DCMC SPECIALIZED SAFETY RISK ASSESSMENT

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Introduction

RISK ASSESSMENT PROGRAM

Purpose: The risk assessment program and associated process sheets and review guides have been developed to assist the Specialized Safety professional in determining the potential risks to government interests, as a result of contractor operations. It is also intended to aid in determining the levels of surveillance needed to protect these interests. A further goal of the program is to integrate continuous improvement concepts into the assessment process. Continuous improvement opportunities should be pursued wherever possible in the application of these tools.

Scope: This program applies to the entire spectrum of the Specialized Safety Program, and are to be used with prime contracts, multi-tier subcontracts and purchase orders, non-DoD contracts, and where Memorandums of Agreement (MOAs) or Letters of Delegation (LOD) are in effect.

Process: There is a **GUIDE** for each of the four major contract types - aircraft, ammunition and explosives, into-plane refueling, and industrial. In addition, there are review guides addressing the program elements for evaluation. These elements are: Safety program, Mishap History, Documentation, Procedures, Compliance/Performance History, Training and Certification, Facilities and Equipment, Foreign Object Damage (FOD), and Aircraft Rescue and Fire Fighting (ARFF).

Each matrix sheet indicates the process sheets and review guides to be used. The associated risk ratings are calculated on the matrix sheet, and the risk number is derived to assist in determining the overall risk level. Remember, this is only a guide. You are the subject matter expert responsible for making the decision regarding the level of risk to government interests. These sheets are to be used by certified DLA Specialized Safety personnel. This will assist in ensuring consistent application and interpretation of contractual requirements, assessing degree of risk to government interests, and establishing the minimum level of surveillance.

Note: This program and the associated Process Sheets and Review Guides are for informational purposes to assist Safety Specialists when determining risk levels. They are not meant to be inclusive of all situations encountered when performing the risk assessment, but merely supplemental information and questions which will assist in determining the overall risk to the government.

Instructions

CALCULATING RISK

The calculation in the matrix is based on a standard weight system by the contract type and specific program elements. In each assessment by "Contract Type" different weights have been assigned to the "Program Elements" relative to their importance to that particular type of operation process.

The following list indicates the required elements to be assessed for each type of contract:

Aircraft: Aircraft Process/System; Safety Program; Training and Certification; Documentation; Facilities and Equipment; Procedures; Mishap History; Performance History; Aircraft Rescue and Fire Fighting; FOD Program; and Into-Plane Refueling *(Note: The Into-Plane Sheet is the same sheet utilized for assessing the Into-Plane Refueling "CONTRACT TYPE")*

Ammunition and Explosives: Explosives Manufacturing; Safety Program; Training and Certification; Documentation; Facilities and Equipment; Procedures; Mishap History; Performance History

Into-Plane Refueling: Into-Plane Refueling; Safety Program; Training and Certification; Documentation; Facilities and Equipment; Procedures; Mishap History; Performance History, and FOD Program.

Industrial: Industrial Processes; Safety Program; Training and Certification; Documentation; Facilities and Equipment; Procedures; Mishap history; Performance History

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Calculations

1. Complete the assessment sheet for the **Process Risk** (Contract Type) being assessed.

2. Complete the assessment sheets for each of the respective **Program Elements** assessed.

3. Using the values obtained complete the Numerical Value Sheet for the **Contract Type** assessed.

a. Enter the value from each of the **Program Element** sheets in their respective blocks.
b. Multiply the **Program Element** value by the Weight factor indicated to obtain the weighted value.
c. Add the total for the weighted **Program Element** values.
d. Divide the total weighted value obtained as shown. This will give you the Subelement Weighted Risk.
e. Enter the value obtained from the **Process Risk** Sheet in its block.
f. Add the **Program Element Risk** to the **Process Risk**.
g. Divide by -2- to obtain the **Total Numerical Risk Value** for this contractor.

Review Guide

AIRCRAFT

Consider the processes performed at this facility and the hazards associated with those processes.

	YES	IN PROGRESS	NO	REMARKS
(1) Does the contractor have a safety council as required by DLAM 8210.1?				
(2) Does the contract involve flying of the aircraft?				
(3) Is the GFR on-site?				
(4) Is the Aviation Maintenance Manager (AMM) on-site?				
(5) Has the contractor worked on the same type of aircraft previously?				
(6) Was the work accomplished at this location?				
(7) Is the contractor an FAA authorized repair agent for this type aircraft and work?				
(8) Is the workforce experienced aircraft processes?				
(9) Does the aircraft have an egress system?				
(10) Does the aircraft have other systems which contain explosive components?				

Review Guide

AIRCRAFT

	YES	IN PROGRESS	NO	REMARKS
(11) Are the explosives stored as required by DoD 4145.26M?				
(12) Does the contract require aircraft defueling or refueling?				
(13) Does the contract contain MIL STD 1518?				
(14) Is there a DFSC refueling contractor on-site?				
(15) Does the contractor have the fuel testing, fuel handling, fuel storage equipment and trained personnel to meet the contract requirements?				
(16) Does the contract contain AMCI 91-101?				
(17) Does the contract contain NFPA 407?				
(18) Does the contract contain NFPA 409?				
(19) Does the contract contain NFPA 410?				
(20) Has Specialized Safety been provided an opportunity to review the contractor's pre-accident and accident prevention plan?				
(21) Has the GFR requested Specialized Safety to review the contractor's procedures prior to approval?				
(22) Has Specialized Safety accomplished the requested review?				

AIRCRAFT

	YES	IN PROGRESS	NO	REMARKS
(23) Is the airfield certified by FAA?				
(24) Are the records of FAA inspections available?				
(25) Does the airfield ARFF equipment meet FAA and AMCI 91-101 requirements?				
(26) Is the tool control program enforced in areas other than final assembly and the flightline?				

Review Guide

EXPLOSIVES PROCESSING

Considering the processes performed at this facility and the hazards associated with those processes, does the contractor have:

	YES	IN PROGRESS	NO	REMARKS
(1) An individual qualified to develop and implement a safety plan to adequately safeguard against the hazards of the contracted item?				
(2) A site plan that conforms to requirements?				
(3) Mishap reporting procedures?				
(4) A system for on-going re-assessment of QD requirements?				
(5) A system in place that identifies materials into storage compatibility groups and then assures segregation when warranted?				
(6) Limits on personnel exposure to a minimum amount of hazardous material for a limited amount of time?				
(7) Posted explosive and personnel limits in building and rooms?				
(8) Detailed SOPs, which include procedures for spills, emergencies and storms?				
(9) Properly stored explosive materials in operating buildings?				
(10) All frequent and consecutive operations segregated by dividing walls, firewalls or operational shields?				
(11) Evidence of TM 5-1300 conformance available if walls are utilized for protection of property?				
(12) Documentation on the material's sensitivity to static, friction impact, and heat?				
(13) The specification document of constituent components so that purity, moisture content, particle size, tests, packaging & shipping data are available?				
(14) An inventory system that recognizes shelf life limitations?				
(15) Properly stored chemicals? (Note: temperature & humidity deteriorate some)				
(16) Fuels & oxidizers segregated?				

Review Guide

EXPLOSIVES PROCESSING

	YES	IN PROGRESS	NO	REMARKS
(17) Deluge systems restricted from areas handling fine metal powders?				
(18) Materials stored in areas that preclude spills & contamination and have a procedure for cleaning specific materials?				
(19) A method to ground & bond while transferring materials?				
(20) Scoops and materials that come in contact with fuels & oxidizers segregated?				
(21) Non-ferrous scoops and tools?				
(22) A means to remotely fill and discharge materials for processes where required?				
(23) Minimum fire protection requirements for the facility and operation met?				
(24) A system to identify A&E no longer necessary to support contractual requirements? (Disposition Instructions)				
When screening chemicals to remove debris, does the contractor have:				
(25) Knowledge of the material so as to take proper precautions against toxic dust, fire or explosive hazard?				
(26) Documentation supporting the tests of dividing walls and shields?				
(27) A means to remotely fill and discharge materials?				
(28) A hazard analysis on hand if personnel hand screen?				
(29) Adequate ventilation, PPE, energy containment and bonding & grounding supplied? (Note: gloves are not allowed when screening chlorates.)				
(30) Separate screens used for fuels and oxidizers?				
(31) Procedures to insure screens are cleaned prior to any sieving operation?				
(32) Power driven screens provided with dust tight enclosures?				
(33) Screening equipment grounded?				

Review Guide

EXPLOSIVES PROCESSING

	YES	IN PROGRESS	NO	REMARKS
(34) Floors and table tops plus equipment sitting on them such as scales and scoops, grounded?				
Does the contractor perform granulation operation? If so:				
(35) Solvents and binders used in the granulation process will significantly increase volatility.				
(36) Are fans non-ferrous, interlocked to provide ventilation, and is proper electrical wiring utilized?				
Does the contractor mill or grind chemicals? If so:				
(37) Micropulverizers, ball mills, hammer mills and attrition mills are used for particle size reduction. All generate heat. This can cause ignition of materials and require additional cooling time before mixing other materials. Are safeguards implemented?				
In drying operations the contractor must have:				
(38) An understanding of the process variables involved including minimum & maximum temperatures, maximum quantities and the physical configuration of the materials.				
(39) A means to ensure heat conditioning devices discharge over pressure from an explosion?				
(40) Barriers to restrain blowout panels and doors?				
(41) Ovens vented to permit gas to escape?				
(42) When electric elements are used, protection from exposure to explosive/flammable materials. (Note: steam heat is preferable.)				
(43) Fan blades of a non-sparking material in a heat conditioning device and its electric motor shall be installed externally.				
(44) Proper ventilation. Note: the air must not recirculate if the heating surface exceeds 228F or if the air contains materials that could collect on the heating coils.				

Review Guide

EXPLOSIVES PROCESSING

	YES	IN PROGRESS	NO	REMARKS
(45) Electrical equipment and fixtures approved for use in hazardous atmospheres in or on a heat-conditioning device used for explosive or flammable material.				
(46) The interior of heat conditioning device shall be free of areas that attract dust or flammable material.				
(47) All non-current-carrying metal parts of a heat-conditioning device interconnected & electrically grounded?				
(48) Ovens installed in isolated locations to protect personnel whenever possible and, when warranted, operational shields used.				
(49) A restriction on hazardous materials to be placed in a room or cubicle containing a heat conditioning device, unless there is evidence that the materials being introduced, if ignited, would not involve the other materials.				
(50) Dual, independent, fail-safe heat controls in all ovens and rooms, tested and maintained?				
When weighing raw materials does the contractor:				
(51) Use specification document constituent materials defining component, purity, moisture content, particle size, tests, packaging & shipping?				
(52) Have an inventory system that recognizes shelf life limitations?				
(53) Properly store the chemicals?				
(54) Provide separate measurement areas for weighing fuels and oxidizers?				
(55) Designate and control equipment utilized for fuel & oxidizers?				
(56) Require the use of proper PPE for personnel weighing and handling exposed fuels and oxidizers such as dust mask/respirators, flame retardant uniforms, cotton underwear & socks, and conductive shoes?				
(57) Restrict deluge system from areas handling fine powdered metals?				

Review Guide

EXPLOSIVES PROCESSING

	YES	IN PROGRESS	NO	REMARKS
(58) Provide proper ventilation?				
When mixing and blending:				
(59) Ground & bond while transferring materials?				
(60) Store materials in areas that preclude spills & contamination?				
(61) Have emergency spill procedures?				
(62) Has the contractor analyzed batch size, batch vs. continuous mixing, wet vs. dry mixing, mixing time, mixing speed, sequence of ingredients, type of mixer, temperature and humidity?				
(63) Smaller batch sizes are desirable for safety reasons, but require more handling, greater exposure, fewer units per batch and potential cross blending. Has contractor addressed these factors?				
(64) Wet blending has advantages over dry blending by minimizing a dust problem and preventing segregation of components; disadvantages include introduction of volatile solvents and additional personnel exposure in granulation and drying. Has the contractor assessed both methods?				
(65) Open mixers allow for good venting, but vapors and dust present a hazard. A closed container will reduce dust and vapors, but venting is required. In choosing a blending system, has the contractor addressed the energetic of the materials, the ease of ignition and the types of stimuli the mixer offers?				
(66) All ingredients should be added remotely to a mixer. Ingredients should be added in evenly distributed layers. Oxidizers should be wet down with a binder, then add the inert additives and fuels; or wet down the fuels and inert before adding the oxidizer.				
(67) Never dry-blend fuel and oxidizers before adding a binder, particularly when using a fine particle (1-10microns) fuel.				

Review Guide

EXPLOSIVES PROCESSING

	YES	IN PROGRESS	NO	REMARKS
(68) Blenders using a tumbling device eliminate pinch points and hot spots, therefore are preferred over rotating blades.				
(69) Are blenders charged, operated and emptied remotely unless a hazard analysis proves manual operations are safe?				
(70) Do interlock systems preclude entry to blending operations?				
(71) Is each blender located in a separate cell or building?				
(72) When using flammable solvents, does an interlock system preclude mixer operations without ventilation?				
(73) When using flammable solvents, are vapor sensors utilized to monitor LEL's?				
(74) Is direct viewing of blending operations prohibited?				
If the contractor is using a rotating blade mixer:				
(75) Is the mixing bowl rigidly fixed and stable during mixing to preclude contact between the bowl and the mix blades?				
(76) Are positive controls provided to physically block or stop bowl or blender head movement in case of hydraulic malfunction to assure clearance at all times between mix bowl and blades?				
(77) Are mix blades and shaft rigid and structurally strong to ensure minimum flex from weight of the mix and speed of the shaft?				
(78) Are all electrical fixtures rated to meet NEC requirements?				
(79) Do mix blade shafts have seals and packing glands to prevent migration of mix or solvent vapors into bearings?				
(80) Is a dye penetrant or radiographic inspection of high torque loading mixer blades accomplished annually or every 3,000 hrs. of operation?				

Review Guide

EXPLOSIVES PROCESSING

	YES	IN PROGRESS	NO	REMARKS
(81) Are periodic preventative maintenance checks performed as recommended by manufacturer and documented?				
(82) Have SOPs that contain provisions to verify acceptable blade/bowl clearance, bowl and shaft rigidity, and bearing wear been developed prior to the introduction of chemicals?				
(83) Are mix bowls and drive units grounded/bonded?				
Pressing Operations				
(84) Do pressing operations have required substantial dividing walls or operational shields that comply with MIL-STD 398 or TM-5-1300 ? (With adequate supporting objective evidence)				
(85) Have SOPs on clearing a jammed item or repairing a press been developed, reviewed and approved?				
(86) Is each explosives press or loading device located in a separate cell or building designed to contain an incident and protect operators?				
(87) Do tests or hazard analysis demonstrate that facility and personnel hazards are not increased when working with pyrotechnic materials and multiple press installations are present within a bay or cubicle ?				
(88) Are punches and dies controlled, inspected and used as required?				
Assembly Operations				
(89) When loading or assembling has a hazard analysis been performed on the energy emitted during loading, consolidation, reaming and sealing?				
(90) If “buttering” the main charge with the starter, ignition and primary mixtures, have tests been performed on material sensitivities?				
(91) Is data available on the characteristics of all constituent explosive materials and components?				

Review Guide

EXPLOSIVES PROCESSING

	YES	IN PROGRESS	NO	REMARKS
(92) Have remote loading techniques been examined to eliminate personnel exposure?				
(93) Are individual operations safely protected from each other and segregated from blending and pressing operations?				
(94) Are hazardous compositions kept in closed containers?				
(95) Are quantities of items and materials kept to a minimum?				
(96) Is proper PPE required by contract, provided, and used?				
(97) Are bonding and grounding techniques utilized?				
(98) Have SOPs been developed for collecting of hazardous waste, cleaning equipment and proper waste disposal?				
(99) Does the contractor properly store explosives and ammunition in accordance with requirements?				
(100) Is fire protection appropriate for hazards presented by contracted component?				
(101) Are there process flow charts to substantiate explosive hazard, personnel, exit, egress compliance?				
(102) Are there logs or SOPs annotating drain and sump inspection, exhaust system cleaning, electrical resistance and continuity of grounding systems, conductive floor & shoe log, humidity control?				
Miscellaneous				
(103) Is temporary storage provided for in-process items and for finished products at appropriate locations?				
(104) Does the contractor have procedures for implementing changes to existing equipment processes or procedures?				
(105) Is a complete, current set of procedures for normal operation start-ups, shutdowns, and emergencies available for operators to use?				

Review Guide

EXPLOSIVES PROCESSING

	YES	IN PROGRESS	NO	REMARKS
(106) The Resource Conservation and Recovery Act (RCRA) of 1976 was implemented to control the management of hazardous waste from its generation to disposal. Does the contractor generate hazardous waste; has a generator status been determined; has a U.S. EPA Identification Number been obtained; is hazardous waste stored on site; is it shipped off-site; are records being maintained; has the contractor tried product substitution, process alteration?				
(107) How are specific, up-to-date procedures maintained?				
(108) Have critical jobs and tasks been identified?				
(109) Are procedures written so workers can understand them considering their education background, experience, native language, etc.?				
(110) Do procedures contain adequate warning/caution statements?				
(111) Are special safety equipment requirements clearly specified at each work station?				
(112) Are there special procedures for personnel in buildings containing explosive items to follow in the event of an electrical storm?				
(113) Is there equipment on site to measure lightning potential ?				
(114) Are containers holding explosive hardware well identified as to contents?				
(115) Is the preventive maintenance schedule adequate to ensure the reliability of safety critical equipment and instrumentation?				
(116) Can workers carry hazardous substances home on contaminated clothing?				
(117) Are there any extinguishing media that are prohibited (react with other chemicals, damage equipment, etc.)?				
(118) Consider the failure of a faulty sensor transmitter, indicator, alarm or recorder; would it be detected ?				

Review Guide

EXPLOSIVES PROCESSING

	YES	IN PROGRESS	NO	REMARKS
(119) Do safety personnel review and sign off on all proposed changes in areas where explosive items are used, handled or stored?				
(120) Is structural steel grounded?				
(121) If lightning protection is installed, is it inspected, and maintained in accordance with contractual requirements ?				
When the contractor processes involve explosive components including 1.4 items:				
(122) Some 1.4 hazard classified material can cause severe laceration and puncture wounds. Has the contractor tested the component for maximum credible event?				
(123) Are appropriate safeguards implemented?				
(124) Are ESD precautions being implemented where warranted?				
(125) Has a process flow diagram been drawn to facilitate identifying potentially hazardous practices/areas?				
(126) Is an inventory control system in place to adequately control items and preclude excess and over-age materials remaining in stock?				
(127) Is personnel exposure kept as limited as possible throughout the production life cycle?				
(128) Has the contractor identified all means of initiation, heat, static, impact, etc.?				
(129) Are items packed in non-propagating packaging and kept that way throughout the production process?				
(130) Are there secondary events, other than an inadvertent detonation such as noise or noxious fumes, and vapors that require safeguards?				
(131) Are 1.4 materials incorporated into more hazardous classified systems which would cause greater damage during a MCE?				
(132) Is storage of 1.4 materials limited to facilities that can safely accommodate the materials through fire suppression, containment of separation?				

Review Guide

EXPLOSIVES PROCESSING

	YES	IN PROGRESS	NO	REMARKS
(133) Are 4-hour production limits enforced in the operating building?				
(134) Are inspection areas provided with needed safeguards such as static, shielding & PPE?				
(135) Does the contractor have a system to properly test grounds, shoes, table tops and wrist straps?				
Continuous improvement opportunities:				
(136) If shift rotations or 2nd and 3rd shifts are worked, are disruptions of workers' circadian rhythms monitored?				
(137) Are diagrams, photographs, drawings used to clarify the written text?				
(138) What tests are performed to detect specification errors, manufacturing defects, transportation damage, construction damage or improper installation before equipment is put into service?				
(139) Is an individual, function, or department assigned the responsibility of maintaining current internal company standards and external codes and standards?				
(140) Do any controls violate traditional conventions? (i.e. color, direction of movement)				
(141) Have all personnel working with ordnance been tested for colorblindness?				
(142) Are all electrical interlocks & shutdown devices fail safe? (i.e. test cells, ovens)				
(143) How often are the interlocks and shutdowns tested under load?				
(144) Are there provisions for operations or safe shutdown during power failures?				
(145) Are there back-up electrical supplies, or un-interruptible power supplies?				
(146) Does the contractor request from the buying activity, data concerning lot suspensions and restrictions for A&E?				
(147) Does the contractor request technical inspection of A&E in accordance with T.O.s, T.M.s, and W.S.s from the buying activity?				

Review Guide

EXPLOSIVES PROCESSING

	YES	IN PROGRESS	NO	REMARKS
Is the facility/process protected from the following external forces?				
(148) High winds (hurricanes/tornadoes)				
(149) Lightning/ Thunderstorms				
(150) Sinkholes or other special soil conditions				
(151) Utility failures				
(152) Sabotage/terrorism				
(153) Airborne particulate (pollen, seeds, volcanic dust, dust-storm, rain)				
(154) Natural fires (grass fires, forest)				
(155) Flooding				
(156) Drought (causing low water supply for suppression system and poor grounding)				
(157) Are units (i.e. AUR's) spaced to minimize potential damage from fires or explosions in adjacent areas and to allow access for fire fighting activities? Are there safe exit routes?				
(158) Are operators provided enough information to diagnose an emergency when an alarm sounds?				
(159) Does all equipment comply with applicable laws and regulations, codes and standards, and company guidelines?				
(160) Are operators offered the opportunity to review and revise procedures?				
(161) Are checklists used for critical processes & procedures?				
(162) Are operators shifted from line to line?				
(163) Are medical personnel (on- & off-site) aware of the hazards and trained/equipped to render appropriate treatment?				
(164) Is night lighting adequate?				
(165) Is emergency lighting adequate?				
(166) Do procedures include shipping, loading and unloading operations instructions?				
(167) How is safety training conducted for outside contractors/visitors?				
(168) Are all forklifts handling explosives equipped with deadman controls?				

Review Guide

EXPLOSIVES PROCESSING

	YES	IN PROGRESS	NO	REMARKS
(169) How are potential fires detected (e.g. smoke detectors, heat detectors, gas detectors, water flow sensors?)				
(170) What is the capacity of firewater supplies? How long will supplies last?				
(171) Are important fire protection resources (e.g. firewater pumps) located where they can be threatened by fires or explosions in the facility?				
(172) What precautions are necessary to meet environmental requirements and protect human health? Are there specific environmental restrictions that will limit operations?				
(173) Are there adequate, reliable means of reporting emergencies to a response team and to applicable government officials or agencies?				
(174) Do all electrically controlled fire suppression systems fail "OPEN"?				

- The DoD 4145.26M is a minimum standard. Increasing the suggested safeguard would lessen the effects of a Maximum Credible Event.
- Automation of processes limits personnel exposure.
- Product flow review can eliminate unnecessary steps and limit personnel exposure.
- Continuous employee training can cut down on human error.
- Process review may provide a safer way to produce an item.

Review Guide

EXPLOSIVES PROCESSING

A hazard analysis can identify potential problem areas and introduce solutions. Although the term is used often, little guidance has been provided. A hazard analysis should consider, but not be limited to, the following:

1. Eliminating or reducing the identified hazards, and avoiding hazards through design criteria, material selection, substitution, limiting quantity or volume or material in process or evaluating alternative locations.

2. The composition of new energetic materials and other potentially hazardous materials should be developed to exhibit the safest characteristics achievable.

3. Controlling and minimizing those hazards to personnel, equipment, and facilities that cannot be avoided or eliminated.

4. Isolating hazardous substances, components, and operations from other activities, areas personnel, and incompatible materials.

5. Incorporating "fail-safe" devices, barrier walls, or shields where failures would disable the system or cause a catastrophe through injury to personnel, damage to equipment, or inadvertent operation of critical equipment.

6. Locating equipment so access to it by personnel during operation, maintenance, repair, or adjustment would preclude exposure to hazards such as chemical burns, electrical shock, electromagnetic radiation, cutting edges, sharp points, or toxic atmospheres.

7. Avoiding undue exposure of personnel to physiological and psychological stresses which might cause errors or mishaps.

8. Providing suitable and inclusive warning and caution notes in operations, assembly, maintenance, and repair instructions; and distinctive markings on hazardous components, equipment, or facilities for personnel protection.

9. Minimizing damage or injury to personnel and equipment in the event of an accident.

Hazard analysis for handling and processing of energetic materials should include:

1. A process survey concerned with establishing potential initiation points, modes of initiation (impact, friction, etc.), and processing conditions under which initiation may occur. The processing conditions to be established include chemical and physical states of the ignitable material, material of fabrication which the ignitable material contacts, quantities and temperatures involved, and the likelihood that these conditions will promote transition to an explosive reaction after ignition.

Review Guide

2. Sensitivity evaluation to establish the results of initiating an energetic material under the conditions of mass, confinement, temperature, and configuration existing in the process. These results are important because the prevention of initiation cannot be guaranteed under abnormal or accidental conditions. Furthermore, one must know with a high degree of certainty whether the initiation will result in a fire or some catastrophic incident. All tests and the interpretation of the test results are to establish the threshold of initiation transition and propagation.

3. Support studies, when existing tests must be modified to duplicate an environmental condition, when a new method must be developed to establish the initiation characteristics and results of initiation, or when the mode of initiation must be determined.

Review Guide

INTO-PLANE

Consider the processes performed at this facility and the hazards associated with these processes.

	YES	IN PROGRESS	NO	REMARKS
(1) Does the contractor have refueling contracts other than the DFSC contract?				
(2) Do other agencies such as FAA, airlines, local fire department, or fuel supplier also accomplish equipment/facility inspections?				
(3) Is fuel system icing inhibitor (FSII) provided with jet fuel?				
(4) Is fuel received pre-mixed with FSII?				
(5) Is FSII provided by aerosol cans?				
(6) Is FSII provided by proportioned pump at time of servicing?				
(7) Are the refueling trucks owned by the contractor?				
(8) Are the refueling trucks maintained according to NFPA 407?				
(9) Are the refueling truck tanks stainless steel, aluminum, or epoxy coated?				
(10) Are the refueling trucks equipped with filter separators?				
(11) Are the refueling trucks equipped with piston type filter differential pressure gauges?				
(12) Are all pressure and quantity delivery gauges calibrated?				
(13) Are records of inspection of grounding / bonding equipment current?				
(14) Are single point and over the wing nozzle screen inspections current?				

Review Guide

INTO-PLANE

	YES	IN PROGRESS	NO	REMARKS
(15) Does the contractor use and maintain inspection records?				
(16) Is the fuel storage facility owned by the contractor?				
(17) Is the fuel storage tank above ground?				
(18) Does the contractor have spill prevention procedures in effect?				
(19) Are the fuel storage tanks underground?				
(20) Does the contractor have a leak detection system?				
(21) Does the contractor have the required fuel testing equipment for water, particulate contamination, fuel system icing inhibitor, and anti-static additive, if required?				
(22) Is there an airport fire department?				
(23) Is the fire department manned 24 hours per day, 7 days per week?				
(24) Is the fire department certified by FAA?				
(25) Does the fire department approve / test line service personnel?				
(26) Does the fire department provide fire extinguisher training?				
(27) Does the contractor have a formal line service training such as, AMR -Combs, Exxon, FAR part 139?				

Review Guide

INTO-PLANE

	YES	IN PROGRESS	NO	REMARKS
(28) Is the training documented?				
(29) Does the contractor accomplish "hot" refueling?				
(30) Does the contractor accomplish aircraft defueling?				
(31) Does the contractor provide engine oil service?				
(32) Does the contractor provide hydraulic fluid service?				
(33) Does the contractor provide oxygen system service, either LOX or high pressure (Aviators Breathing Oxygen (ABO)?				
(34) Does the contractor direct efforts to continuously improve the operation?				

Review Guide

INDUSTRIAL

Consider the processes performed at this facility and the hazards associated with these processes.

	YES	IN PROGRESS	NO	REMARKS
(1) Does the contractor have a process to review the contract to identify the requirements?				
(2) Does the contractor have the references that are pertinent which are referenced or incorporated in the contract?				
(3) Does the contractor comply with references?				
(4) Is the work performed by the contractor considered complex and / or hazardous and has the contractor analyzed the work and processes to identify, abate, or mitigate the hazards of the inherent risks and risks to government interests?				
(5) Has the contractor provided the necessary storage and handling facilities and equipment for corrosives, flammables, combustibles, etc.?				
(6) Do any of the contractor's operations require use of Personal Protective Equipment (PPE)?				
(7) Are government personnel exposed to those operations where PPE is required, and do they have they necessary equipment?				
(8) Are any exotic metals used that have unusual characteristics, e.g. magnesium, lithium?				
(9) Are any special requirements of the exotic metals complied with, i.e. fire fighting provisions, such as, Class D fire extinguishers?				
(10) Has the contractor accomplished training related to the hazards of the exotic metals, corrosives, flammables, or other special materials?				

Review Guide

INDUSTRIAL

	YES	IN PROGRESS	NO	REMARKS
(11) Are there processes that deserve special consideration that have not been addressed, such as: confined space entry, welding in confined spaces, defueling, purging and repair of fuel cells, etc.?				
(12) Is the contractor subject to the Process Safety Management (PSM) standard written by OSHA (1910.119)?				
(13) Has the contractor written the PSM if required?				
(14) Does the contractor inspect his Material Handling Equipment as may be required by various contractual requirements?				
(15) Does the contractor's training program for material handling equipment meet the contractual requirements?				
(16) Does the contractor have written procedures to prevent damage to government property or equipment during storage and handling?				
(17) Continuous Improvement Opportunity: Does the contractor strive to exceed the referenced requirements, which are the minimum requirements?				

Program Element

SAFETY PROGRAMS

Consider the processes performed at this facility and the hazards associated with those processes does the contractor:

	YES	IN PROGRESS	NO	REMARKS
(1) Have a safety policy and procedure? Does it include subcontractor management where required?				
(2) Have a written program?				
(3) Have management commitment and visible support to the program?				
(4) Integrate safety program efforts into solicitation planning, and contract performance?				
(5) Have an individual qualified to develop and implement a safety program to adequately safeguard against the hazards of the contracted item, or hazards to Government property while in the contractor's facility?				
(6) Provide responsible personnel with the resources and authority needed to carry out their jobs?				
(7) Have clear evidence of employee involvement?				
(8) Have clear objectives and well-expressed performance goals for the desired results of the safety program?				
(9) Analyze the work and the worksite to identify existing hazards and anticipated hazards (job hazard analysis) if required to protect Government interests?				
(10) Design hazards out of jobs as a first priority, and control unsafe exposures as a secondary priority?				

Program Element

SAFETY PROGRAMS

	YES	IN PROGRESS	NO	REMARKS
(11) Hold managers, supervisors, and employees accountable for meeting their safety responsibilities?				
(12) Provide training to all personnel consistent with their respective safety responsibilities?				
(13) Train supervisors to understand and carry out their responsibilities? Supervisors should be able to: identify unrecognized potential hazards -- maintain physical protections -- reinforce and enforce employee training.				
(14) Review the program on a regular basis to determine success, and make, revisions as required?				
(15) Conduct periodic, independent worksite safety audits?				
(16) Document audit findings and corrective actions to include status and close out?				
(17) Include safety in the analysis of new facilities, processes, materials, and equipment?				
(18) Provide a reliable system for employees to report unsafe conditions without fear of reprisal, and encourage its use?				
(19) Provide a system to respond in a timely manner to employee reports of unsafe conditions?				
(20) Provide positive reinforcement for employee compliance with safety goals and requirements where appropriate, such as peer recognition, awards, or other promotional efforts?				

Program Element

SAFETY PROGRAMS

	YES	IN PROGRESS	NO	REMARKS
(21) Enforce a clearly communicated discipline system if necessary?				
(22) Perform investigations of mishaps and near miss incidents and use the information to identify causes, both direct and proximate, for use in mishap prevention efforts?				
(23) Analyze injury, mishap, near miss, and property damage data to determine trends, and use that data in program implementation and improvement?				
(24) Determine the need for, provide, and require the maintenance of all contractually required personal protective equipment?				

Program Element

TRAINING/CERTIFICATION

Consider the processes performed at this facility and the hazards associated with those processes.

	YES	IN PROGRESS	NO	REMARKS
(1) Is specific training required by the contract?				
(2) Does the contractor have a formal training operation on-site?				
(3) Is there an agreement with local college, etc.?				
(4) Is all training documented?				
(5) Does the contractor track training?				
(6) Is the training tracked automatically?				
(7) Does safety have input into training requirements?				
(8) Are supervisors advised prior to expiration of currency/training?				
(9) Is documentation of training/certification by off-site agencies required? FAA A&P license, certified process vessel welder, fire department training?				
(10) Are there any waivers to training requirements currently?				
(11) Are all elements of DLAM 8210.1 which require training and certification addressed at aircraft facilities?				
(12) Is the safety office involved in training?				
(13) Does the safety manager present training personally?				

Program Element

TRAINING/CERTIFICATION

	YES	IN PROGRESS	NO	REMARKS
(14) Does the contract evaluate effectiveness of training?				
(15) Are all tests updated on a regular basis?				
(16) Are the tests controlled to prevent compromise?				
(17) Are personnel required to demonstrate proficiency after initial training and qualification on a regular basis?				
(18) Is a formal training program in place for personnel that handle hazardous material?				
(19) Does the contractor accomplish audits of existing training programs to ensure appropriate training is provided?				
(20) Is there training or drills required on emergency procedures, evacuations, fires or unusual events?				

Program Element

AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF)

Consider processes performed at this facility and the hazards associated with those processes.

	YES	IN PROGRESS	NO	REMARKS
(1) Is fire prevention and protection included in the contractor's safety surveys?				
(2) Does the contractor include ARFF requirements in their safety surveys?				
(3) Are there adequate procedures for fire prevention/protection and crash rescue?				
(4) Is fire protection response adequate to cover the entire airfield and facilities?				
(5) Does the contract contain ARFF requirements?				
(6) Is ARFF vehicle maintenance included in the contractor's surveys?				
(7) Does the contractor have the required ARFF capability based on aircraft type?				
(8) Does the contractor meet the staffing requirements for the number and type of vehicles assigned?				
(9) Does the contractor perform ARFF training of the specific type at frequencies required?				
(10) Is AARF training documented and currency maintained?				
(11) Does the contractor have adequate communication capabilities ?				
(12) Is a written mutual aid agreement required to provide ARFF protection?				

Program Element

AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF)

	YES	IN PROGRESS	NO	REMARKS
(13) Is a mutual aid agreement in effect?				
(14) Does the ARFF equipment meet NFPA 414 performance requirements?				
(15) Do the contractors tools and equipment meet NFPA standards?				
(16) Does the contractor have adequate water and agent supplies available to augment -first response capability?				

Program Element

FACILITIES AND EQUIPMENT

(FACILITIES)

Consider the processes performed at this facility and the hazards associated with those processes. Does the contractor have **facilities** which meet the contractual requirements for the protection of Government personnel, property, and production processes? These requirements may include:

	YES	IN PROGRESS	NO	REMARKS
(1) Installed fire protection systems designed for the actual process fire hazards. Is adequate documentation available to support the system design, installation, maintenance, testing, and intended applications?				
(2) Adequate ventilation systems for hazardous processes.				
(3) Fire walls, substantial dividing walls, or operational shields dependent upon the nature of the hazards. These must include the proper documentation, or the results of testing performed to support installations, use, and intended level of protection.				
(4) Protection, and if required, adequate separation from hazardous commercial processes.				
(5) Proper construction and separation between structures housing hazardous processes.				
(6) Proper storage locations and adequate capacity for Government property subject to damage and loss.				
(7) Electrical installations which meet the requirements for locations used.				
(8) Installed grounding/bonding systems where static electrical discharge may be a hazard.				
(9) Having an accurate site plan, and facility construction details for current operations where required.				
(10) Using remote facilities -- as opposed to attended operations -- to house processes for high hazard operations where required.				

Program Element

FACILITIES AND EQUIPMENT

	YES	IN PROGRESS	NO	REMARKS
(11) Having data to support new construction for over-pressure venting, or data to limit quantities of materials for existing structures and over-pressure venting.				
(12) Meeting all explosives quantity distance requirements at a minimum, or using protective structures.				
(13) Having adequate aisle space, required exits, proper illumination, and effective housekeeping to prevent injury to government personnel.				
(14) Having adequate room to accommodate production needs. This may include capability to provide in-process storage, of explosives/pyrotechnics/other hazardous materials. Or providing for an orderly flow of materials, and preventing excessive storage of finished product exposed to production hazard events.				
(15) Having an effective facilities maintenance program which makes safety related maintenance and repair a top priority for scheduling and resourcing.				

Program Element

FACILITIES AND EQUIPMENT

(EQUIPMENT)

Consider the processes performed at this facility and the hazards associated with those processes. Does the contractor use and maintain the proper **equipment** for contract performance? Considerations could include:

	YES	IN PROGRESS	NO	REMARKS
(1) Is all the equipment being used designed, and approved, for the current applications?				
(2) Has the equipment been "proofed" for current processes? This may require performing "dry runs" of equipment prior to introducing process materials into manufacturing cycle.				
(3) Does the contractor have an adequate, documented, equipment decontamination program in effect to protect maintenance processes, and to preclude inadvertent cross contamination of process materials?				
(4) Does the contractor have all the required safety equipment necessary to perform testing, analysis, and evaluation of hazards where required? Some examples include: conductive shoe/wrist strap testers, ohm meters, "meggers", flammable vapor detectors, pressure transducers/thermal flux monitors/noise meters where MIL STD 398 testing is involved, required fuels testing equipment, equipment calibration capability, current instructions on test equipment usage.				
(5) Is all the mandatory equipment testing being performed and documented at the required frequencies? Is there a program to alert the contractor to overdue tests or tests which have not been performed?				
(6) Is the equipment capable of producing undesirable reactions when exposed to process conditions, materials, or chemicals? Examples include: copper-lead azide reactions, fuels-cast iron, copper, galvanized steel prohibitions, non-conductive materials in line with a conductive path causing discontinuities, conductive materials in a shock hazard area, un-bonded metal masses in a grounded facility, etc.				

Program Element

FACILITIES AND EQUIPMENT

	YES	IN PROGRESS	NO	REMARKS
(7) Are all equipment controls clearly marked to indicate function? Are emergency controls obvious and located in such a way as to make their use practical and effective under emergency conditions? Are emergency controls tested periodically?				
(8) Is all equipment tested after repairs or maintenance are performed to verify status?				
(9) Is the equipment being used consistent with specification requirements such as Technical Orders, ANSI standards, National Fire Protection Association Codes etc.?				
(10) Is the equipment intended for use on the specific weapon system, airframe, vehicle, etc.?				
(11) Are the required interlocks, lock-outs, safe guards, and other installed protective features in place and operational ? Are redundant safety features available where required such as dual keys for test firing equipment?				

Program Element

MISHAP HISTORY

Consider the processes performed at this facility and the hazards associated with those processes.

	YES	IN PROGRESS	NO	REMARKS
(1) Does the contractor have a process to review the contract and other incorporated documents to identify the requirements?				
(2) Does the contractor have a written procedure and methods to report mishaps to the appropriate contractor personnel and (contract specific) government representative? (The contract designates the applicable government representative).				
(3) Does the contractor consistently report mishaps accurately and in a timely manner?				
(4) Has the contractor taken action to abate or mitigate the systemic cause(s) of the mishaps?				
(5) Is a thorough investigation accomplished on mishaps, or near misses?				
(6) Are the lesson(s) learned used to develop accident prevention strategy?				
(7) Have there been any contractually reportable mishaps, since your last visit, or within the last year, whichever is less?				
(8) Has the contractor had any mishaps to include non-DoD work since your last visit, or within the last year, whichever is less?				
(9) Does the contractor keep the government representatives informed of mishaps?				

Program Element

MISHAP HISTORY

	YES	IN PROGRESS	NO	REMARKS
(10) Does the information acquired or provided to the ACO, and property administrator regarding mishaps track with that documented on the accident / incident records that were reviewed?				
(11) Is there reason to suspect the information reported regarding mishaps, or the findings?				
(12) Does the contractor have the documents contractually referenced for mishap reporting and investigation, and does he comply with them?				

Program Element

PERFORMANCE/COMPLIANCE HISTORY

Consider the processes performed at this facility and the hazards associated with those processes. Does the contractor:

	YES	IN PROGRESS	NO	REMARKS
(1) Maintain historical data of past surveys, audits, inspections and reviews conducted, whether by internal or external agencies?				
(2) Analyze historical data or perform trend analysis on discrepant or non-compliant conditions?				
(3) Track and follow up on identified discrepant or non-complaint conditions until closure, mitigation or resolution?				
(4) Identify and utilize interim mitigation efforts until compliance is achieved?				
(5) Ensure compliance effort required is communicated to all contractor management and employees involved in the particular process?				
(6) Prioritize resources for application to the conditions that present the most risk?				
(7) Apply for waivers, exemptions or acceptance of existing conditions from the procuring office?				
(8) Identify, analyze and integrate continuous improvements into their safety management and manufacturing processes?				
Are Corrective Action Requests: ***Note: Responsiveness to Corrective Action Requests is a good indicator of the contractors management emphasis of the safety program***				
(9) Numerous, but of little consequence to production effort or risk to personnel?				
(10) As a result of recurring deficiencies which have detrimental consequences to production base or personnel?				
(11) Reflecting documentation or manufacturing process/facility non-compliance?				
(12) Coordinated with contractor personnel authorized to commit resources required to resolve issues?				

Program Element

PERFORMANCE/COMPLIANCE HISTORY

	YES	IN PROGRESS	NO	REMARKS
(13) Responded to reactively (fix the problem), with no preventative application to other processes or systems?				
Does the contractor have a continuous improvement methodology applied to the management of the safety program which should include the following elements:				
(14) Contractor readily accepts the opportunity for improvement (CIO).				
(15) The safety value added by the opportunity is analyzed.				
(16) Objective evidence of the analysis is documented and maintained.				
(17) Improvement proposals are coordinated through relevant levels of the contractor's management system.				
(18) Timely initiation of process and system changes identified as value added to the safety program.				
(19) Contractor has plans for periodic review of processes and systems to identify opportunities for improvement.				
Other characteristics of the contractor's effort that could reflect risk associated with the sub-element.				
(20) Compliance and performance history on other contractual efforts with similar processes, hazards and risks.				
(21) Contractor's availability and knowledge of the contractual referenced standards.				
(22) Contractor has objective evidence of an active self-inspection/audit program.				
(23) Contractor has a large number of waivers or exemptions.				
(24) No concerted efforts to mitigate or improve systems or facilities to reduce risk associated with waived or exempted condition.				
(25) Many non-compliant existing conditions submitted for acceptance at Preaward Survey.				

Program Element

PROCEDURES

Consider the processes performed at this facility and the hazards associated with those processes.

	YES	IN PROGRESS	NO	REMARKS
(1) Does the contractor have a process to review the contract to identify the contractual safety requirements?				
(2) Does he have access to all contractual references?				
(3) Does the contractor's system make provision to identify all operations for which procedures are explicitly required?				
(4) Is the contractor identifying implicit requirements for written procedures?				
(5) Does the contractor research down to the lowest-tier document to identify all requirements for written procedures?				
(6) Does the contractor have required written procedures?				
(7) Does the procedure accurately reflect conditions as they exist for the operation, not the generic requirements?				
(8) Does the contractor have a system in place to review his procedures against the operations involved for any discontinuity between the procedure and the actual operation?				
(9) Does the contractor have a system in place to ensure written procedures are reviewed, recertified, and changed as often as necessary to reflect improved methods, equipment substitutions, facility modifications, or process revisions?				

Program Element

PROCEDURES

	YES	IN PROGRESS	NO	REMARKS
(10) Was a procedure written, proved out, approved, and in place prior to commencing operations?				
(11) Is the procedure available for the operator's reference?				
(12) Are written procedures used as a training tool?				
(13) Is the training material presented to the employee in such a way that it can be understood, considering literacy, reading level, and language?				
(14) Does the contractor have written procedures to address emergency responses?				
(15) Does the contractor have written procedures to address "unusual events"?				
(16) Have the procedures been proved out?				

Program Element

FOREIGN OBJECT DAMAGE (FOD)

Consider the processes performed at this facility and the hazards associated with those processes.

	YES	IN PROGRESS	NO	REMARKS
(1) Does the contractor include FOD in the semi-annual flight survey?				
(2) Does the contractor have a FOD prevention program specifying responsibility for all personnel?				
(3) Is there a FOD standard in the contract?				
(4) Is a high level manager responsible for the FOD program?				
(5) Is there an education program for FOD for all employees?				
(6) Is In-process material controlled?				
(7) Are trends, repeats and incidents analyzed?				
(8) Is there a lost item procedure?				
(9) Are engine inspections accomplished?				
(10) Is there an airfield sweeping program?				
(11) Are all areas clean?				
(12) Are areas inspected prior to closing?				
(13) Does the contractor have a viable tool control program in place, with written procedures to follow?				
(14) Are tool boxes inventoried at the beginning and end of each shift by all workers?				

Program Element

FOREIGN OBJECT DAMAGE (FOD)

	YES	IN PROGRESS	NO	REMARKS
(15) Does the supervisor conduct random tool checks?				
(16) Are lost or missing tool and hardware identified and reported in a timely manner?				
(17) Are maintenance / manufacturing debris removed after each shift?				
(18) Are all inventory lists accurate on each random check?				
(19) Is there a role for the first line supervisor in tool control?				
(20) Are continuous improvement opportunities pursued?				

Program Element

DOCUMENTATION

Consider the processes performed at this facility and the hazards associated with those processes.

	YES	IN PROGRESS	NO	REMARKS
(1) Does the contractor have a process to review the contract and identify the contractual safety requirements?				
(2) Does the contractor have access to all contractual references?				
(3) Does the contractor's system make provision to record all activities for which documentation is required?				
(4) Does the contractor research down to the lowest-tier document to identify all requirements for documentation?				
(5) Does the contractor record actual readings or values obtained from required testing (i.e. OHMS, FSII content, etc.)?				
(6) Is the documentation presented consistent with observed conditions?				

AIRCRAFT PROCESS RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 HIGH

- ***Contractor performs these operations:***
  - Major overhaul
  - Egress Systems modifications and repair
  - Spray painting
  - Refuel/Defuel
  - Fuel System Repair
  - Engine Runs/Test Cells
  - Fueled aircraft in hangars
  - Sole source supplier

2 MEDIUM

- ***Contractor performs these operations:***
  - Fueled aircraft in hangar with water deluge
  - Operations involving waived fire protection requirements
  - A & E storage, Egress removal and storage

1 LOW

- ***Contractor performs these operations:***
  - Component exchange
  - Systems and component checks
  - Fueled aircraft in hangar with full foam capability
  - Aircraft processes with energetics left in place

RISK VALUE (Derived from observed conditions)

[ ] (1, 2, 3)

AMMUNITION AND EXPLOSIVES PROCESS RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 HIGH

- ***Contractor performs these operations:***
  - Explosives Processing
  - Demil/Disposal
  - Rework
  - Research, Development, Testing and Evaluation (RTD&E)
  - Suspect materials
  - Attended operations
  - Range operations
  - Sole source supplier

2 MEDIUM

- ***Contractor performs these operations:***
  - Assembly of components
  - Service magazines widely utilized
  - Shielded process
  - Remote processes
  - Non-propagating configuration for in-process materials
  - Storage of 1.1, 1.2 & 1.3 materials in shipping configuration

1 LOW

- ***Contractor performs these operations:***
  - Storage of 1.4 materials
  - Assembly of 1.4 components
  - Process shields tested for Maximum Credible Event (MCE)
  - Small quantities
  - Insensitive materials

RISK VALUE (Derived from observed conditions)

(1, 2, 3)

INDUSTRIAL PROCESS RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 **HIGH**

- Contractor performs complex, hazardous processes.
- The contractor is the sole source supplier.

2 **MEDIUM**

- The contractor performs operations such as those found in light industrial or assembly operations not involving complex processes.

1 **LOW**

- Contractor performs relatively simple processes.

RISK VALUE (Derived from observed conditions)

(1, 2, 3)

INTO-PLANE PROCESS RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 HIGH

- ***Fueling Operations Involving:***
  - New contractor with no performance history
  - Unique/strategic aircraft
  - Flammable fuels (JP-4, 100 LL)
  - Defueling Ops
  - Rapid (Hot) Refueling requirements

2 MEDIUM

- ***Fueling operations involving:***
  - Existing contractor with no recent preaward
  - Large quantity contract
  - Combustible fuel (COMJET A, JP-8)

1 LOW

- ***Fueling Operations Involving:***
  - Experienced contractor
  - High Flash Point Fuels (JP-5)
  - Provides fuels to commercial airlines

RISK VALUE (Derived from observed conditions)

[ ] (1, 2, 3)

SAFETY PROGRAM ELEMENT RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 HIGH

- ***Contractor has:***
  - No safety program
  - Safety program not implemented
  - No management support to safety program
  - Mishaps attributable to lack of safety program implementation

2 MEDIUM

- ***Contractor has:***
  - Inconsistent safety program
  - Safety program is low priority to management
  - Inadequate documentation of safety program
  - No accountability for program implementation
  - Performed no trend analysis

1 LOW

- Contractor's safety program contains documentation, management visibility and support, trend analysis, accountability, Process Safety Management (PSM) where required, and is functionally integrated.

RISK VALUE (Derived from observed conditions)

[ ] (1, 2, 3)

DOCUMENTATION ELEMENT RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 HIGH

- ***Contractor:***
  - Does not have required documentation available.
  - Documentation is inconsistent with actual tests performed or observed conditions.

2 MEDIUM

- ***Contractor:***
  - Documentation is not current.
  - Does not maintain documentation for requisite periods of time.
  - Has no systematic means to determine documentation requirements.

1 LOW

- ***Contractor:***
  - Maintains required documentation for requisite periods of time
  - Has a system to determine documentation requirements, maintenance and disposition.

RISK VALUE (Derived from observed conditions)

 (1, 2, 3)

TRAINING/CERTIFICATION ELEMENT RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 HIGH

- ***Contractor:***
  - Has no formal training or certification program.
  - Does not follow existing program.
  - Has instances of untrained or unqualified personnel performing highly complex or hazardous tasks.

2 MEDIUM

- ***Contractor:***
  - Has a formal training or certification program not inclusive of all tasks.
  - Has an inadequate program to maintain currency.
  - Has no training focal point.

1 LOW

- ***Contractor's training and/or certification program:***
  - Has all tasks addressed.
  - Has complete documentation.
  - Has supervisory and management involvement.
  - Has an active self audit element.

RISK VALUE (Derived from observed conditions)

[ ] (1, 2, 3)

MISHAP HISTORY ELEMENT RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 HIGH

- ***Contractor has or had:***
  - A reportable explosive mishap within the last year.
  - Failed to accurately report mishaps in established time frames.
  - Suspect mishap data.
  - Any Class A or B mishaps within the last year.
  - Multiple Class C mishaps within last year.

2 MEDIUM

- ***Contractor:***
  - Is new with NO mishap data.
  - Has reportable mishaps within the last 2 years.
  - Has Class A or B mishaps within last 2 years.
  - Has Class C mishap within last year.
  - Has numerous recordable (OSHA) mishaps within last year.

1 LOW

- ***Contractor:***
  - Has no reportable mishaps within last 3 years.
  - Has low recordable mishap rate.
  - Utilizes trend analysis.

RISK VALUE (Derived from observed conditions)

[ ] (1, 2, 3)

FACILITIES and EQUIPMENT ELEMENT RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 HIGH

- ***Contractor:***
  - Facility does not provide the required level of protection for critical processes.
  - Facility is inadequate for production needs.
  - Has no facility or equipment maintenance plan/program.
  - Uses equipment or facilities not approved/intended for current operations or applications.

2 MEDIUM

- ***Contractor:***
  - Uses mitigation to address requirements.
  - Implementation of maintenance program is inconsistent.
  - Operates with facility waivers in place.
  - Facility is operating at capacity.

1 LOW

- ***Contractor:***
  - Facility meets requirements for protection of government assets.
  - Has an active maintenance program in place.
  - Facilities and equipment are designed for current application.
  - Has experienced no facility related damage to government assets.

RISK VALUE (Derived from observed conditions)

[ ] (1, 2, 3)

PROCEDURES ELEMENT RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 HIGH

- ***Contractor:***
  - Does not have required procedures.
  - Personnel observed not complying with established procedures.
  - Procedures do not reflect actual processes and operations.

2 MEDIUM

- ***Contractor:***
  - Does not have a complete system for procedures development, review, approval, and revision.
  - Current procedures are not always consistent with requirements.
  - Procedures are not reviewed at required intervals.
  - Does not perform self-audit of procedures system.

1 LOW

- ***Contractor:***
  - Has all required written procedures.
  - Has processes and program elements to ensure compliance is maintained.

RISK VALUE (Derived from observed conditions)

[ ] (1, 2, 3)

COMPLIANCE ELEMENT RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 HIGH

- ***Contractor has:***
  - Existing noncompliant conditions, or recurrent deficiencies.
  - No mandatory safety standards imposed in the contract.
  - Contract awarded contrary to negative safety recommendation.
  - No preaward survey.
  - Contract awarded without Specialized Safety participation.
  - Significant outstanding Corrective Action Requests.

2 MEDIUM

- ***Contractor has:***
  - New product, established processes
  - Old product, new processes
  - Been performing with waiver, letter of intent, or acceptance of existing conditions.
  - Responded to most Corrective Action Requests in a timely manner.
  - Responded to Corrective Action Requests, but not addressed root causes.

1 LOW

- ***Contractor:***
  - Is currently in compliance.
  - Experienced with products and processes.
  - Has no current outstanding Corrective Action Requests.

RISK VALUE (Derived from observed conditions)

[ ] (1, 2, 3)

AIRCRAFT RESCUE and FIRE FIGHTING RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 HIGH

- ***Contractor:***
  - Does not possess the proper ARFF equipment IAW contractual or NFPA Standards.
  - Does not have enough qualified personnel.
  - Has no record of testing fire fighting response.
  - Cannot meet required ARFF response times.

2 MEDIUM

- ***Contractor program:***
  - Has occasional vehicle coverage gaps.
  - Exceeded limit for some response times.
  - Includes trained non current personnel augmenting ARFF crews.
  - Corrective Action Plan is developed to eliminate shortfalls.

1 LOW

- ***Contractor:***
  - Meets all ARFF standards for vehicles, manning and equipment.
  - Performs periodic, realistic ARFF response exercises.
  - Response times are within standards.

RISK VALUE (Derived from observed conditions)

[ ] (1, 2, 3)

FOREIGN OBJECT DAMAGE ELEMENT RISK VALUE SHEET

INSTRUCTIONS:

1. Compare known or observed conditions at the contractor's facility with the risks shown below.
2. Select the numeric **potential risk** below that most closely characterizes the contractor.
3. Enter the number in the **risk value** box at the bottom of the page.

POTENTIAL RISK

3 HIGH

- ***Contractor:***
  - Has ineffective procedures or poor employee buy in shown by:
    - No FOD and Tool Control program
    - No lost tool program
    - No tools etched
    - No tool shadowboxing
    - No accountability for tool crib
    - No tool audit program
  - Has had a FOD incident within the last 6 months

2 MEDIUM

- ***Contractor:***
  - FOD and Tool Control program includes all the positive measures but management does not ensure that is always followed.
  - Employees are not motivated to follow the program measures
  - Has had a FOD incident within the last year.

1 LOW

- - Has a positive FOD and Tool Control program with: all tools etched, a lost tool program all tools shadowboxed, total accountability for tool cribs, special or regular tools, daily tool audit program.
  - Program is supported totally by both employees and Management.
  - Has had no FOD incidents in the last year.

RISK VALUE (Derived from observed conditions)

[ ] (1, 2, 3)

INTO-PLANE MATRIX

PROGRAM ELEMENTS	Enter Risk Element Values	**X weight =**	Weighted Values
SAFETY PROGRAM		X 2 =	
DOCUMENTATION		X 3 =	
TRAINING/CERTIFICATION		X 2 =	
MISHAP HISTORY		X 2 =	
FACILITIES & EQUIPMENT		X 3 =	
PROCEDURES		X 2 =	
COMPLIANCE		X 3 =	
FOREIGN OBJECT DAMAGE		X 2 =	
		Total of Weights = 19	Add This Column For Total of Values

		Total of Weights
	Divided by	19
	+	
Plus Risk Value from Process Risk Sheet		
	=	
	Divided by	2
	=	
	Total Risk	

TOTAL RISK	**RATING**
1 to 1.5	LOW
> 1.5 to 2..2	MEDIUM
> 2.2 to 3	HIGH

AIRCRAFT MATRIX

PROGRAM ELEMENTS	Enter Risk Element Values	**X weight =**	Weighted Values
SAFETY PROGRAM		X 3 =	
DOCUMENTATION		X 3 =	
TRAINING/CERTIFICATION		X 3 =	
MISHAP HISTORY		X 2 =	
FACILITIES & EQUIPMENT		X 2 =	
PROCEDURES		X 3 =	
COMPLIANCE		X 3 =	
AIRCRAFT RESCUE AND FIREFIGHTING		X 3 =	
FOREIGN OBJECT DAMAGE		X 2 =	
INTO-PLANE REFUELING		X 2 =	
		Total of Weights = 26	Add This Column For Total of Values

Total of Weights

Divided by 26

\+

Plus Risk Value from Process Risk Sheet

=

Divided by 2

=

Total Risk

TOTAL RISK	**RATING**
1 to 1.5	LOW
> 1.5 to 2.2	MEDIUM
> 2.2 to 3	HIGH

A&E MATRIX

PROGRAM ELEMENTS	Enter Risk Element Values	**X weight =**	Weighted Values
SAFETY PROGRAM		X 3 =	
DOCUMENTATION		X 3 =	
TRAINING/CERTIFICATION		X 1 =	
MISHAP HISTORY		X 3 =	
FACILITIES & EQUIPMENT		X 3 =	
PROCEDURES		X 3 =	
COMPLIANCE		X 3 =	
		Total of Weights = 19	Add This Column For Total of Values

Total of Weights

[ ] Divided by [19]

\+

Plus Risk Value from Process Risk Sheet [ ]

=

[ ]

Divided by 2

=

Total Risk [ ]

TOTAL RISK	**RATING**
1 to 1.5	LOW
> 1.5 to 2.2	MEDIUM
> 2.2 to 3	HIGH

INDUSTRIAL MATRIX

PROGRAM ELEMENTS	Enter Risk Element Values	**X weight =**	Weighted Values
SAFETY PROGRAM		X 2 =	
DOCUMENTATION		X 1 =	
TRAINING/CERTIFICATION		X 1 =	
MISHAP HISTORY		X 2 =	
FACILITIES & EQUIPMENT		X 2 =	
PROCEDURES		X 2 =	
COMPLIANCE		X 3 =	
		Total of Weights = 13	Add This Column For Total of Values

Total of Weights

[ ] Divided by [13]

\+

Plus Risk Value from Process Risk Sheet [ ]

=

[ ]

Divided by 2

=

Total Risk [ ]

TOTAL RISK	**RATING**
1 to 1.5	LOW
> 1.5 to 2.2	MEDIUM
> 2.2 to 3	HIGH