NGSSSD and regulatory requirements. 								
CREW SUPERVISOR (P	V SUPERVISOR (Please Print): Company: SIGNATURE:		D	ATE:				
	SECTION 10: Job Hazard Analysis Review (Work team reviews the JHA, prints, signs their name and dates their signature prior to work. All contractors must review and sign the JHA-copy page for additional names.)							
NAME (Print)	Signature	Date	NAME (Print)	Signature	e Date	NAME (Print)	Signature	Date

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Appendix A: Table of Hazards and Controls (Used as a tool to trigger awareness to potential job hazards.)						
This Table presents a list of potential hazards and possible controls to assist contractors to manage hazards during the proposed work. The table does not include all possible hazards and only acts as a guideline. Its intent is to aid in the JHA thought process to determine the job hazards that may be present and identify controls to be implemented for consideration in Section 4.						
Pressurized Equipment	Poor Lighting or Visibility	Personnel	Confined Space	Simultaneous Operations	Environment	Ignition Sources
 Perform isolation – LO/TO, blind or block Depressurize, drain, purge, and vent Avoid auto-refrigeration when depressurizing Verify pressure is relieved Anticipate residual pressure or fluids 	 Provide portable lighting with at least 10 foot candles in the work area Ensure lighting has appropriate guards and plugged to a GFCI to a temporary receptacle or in wet locations Wait or defer until visibility improves 	 Review JHA with new workers Mentor, coach, or supervise Verify competencies, skils, and experience through certification or by employer Address any applicable personal limitations (e.g. restricted duty) Manage different languages 	 Discuss confined space entry safe work practices prior to entry Personnel trained Completed permit and NGSSSD Authorization Tag posted Conduct continuous air monitoring and periodically record data Locate fuel-powered engines upwind and outside of the confined space Vertical openings protected from falls Provide attendant at all times at entry Verify rescue plan 	 Use protective barriers and signs to segregate construction and user activities/traffic/parking restrictions Work accepted by NGSSSD from affecting NGSSSD personnel 	 Implement controls for slippery surfaces High winds – defer work Heat – hydration, breaks Cold – PPE, heaters Lightning – defer work 	 NGSSSD hot work permit in place Remove, isdate 35 feet, or contain combustible materials Provide 20 pound fire extinguisher or equivalent Provide a fire watch during and at least 60 minutes after hot work Post No-Smoking signs and smoke in designated area Conduct continuous testing in flammable use areas Bond and earth for static electricity dissipation Intrinsically safe equipment
Hazardous Substance	Potential Spills	Hot or Cold Equipment	High Noise	Dropped Objects	Rigging Equipment	Work at Heights
 Personnel are familiar with the chemical hazards Work plan submitted to NGSSD and third party monitor assigned for asbestos, lead and mold projects Implement the blood bome exposure control plan Implement dust control Implement ventilation control Exposure air monitoring MSDS readily available on site Personnel are familiar with and will implement controls (ventilation, PPE) Hazardous waste coordinated with NESH 	 Drain equipment Spill containment equipment readily available Cover and secure waste containers, label and store at an approved location within secondary containment Restrain and isolate hoses when not in use 	 Heat or cool equipment before work starts Install barriers Verify warning signs Wear thermal gloves 	 Wear correct type of hearing protection Conduct noisy operations during NGSSSD off-hours Use tools with sound dampening controls Install curtains 	 Use signs and barriers to restrict entry or access under work at elevation Use mechanical lifting equipment to raise tools to or from the work platform or use manually lift tools in a bucket Secure tools (tie-off) 	 Inspect and document rigging equipment condition and certification Use a tag line Obtain approval for lifts over process equipment 	 Address controls for working at heights and fall protection safe work practices Inspect portable ladders as well as ensure footing is stable and is secure prior to daily use Scaffold inspected prior to daily use Verify fall restraint or arrest equipment inspected by a competent person biannually

Portable Electrical Tools/Equipment	Manual Hand Tools	D Moving Objects or Equipment	Handling	Mobile Equipment	Uibrating Equipment	Slips, Trips, and Falls
 Inspect equipment guarding & cord condition Guards in place Protect electrical leads from impact or damage Use GFC1's outdoors or in wet locations Face shield and safety glasses worn when grinding or bead blasting Utilize grinders with dust collectors indoors Caution sign posted within 50 feet of use of a Powder Actuated Tool and employee has a valid operator's card. Powder actuated tool kept within a lockable container when not in use 	 Inspect equipment and tools Do not use modified tools Attach protective guards Use correct tools and equipment for the task Use a self-retracting knife Wear Kevlar gloves with handling sharp objects Protect sharp edges when tools are not in use 	 Confirm machinery guard integrity Provide protective barriers Observer to monitor proximity of people and equipment Shut down and LO/TO equipment 	 Assess the manual handling task and path Limit load size to 50 pounds Use safe-lift technique-back straight, legs staggered Confirm stability of load Use a mechanical aids Use gloves designed for gripping 	 Inspect and document equipment condition Wear harness and lanyards in boom lifts and in scissor lift if manufactured attachment Limit and monitor proximity to live equipment or cables Adequate distance from overhead hazards Adhere to road and site rules Use barricades direct vehicular and pedestrian traffic 3-point contact when entering/exiting equipment Crane lift plan completed accepted by NGSSD ESH Fuel consuming equipment exhausted/ducted to the outdoors 	 Manage exposure times Assess affect of vibration on equipment Use low vibration equipment Wear anti-vibration gloves Implement noise controls 	 Identify and shield uneven surface or projections Protect or elevate cables, cords, and tubing Wear shoes with adequate traction with heel when climbing a ladder Barricade or clean up spills immediately Barricade openings, uneven surfaces and holes
Electrical Energy	Excavations	U Waste Clean Up and Disposal	Other Energy Sources	Emergency Response	Hazard Awareness and Compliance	Uther Hazards
 Restrict access to authorized personnel only De-energize equipment Observe safe work distances for live cables Work permit completed for energized work Use insulated gloves, tools, and mats 	 Develop an excavation plan Facilities to complete Excavation Permit and accepted by ESHM NGSSSD Excavation protocol is available on site Contact Dig Alert Conduct 3rd party subsurface survey Review underground blue prints & verify with facilities Locate underground pipes or cables by hand digging Competent person on site at all times and inspect excavation shoredor sloped according to soil type De-energize underground services Implement confined space entry controls Barricade/Flag and post signs regarding open excavations 	 Personal trained in hazardous waste operations and emergency response (HAZWOPER) Health and safety plan prepared for potential contact to contaminated media Apply environmental management practices such as using absorbent socks at storm drains Follow NGSSD waste management procedures Clean up equipment and materials at site Optimize task to minimize waste production 	 Remove or block energy Eliminate heat generating processes Utility outage submitted and accepted by NGSSSD prior to conducting work affecting smoke alarms, sprinklers, electrical, natural gas, remediation equipment and water 	 Keep egress route open Workers know the evacuation location and NGSSSD emergency phone numbers Shower and eye wash stations present and are accessible for chemicals potentially are corrosive or cause irreversible skin or eye injuries Contractors familiar with the rescue plan Emergency assistance route map is attached in Appendix B Keep emergency alarm, fire equipment, and shutdown locations unobstructed First aid kit available and personnel trained in first aid/CPR 	 Cal/OSHA Safety and Health Protection is posted on site Tail-gate topics applicable to the project and are frequently presented to the workers Implement our Injury Illness Prevention Program Implement our Hazard Communication Program 	

APPENDIX B

CLINIC ROUTE MAP