

### JOB HAZARD ANALYSIS

*Reference:*

Work Order # \_\_\_\_\_ Work Permit # \_\_\_\_\_ Work Planning # \_\_\_\_\_ Procedure # \_\_\_\_\_ Other \_\_\_\_\_

Written by (Print): \_\_\_\_\_ Date: \_\_\_\_\_ Division/Branch/Org: \_\_\_\_\_

Description of job/work to be performed:

Location of job/work to be performed:

Hazard (Check-off and <u>Describe</u> the source of the hazard)	Control Measures (Write # of Control(s) in Box)	See Back
<input type="checkbox"/> Chemicals	<input type="checkbox"/> MSDS's Available <input type="checkbox"/> Training Provided	
<input type="checkbox"/> Ergonomic Issues (Repetitive Motion, Lifting, Physical Stresses, etc.)	<input type="checkbox"/> Contact IH for briefing	
<input type="checkbox"/> Ionizing Radiation [ <i>Health Physics-HP</i> ]	<input type="checkbox"/> Radiation Work Permit (RWP)	
<input type="checkbox"/> Non-Ionizing Radiation (Lasers, Magnetic Fields (EMF), RF, etc.)	<input type="checkbox"/> Contact IH for high power lasers/EMF/RF <input type="checkbox"/> Laser Safety Training	
<input type="checkbox"/> Environmental Impacts (Environmental Release, Hazardous Wastes, etc.) [ <i>M&amp;ES</i> ]	<input type="checkbox"/> Contact M&ES for guidance	
<input type="checkbox"/> Noise	<input type="checkbox"/> Hearing Protection	
<input type="checkbox"/> Sharp objects/tools		
<input type="checkbox"/> Walking / Working Surfaces (Slips, Trips, Falls)		
<input type="checkbox"/> Falls / Elevated Work (6' above surface)	<input type="checkbox"/> Fall Protection Training	
<input type="checkbox"/> Ladders / scaffolds / manlifts	<input type="checkbox"/> Inspection <input type="checkbox"/> Training	
<input type="checkbox"/> Cranes / rigging / Forklifts	<input type="checkbox"/> Trained/Qualified Personnel	
<input type="checkbox"/> Welding / cutting / grinding / open flame	<input type="checkbox"/> Hot Work Permit [ <i>ESU</i> ]	
<input type="checkbox"/> Impairing a Security / Fire System [ <i>ESU</i> ]	<input type="checkbox"/> Contact Security	
<input type="checkbox"/> Hot Surfaces / Cryogenics	<input type="checkbox"/> Cryogenic Training	
<input type="checkbox"/> Heat or Cold Stress		
<input type="checkbox"/> Steam		
<input type="checkbox"/> Electrical <sup>h</sup> [ <i>Electrical Safety</i> ]	<input type="checkbox"/> Lockout/Tagout <input type="checkbox"/> Arc Flash Analysis <sup>h</sup> <input type="checkbox"/> GFCI <input type="checkbox"/> Trained Personnel	
<input type="checkbox"/> Confined Space / Oxygen Deficiency	<input type="checkbox"/> Confined Space Permit	
<input type="checkbox"/> Machinery / Machine tools	<input type="checkbox"/> Machine Guards <input type="checkbox"/> Chip Guards	
<input type="checkbox"/> Hand Tools / Power Tools	<input type="checkbox"/> GFCI	
<input type="checkbox"/> Eye Hazards	<input type="checkbox"/> Safety Glasses <input type="checkbox"/> Goggles	
<input type="checkbox"/> Falling Objects	<input type="checkbox"/> Hard Hats	
<input type="checkbox"/> Potential / Stored Energy (Springs, instability, capacitors, batteries, fans, hydraulics)		
<input type="checkbox"/> Foot Hazard	<input type="checkbox"/> Safety Shoes	
<input type="checkbox"/> Trenching / Digging	<input type="checkbox"/> Digging Permit	
<input type="checkbox"/> Wall / Floor Penetrations	<input type="checkbox"/> Penetration Permit	

For questions about these topics, contact Industrial Hygiene (IH) except where noted in [*brackets*].

IH = 2533, 2531, % 546, 639. HP = 2311, 2315. M&ES = 3380. ESU/Security = 2536, Electrical Safety = 3740

<input type="checkbox"/> Access / Escape / Communications Concerns		
<input type="checkbox"/> Biological (Bodily fluids, Insects, Poison plants)		
<input type="checkbox"/> Vehicle Use / Fuel / Exhaust		
<input type="checkbox"/> Illumination (inadequate lighting)		
<input type="checkbox"/> Working Alone (Requires IH Approval)	<input type="checkbox"/> IH Must Review/Approve	<input type="checkbox"/> Contact Security
<input type="checkbox"/> Pressure / Vacuum (cylinders, pressure tests)	<input type="checkbox"/> Compressed Gas Training	
<input type="checkbox"/> Others:		
Comments:		

Control Measures (Write the number of the appropriate control next to the hazard to which it applies)			
<u>Engineering Controls</u>	<u>Administrative Controls</u>	<u>Personal Protective Equipment (PPE)</u>	
<b>01</b> - Platforms, Scaffolds	<b>12</b> - Procedures	<b>23</b> - Hard Hats	<b>29</b> Safety Glasses/Goggles
<b>02</b> - Use less hazardous chemicals	<b>13</b> - Specific training for job/location	<b>24</b> - Face Shields	<b>30</b> - Coveralls
<b>03</b> - Machine Guards, Chip Guards	<b>14</b> - Worker Rotation, Rest Breaks	<b>25</b> - Safety Shoes	<b>31</b> - Boots / Booties
<b>04</b> - Ventilation (fume hoods, elephant trunks, local exhaust systems)	<b>15</b> - Permits (Confined Space, RWP, Hot Work, Digging, Penetrations, Flame)	<b>26</b> - Ear Plugs/ Muffs	<b>32</b> - Gloves (leather, kevlar, neoprene, nitrile, voltage rated)
<b>05</b> - Fall Protection (Guardrails, toe boards)	<b>16</b> - Signs & Labels, Warning alarms ("high level")	<b>27</b> - Respirator / Dust Mask	<b>33</b> - Full Body Harness & lanyards
<b>06</b> - Engineered Equipment Design	<b>17</b> - System or Job Walk down	<b>28</b> - Lab Coat / Apron	<b>34</b> - Flame retardant / flash resistant clothing
<b>07</b> - Noise enclosure, absorption, mufflers	<b>18</b> - Safety watch, Buddy System	<u>Emergency Equipment:</u>	
<b>08</b> - Vibration dampeners	<b>19</b> - Lockout/Tagout	<b>36</b> - Fire Extinguishers	<b>40</b> - Retrieval Gear.
<b>09</b> - Temporary lights	<b>20</b> - Spill Containment	<b>37</b> - Telephones/Radios	<b>41</b> - First Aid Equip.
<b>10</b> - Welding Screens	<b>21</b> - Barricades	<b>38</b> - Sprinkler System	<b>42</b> - Alarms
<b>11</b> - Mechanical lifting aids	<b>22</b> - Training / Qualification / Certification	<b>39</b> - Eye Washes & Safety Showers	

<b><u>Human Performance Tools for an Enhanced Pre-Job Brief:</u></b>			
Situational Awareness – Job Site Review – Questioning Attitude – Stop When Unsure – Effective Communication			
<b><u>Task Review using SAFER</u></b>			
Summarize Critical Steps - Anticipate Errors - Foresee Consequences - Evaluate Controls - Review Previous Experience			
<b><u>Human Performance Tools During Work:</u></b>			
Self-Checking – Peer Checking – Flagging – Independent Verification			
<b>Identify and eliminate or mitigate Error Precursors:</b>			
<b><u>Task Demands</u></b>	<b><u>Work Environment</u></b>	<b><u>Individual Capabilities</u></b>	<b><u>Human Nature</u></b>
Time Pressure	Distractions/Interruptions	Unfamiliarity with Task / First Time	Stress
High Workload	Changes / Departure from Routine	Lack of Knowledge	Habit Patterns
Simultaneous, Multiple Tasks	Confusing Displays or Controls	New Technique not used before	Assumptions
Repetitive monotonous actions	Workarounds / OOS Instruments	Imprecise Communication Habits	Complacency / Overconfidence
Irrecoverable Acts	Hidden System Response	Lack of Proficiency / Inexperience	Mindset (tuned to see)
Interpretation Requirement	Unexpected Equipment Conditions	Indistinct Problem-Solving Skills	Inaccurate risk perception
Unclear Goals, Roles, Responsibilities	Lack of Alternative Indication	"Hazardous" Attitude for Critical Task	Mental Shortcuts
Lack or Unclear Standards	Personality Conflicts	Illness/Fatigue	Limited Short-Term Memory

<input type="checkbox"/> Industrial Hygiene Review Required   IH Signature: _____	Date: _____
<input type="checkbox"/> Other Review Required   Who? _____ Signature: _____	Date: _____
<input type="checkbox"/> Cog. Individual or RLM Approval Required   Signature: _____	Date: _____
Personnel Briefed on this JHA (print): _____	
_____	_____
_____	_____
_____	_____
_____	_____

SEND Original or Copy to: Industrial Hygiene (Required)