Air Force Shop-Level Hazardous Material Management Process Guide

HAZMAT2 made Eazy (az pozzible)

The complete simple-to-follow guide when ordering, using, storing, and disposing of hazardous materials.

December 2016

3rd Edition

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1. Introduction

1.1 Background

The tracking of hazardous materials (hazmats) is not a new concept. Cavemen are reported to have instituted the first tracking system using crude and often barbaric methods to enforce compliance. While many believe that little has changed over the years, these first rudimentary attempts at tracking hazmats have evolved to today's more sophisticated methods of managing hazmats. The challenge to tracking hazmats throughout the ages really always boiled down to one thing—everybody buys and uses them. From the war paint used by ancient armies to the chrome paint used on nuclear missiles, great nations have struggled with managing the common hazmat and consequently many disappeared into the fog of history as a result of their failures. The AF also struggled with managing hazmats the first 40 years of its existence before a significant breakthrough was made with the realization that a systematic approach was needed to bring together installation-wide organizations who buy, use and dispose of hazmats. Under a new innovative approach, base-wide organizations were brought together under the Hazardous Materials Management Process (HMMP) and a new team was created to work hazmat issues. This revolutionary new hazmat managing system became policy in Air Force Instruction (AFI) 32-7086, *Hazardous Materials Management*, effectively taking hazmat management out of the dark ages and into the 21st century.

The purpose of this guide is not to make everyone a hazmat genius, but rather give you, our customer, a simple and easy to follow reference when it comes time to order, use, and ultimately dispose of any hazmats. We all need to do this right, as some scientists now believe that the extinction of the dinosaur is linked to the caveman's ultimate inability to manage their hazmats… and maybe that crazy asteroid theory too.

1.2 The HMMP Team

If playing on a team harkens back unpleasant childhood memories of being the last one picked when forming neighborhood football teams, don't worry—anybody willing to contribute is welcome! Nobody is turned away and everyone adds value—the most successful HMMP teams are also the most cross-functional, including dedicated Civil Engineering Environmental Experts, Bioenvironmental Engineers, Safety Representatives, Fire Emergency Service Inspectors, Supply functionals, Unit Environmental Coordinators (UECs), and organizations using hazmats. HMMP teams can be found at the air staff and at base level across the Air Force, wherever a hazmat is used. The teams are tasked with implementing AFI 32-7086.

1.3 The Enterprise Environmental, Safety, and Occupational Health Management Information System (EESOH-MIS)

All great management system endeavors require the right supporting tools that usually involves a comprehensive IT solution. For the HMMP teams, that tool is the web-based EESOH-MIS on the AF Portal and it is the only approved Air Force hazmat and waste tracking system. The tool can track and help manage all the hazmat and subsequent waste bought, stored, used, and disposed of at an AF base. Because it is "enterprise" and the data

is all stored in one place, data from across the AF can be rolled up without having to ask each installation through a datacall. Truly an enterprise system, it can be accessed by all levels—shop users, HMMP Team members, supply points, even the highest reaches in the AF. Everybody plays a role to properly manage their hazmats, and the system replaces inefficient old paper and pencil methods. One of the basic building blocks in EESOH-MIS is the shop—it all starts with the need for a hazmat in a shop process.

Do I need access to EESOH-MIS?

If a hazmat is used in a work center, the shop supervisor will at a minimum need EESOH-MIS access to certify shop authorization requests, order material online, track use, print hazmat inventories or Safety Data Sheets (SDSs). Other shop personnel can also have access as needed.

How do I get access?

You must have a Common Access Card (CAC) and access to the Air Force Portal. You will need to complete a DD Form 2875, *System Authorization Access Request* (SAAR), and submit it to your installation EESOH-MIS SAAR POC.

Where is Help?

1. Information about EESOH-MIS is located at www.eesoh-mis.com.

2. The EESOH-MIS Help Desk can be reached at 1 (866) 488-4069 or helpdesk.eesoh-mis@caci.com. Anyone can call the Help Desk with an EESOH-MIS question. Note: contact your SAAR POC to reactivate a user account.

3. There are Quick Reference Guides posted on the EESOH-MIS eDASH page to walk you through the things you use frequently at: https://cs1.eis.af.mil/sites/edash/Web%20Part%20Pages%20%20Program%20Pages/Environmental/Hazardous%20Materials.aspx and then select the appropriate topic on the right side list.

1.4 Hazmat Tracking Activities (HTAs)

All kinds of hazmats enter a base from different sources destined for numerous users—the trick is tracking all that without affecting the mission or ops tempo. To get that done, hazmat gate keepers were created—HTAs. The HTA (previously known as a Hazmart) acts as the "door" for each source of supply through which a hazmat is allowed onto an installation. There are many different sources of supply and include any method that can be used to acquire or procure hazmat, such as:

- Enterprise Solution Supply (ESS/SBSS)
- Civil Engineering Material Acquisition System (CEMAS)
- Defense Medical Logistics Standard Support (DMLSS)
- Government Purchase Card (GPC) or State Purchase Card (SPC)
- Form 9 or other contracting mediums
- Other procurement sources

Each organization (EESOH-MIS Shop) requiring hazmat is assigned an HTA to track all usage regardless of how they are purchased or obtained, even if free or shared. By tracking hazmat, the entire environmental, safety and occupational health (ESOH) team on the HMMP can help ensure shops are properly prepared and equipped to deal with its usage.

When properly maintained and updated, EESOH-MIS provides the Air Force reliable data for federal, state, local government, and foreign country regulators on hazmat usage and storage on base. The reports allow neighboring communities to know what is kept in their "backyard", and this information is used by emergency responders in the event of fire or natural disaster.

EESOH-MIS can also quantify hazmat usage in a particular process or on a particular weapon system. This information is useful to systems and depot engineers when eliminating the more hazardous materials in favor of less or even non-hazardous materials. These opportunities to reduce, replace, consolidate or share hazmat stocks also avoid expired shelf-life and hazardous waste costs. All these activities work only if the data in EESOH-MIS is reliable. The shops play a vital role with this and this guide shows shop personnel the importance of their actions in this, and other, tasks.

1.5 Resources and Policy

Establishing a complex tracking and management system involves a concerted effort by all levels of an organization. Thanks to the wonders of automation, we gathered all the important stuff and information into a "one stop shop". That spot is eDASH, a Sharepoint site maintained by the Air Force Civil Engineer Center's (AFCEC) Environmental Management Directorate. You can access the Hazmat Page of eDASH at: https://cs1.eis.af.mil/sites/edash/Web%20Part%20Pages%20%20Program%20Pages/Environmental/Hazardous%20Materials.aspx

On eDASH you can access documents mentioned in this guide, view a calendar of training opportunities, and use the discussion board to ask questions. If you have trouble accessing eDASH, talk to your HMMP Team for help.

Special section just for Shop-Level Hazmat Management!

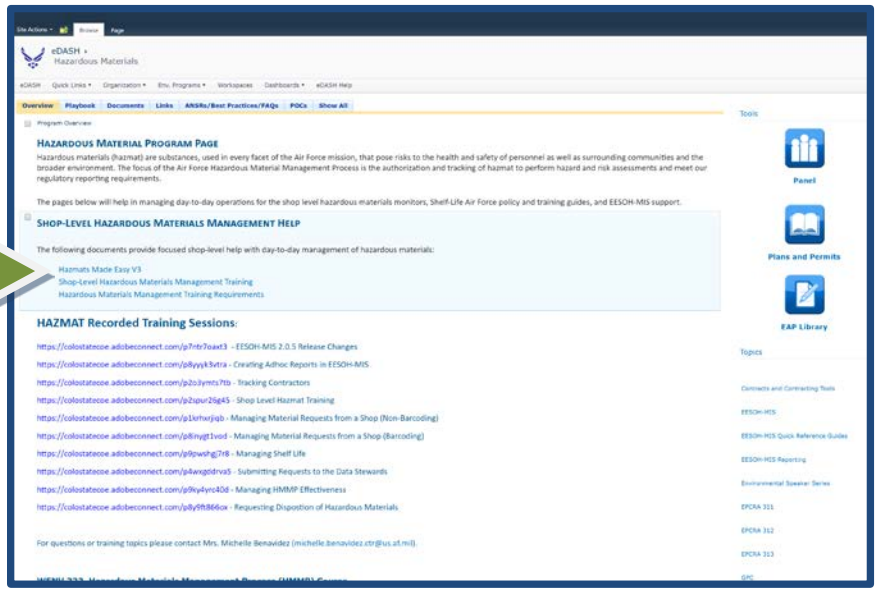
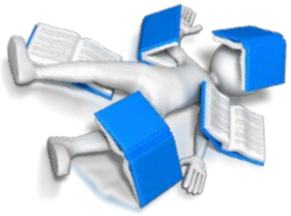


Figure 1 - eDash HM Page Showing Shop-Level Hazmat Section Access

There is a long list of policy documents that apply to managing hazmat and we have read them all for you and wrote this guide. But if you just have to check them out for yourself, we posted them on the eDASH hazmat page. This guide is all about you, so we made it super easy and listed the most important ones below in Table 1, Hazmat Related Policy Reference.



Level	Citation	Regulatory Title	Publication Date	Why the Shop Cares
AF	AFI 32-7086	Hazardous Material Management	4 Feb 2015	Primary policy for Hazardous Material Management
AF	AFJMAN 23-209	Storage and Handling of Hazardous Materials	13-Jan-1999	Primary policy for storage of Hazardous Materials
AF	AFJMAN 23-227	Storage and Handling of Liquefied and Gaseous Compressed Gasses and Their Full and Empty Cylinders	16 Jun 2000	Guidance on storing compressed gas cylinders
AF	AFI 90-821	Hazard Communication (HAZCOM) Program	20 Jan 2014	AF Hazard Communication Standard policy.
AF	AFI 32-7047	Environmental Compliance, Release, and Inspection Reporting	22 Jan 2015	Defines the roles of applicable organizations within the AF as they pertain to environmental compliance, release, and inspection reporting.
AF	AFI 32-7001	Environmental Management	16 Apr 2015	Establishes an Environmental Management System (EMS) as the framework for continual program and process improvement through clearly defined environmental roles and responsibilities, planning requirements, budgeting, effective implementation and operation, and management review
Federal	FED-STD 313E	Federal Standard, Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities	1 Jul 2014	This policy provides hazardous material guidance for contractors doing business with the government.
Federal	E.O. 13693	Planning for Federal Sustainability in the Next Decade	19 Mar 15	Requires all federal agencies to conserve and reduce use of material resources and be good neighbors to the citizens they serve and in the communities where they are located and operate.

Table 1- Hazmat Related Policy Reference

2. How Can I tell a Hazardous Material?

If today is the first time you are ordering or purchasing a particular item, this question should invariably cross your mind. This is perhaps the most fundamental question in the whole HMMP, and the answer determines whether you will need HMMP approval before you procure the item. It does not matter whether you are procuring the item through the supply system, GPC, or other contracting vehicle—if the item is a hazmat, it must first be approved by the HMMP. Do not buy anything you suspect may be a hazmat until you are sure. And once you decide you have a hazmat then this guide applies.

EXEMPT HAZMATS must be unanimously approved by the ESOH team and posted to EESOH-MIS

2.1 Hazmat Definition

Several agencies define hazmat for their particular purposes such as for storing, transportation, environmental, and occupational health.

For the purposes of typical hazmat management in the shop, we use AFI 32-7086 which defines hazmat as all items that are:

- Covered under EPCRA[1] or other applicable host nation, federal, state, or local tracking or reporting requirements;
- Covered under the OSHA HAZCOM Standard[2] (29 CFR 1910.1200) or the OSHA Occupational Exposure to Hazardous Chemicals in Laboratories Standard (29 CFR 1910.1450);
- and all Class I or Class II ODS
- any additional requirements identified in your country specific FGS
- does **not** include Munitions; pharmaceuticals managed by an installation pharmacy or formulary; radioactive materials; and Hazardous Waste.

And once you decide you have a hazmat then this guide applies

Before we go into what you should consider when determining whether something is a hazmat or not, it makes more sense to see if it can be exempted from HMMP approval in the first place.

2.2 Are There Exemptions?

Absolutely! EESOH-MIS maintains a list of exempted items. Exempted materials require NO authorization and NO tracking and since they are not tracked, EESOH-MIS does not enforce limited quantities—check with your HMMP team for more details on exemptions at your base! So if you can use an exempt material, you just eliminated all the hazmat red tape. But first a few words of caution. There are some items and products that we all use day-to-day which may contain a hazmat but require no tracking due to

[1] EPCRA is the Emergency Planning Community Right-to-Know Act

[2] The OSHA Hazard Communication Standard (29 CFR, 1910.1200 (c)) [2] defines a hazmat as: "*hazardous chemical means any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified".*

the nature of the chemicals and their intended use. It is also very important to know that how you use a hazmat also determines whether we must follow the HMMP process or not.

The most common reason for exempting a hazmat is under the OSHA allowed exemption for Consumer Commodities[3] and when the expected use across the installation meets the exemption definition:

1) You must be able to buy the product as a typical consumer would (i.e., retail store or consumer container sizes)
2) The product must be used as the manufacturer intended a consumer to use it (i.e., following the use directions on the product), and
3) The duration and frequency of the use is the same as a typical consumer.

In other words, ordering bulk quantities of an exempt household cleaner to degrease parts and circumvent the process is not acceptable. If your degreasing process requires a household cleaner, then this use falls not only under the federally-mandated hazard communication program, but also requires HMMP approval prior to use. Not all consumer commodities will make it to the exempt list—the ESOH team will make a final decision based on all regulatory ESOH concerns. Keep in mind that all exemptions are local only—just because it is exempt at one base, does not mean it is exempt everywhere. Sorry, not our rules but OSHA's (you know, the men in black who protect your health and safety and purportedly Earth from aliens, and they don't take kindly to breaking the rules!)

However, when using a normal household cleaner to clean around the shop, i.e., counter tops, desks, windows, lavatories, etc, as you would in your home, the exemption may apply. Note that housekeeping staff or janitorial services are not typically covered by this exemption, as they are exposed to the product for much longer periods of time. It is the user's responsibility to make sure these exempted hazmats are not misused. If abuse of an exempted hazmat is prevalent, we'll have no choice but to require HMMP approval for each use. Let's all work together and keep this simple!

Your ESOH team reviews each item before putting it on the Exempt List and the decision to exempt an item must be unanimous. Always check the list before bypassing the hazmat process. If it is not on the list and you think it should be, ask the HMMP to review it for placement on the Exempt List. You are encouraged to use items off this list first. If you find a product listed on the Exempt List, no further action is required, and you are free to procure and use the product responsibly without HTA tracking. This does not relieve the user from applicable requirements like ensuring proper storage, labeling, and disposing of the product.

Typical items on an exempt list include things like shoe polish, car wax, hand soaps, Windex®, markers, toners, etc.

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[3] 29 CFR 1910.1200(b)(6)(ix) Any consumer product or hazardous substance, as those terms are defined in the Consumer Product Safety Act (15 U.S.C. 2051 *et seq.*) and Federal Hazardous Substances Act (15 U.S.C. 1261 *et seq.*) respectively, where the employer can show that it is used in the workplace for the purpose intended by the chemical manufacturer or importer of the product, and the use results in a duration and frequency of exposure which is not greater than the range of exposures that could reasonably be experienced by consumers when used for the purpose intended;

2.3 So it's not exempt… Nuts!

If it's not exempt, then we need to figure out if it's a hazmat that needs HMMP approval prior to use. Sometimes there is no sure-fire, easy way to figure out what's a hazmat and what's not, and there are many requirements that seem to conflict or confuse the issue of what we need to track. To simplify the hazmat determination and build in some common sense, use the following questions to help you find the answer to whether you are buying a hazmat or not:

- ***Does the item have a Safety Data Sheet (SDS)[4]?***
- ***Are there health warnings printed on the item or in use directions?***
- ***Does the item generate hazardous waste when disposed or consumed?***
- ***Does the item contain any radioactive material?***
- ***Is the item packaged in an aerosol can?***
- ***If it is a bulk item, do similar items packaged individually carry the above concerns?***
- ***Do you have even the slightest doubt about the hazardous nature of the product?***

If you answer yes to any of the questions above, and you really need that material, then be sure to contact an HMMP team representative or begin with the authorization process (Chapter 4).

3. Ozone Depleting Substances (ODS)[5]

These items are important, and they must be managed as a hazmat. ODSs are used in many of our weapon system fire suppression systems and you cannot buy those kind of ODSs anymore. When it became clear that the worst ODSs were not going to be manufactured anymore, the AF decided to stock-pile those ODSs to meet the expected life of affected weapons systems and stored them in one really really big Defense Logistics Agency (DLA) warehouse. So, we won't bore you on all the details here but if your job involves the use of ODSs you need to read section 3.6.1.1 in AFI 32-7086. Know too that buying and using these ODSs requires a special approval process and there are also recovery and turn-in requirements for most unwanted ODSs.

4. The Authorization Process

You've made it this far in the guide, so you must need an item that may be hazardous to perfrom a shop process. The next step is securing an authorization from the HMMP team to order or purchase the product. There's good news and bad news here. The bad news is that you have to complete an authorization request via EESOH-MIS. The good news is that once you do this, you usually never have to do it again for that hazmat in a specific process. The initial request establishes your requirement for a hazmat to meet mission objectives. Your authorization will route in EESOH-MIS to reviewers for approval. Once approved,

[4] "Safety Data Sheet" replaces the term "Material Safety Data Sheet" in the Hazard Communication Standard (HAZCOM), 29 CFR 1910.1200 and is defined as "…written or printed material concerning a hazardous chemical that is prepared in accordance with paragraph (g)" of the standard.

[5] http://www.epa.gov/ozone/strathome.html Link to EPA's site on Ozone Layer Protection.

recurring orders of the same material for the same process will only require placing an order through your HTA or in EESOH-MIS.

Sound too good to be true? You're right – it is – there is a catch! Your authorization is only good until you change something important with your authorization. If your process changes, you will be required to ***Propose a Change*** to the current authorization in EESOH-MIS, which will reroute the authorization for review. If you need to use the same material in a different process, you'll need to submit a new process authorization. This is important in the Logistics arena where multiple processes may use the same hazmat. Each process requires a separate authorization.

You might have picked up on the two different authorizations involved in the final approval—hazmats are authorized by process, so both the process and the hazmat must be reviewed and authorized. The process is the driver for using a hazmat, and as such, is the heart of the hazmat approval process. Simply put, you can not have a hazmat without a valid process to use it in first.

Bottom Line: If you are using a non-exempt Hazardous Material in your shop, you MUST have an approved Authorization in EESOH-MIS - FIRST

Here is the typical flow of an authorization request:

Requestor	the requestor can be anyone in your shop with access to EESOH-MIS
Certifying Official	this person MUST be the shop supervisor. This cannot be delegated to anyone else other than an acting supervisor. The supervisor can also be the requestor.
The approvers/reviewers can be in any order set by your installation EESOH-MIS configuration	
Environmental	usually your HMMP Team lead
Occupational Health	otherwise known as the Bioenvironmental Engineers (BEEs)
Safety	typically ground safety

Table 2 – Typical Process Authorization Routing

4.1 Material Stock Numbers

Authorizations for hazmat are against a "Material Stock Number" (MSN). This is a term unique to EESOH-MIS and means the material either has a bonafide National Stock Number (NSN) or a Stewarded Local Purchase Number (SLPN). These numbers are found in EESOH-MIS and you must know the MSN for the hazmat in order to complete your process authorization. If you do not know the number, then call your servicing HTA and they can help you find a good number.

Unlike NSNs, where multiple similar products are associated to the same number, SLPNs are unique to a single product in a particular unit of issue. They are denoted by having "PHM" after the Federal Stock Class (the first four numbers). For example, 7930PHM00012968 is the number for a 5 gallon can of 1056 aircraft cleaner II from the Acuity Specialty Products Group DBA ZEP Mfg Co. Note that this same number is used at all AF bases that local purchase this material in a 5 gallon can by Acuity Specialty Products Group DBA ZEP Mfg Co.

4.2 Process Authorizations

A "Process Authorization" establishes your need to perform a task that uses hazmat(s). An approved process authorization is the focal point for obtaining "Material Authorizations" and serves as your "permission slip" to request hazmats needed to perform that process. The first step to securing a process authorization is to define the process or what you will be doing. Once defined, you can add all the materials associated to that process. Start by identifying all the process components and isolate the parts that use a hazmat. Since PPE, controls, waste, air emissions, and environmental aspects[6] are attributes tied to the process and not to the material, it is important to ensure the process is isolated at a low enough level. If items such as PPE, hazards (abrading, heating, pressurizing), handling methods (applying paint with rollers versus HVLP[7] guns), vary within a process, then the process MUST be further broken down into multiple processes. This step needs to be repeated until the process attributes target the specific materials you need.

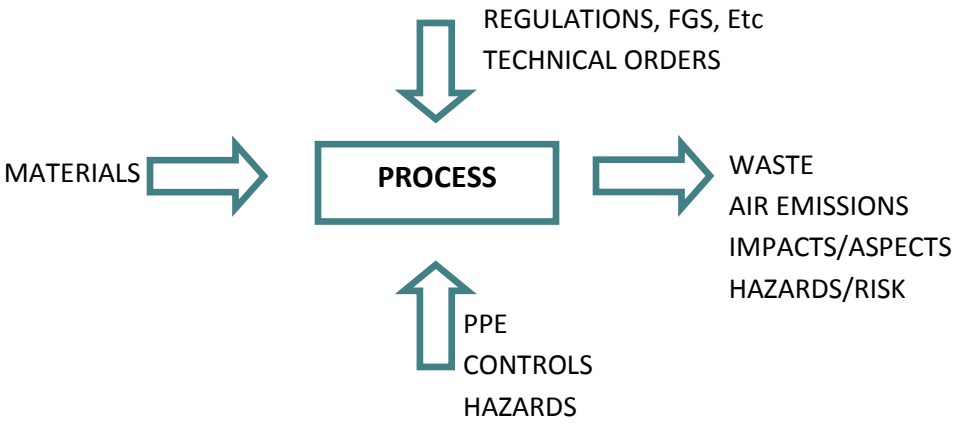


Figure 2 - Process Centric Flow Chart

Let's consider a process called "Paint the Plane." As the name implies, this process covers a lot of ground and can be broken down into many smaller processes. Table 3 on the next page is just an example of how the "Paint the Plane" process can be further split into better processes. Establishing just one "Paint the Plane" type process is too high a level due to the different hazards, potential PPE needs, medical surveillance requirements, waste, air emissions, etc.

[6] An *environmental aspect is defined as an element of a facilities activities, products, or services that can or does interact with the environment. These interactions and their effects may be continuous in nature, periodic, or associated only with events, such as emergencies.*

[7] HVLP stands for High Volume Low Pressure

Process	How	Materials	PPE	Waste Generated
Plastic Bead Blasting Paint from Aircraft	Bead Blasting equipment	Plastic bead blasting material	Full-faced airline respirator, Tyvek coveralls, PVC gloves	Waste bead media Air emissions
Stripping Paint from Acft	By hand	Paint stripper	PVC gloves, Tyvek coveralls, goggles, faceshield	Waste paint stripper Air emissions
Hand cleaning acft surface for paint preparation	By hand	MEK, Alcohol	PVC gloves, Tyvek coveralls, goggles, face shield	Solvent contaminated rags
Corrosion protection coating acft surfaces	By hand Pump sprayer	Alodine	PVC gloves, Tyvek coveralls, goggles, face shield	Alodine waste (possibly to waste treatment plant)
Sanding acft surfaces for paint preparation	By hand Electric sanders		Full-faced airline respirator, Tyvek coveralls, PVC gloves	Air emissions Waste sand with heavy metal (Chromium)
Masking acft surfaces prior to Painting Ops	By hand		None	Waste tape and paper
Mixing paints for acft painting	Pouring Mixing machines	Polyurethane paint Paint thinners	PVC gloves, Tyvek coveralls, goggles, face shield	
Priming acft with HVLP gun	HVLP guns		Full-faced airline respirator, Tyvek coveralls, PVC gloves	Waste filters
Painting acft with HVLP gun	HVLP guns	Polyurethane paint	Full-faced airline respirator, Tyvek coveralls, PVC gloves	Waste filters
Cleaning paint guns	By hand Gun cleaning machines	MEK	PVC gloves, Tyvek coveralls, goggles, face shield	

Table 3 – "Paint the Plane" Sample Processes

Processes need to be scoped correctly. Take "riveting" for example, which is far too generic for a process name. "Removing and replacing B-52 rivets" is a better choice and better defines the scope of the process. On the other hand, establishing five separate processes in the Aerospace Ground Equipment (AGE) shop to describe the application of oils, greases, and lubricants would be excessive since the PPE, waste, and other items linked to the process would be very similar.

Adequately describing the process ensures that material is issued to the correct process, thus ensuring environmental impacts and worker health and safety protections are adequately covered while providing better data.

4.3 Local Process Name

The first field completed in EESOH-MIS to request a Process Authorization is the **Local Process Name**. This is the "title" of the process and should be clearly understandable to the shop workers. As a rule of thumb, local process names should include the following:

- What are you doing (the activity being performed)?
- What are you doing it to (the end item)?
- How are you doing it (how is process being performed)?
- Where are you doing it (if the shop spans more than one building)?

The most important thing with the Local Process Name is that it makes sense to the shop personnel so they will readily know which materials go to a defined process. This will also help you scope your process appropriately and ensure it is created at the right level.

Avoid using broad process names such as "Shop Maintenance" and "Equipment Maintenance". These broad processes can usually be broken down into multiple processes with different attributes. Good Process Name examples:

- Painting T-38 aircraft with HVLP Gun in Hangar 48
- Degreasing aircraft parts in cold solvent tank
- Surface paint removal with plastic bead blast media
- Cleaning aircraft surface with power washer in large wash rack
- Add/Replace fluids to AGE
- Aircraft engine truss coating and preservation using a standard gun

4.4 Mother May I?

An Authorization Request begins with the shop that will use the material. Anyone with EESOH-MIS shop access can initiate an Authorization Request, however, the **Supervisor or Acting Supervisor must certify the request before it flows to the HMMP team**. The single biggest reason for delays on processing authorization requests is that they are not filled out completely. To speed your request, provide as much information as you can on the request, particularly those blocks that require a description. Step by Step instructions on how to fill out an Authorization Request with associated hazmats in EESOH-MIS are in Attachment 2.

Once the supervisor certifies an authorization request, EESOH-MIS will route the request to the E, S, and OH reviewers (these are mandatory reviewers). Some bases may also configure EESOH-MIS to add other reviewers or send notifications to other offices.

4.5 The Review Grind

So you finished your Process Authorization in EESOH-MIS and clicked on the submit button, sending it off into the electronic abyss. Now you must wait. The system takes over and the request is routed to the approvers. Because multiple offices must coordinate the requests, the entire approval process can take several days to weeks. For this reason, it's important to identify all your hazmat requirements early to allow time to properly process the request. The ESOH team will evaluate your request to address potential environmental, safety and occupational health liabilities—is new PPE required, is a waste profile completed, are permit conditions still followed, can it be stored safely, and a host of many others to ensure you can safely use the material. When your request is ultimately approved, you must follow any **conditions of use** such as recommended PPE unless you coordinate with the HMMP team first. (Yes, the ESOH team really wants to approve your request, but they have a lot of considerations to make and it takes time.)

EESOH-MIS will promptly send a notification to the supervisor's EESOH-MIS workbasket when the request is approved or denied. Approval is your green light to buy and use the material as stated in your request and any additional information provided by the approvers. At this point you're home free to procure the hazmat—this would be an appropriate time for your happy dance! To find out more on how to procure, check out chapter 4.

4.6 Paper or Plastic?

Because EESOH-MIS is accessible by anybody in the shop with a login, there is no need to print out your authorization forms. Be aware of any Conditions of Use that were stated on your approved authorizations and just to remind you, those conditions will also print out on any Issue Receipts you get from your HTA. We recommend you ocassionally print your "**Material Authorizations with Product Data**" report from EESOH-MIS. This will also satisfy your Hazard Communication requirement (section 11) to have a chemical list on hand. If you print it every few months, and especially when you get something new, you should be good to go.

4.7 Contractors

A commonly asked question is whether all this also applies to contractors. Contractor-operated shops performing a DoD mission on Air Force bases are required to have an approved EESOH-MIS process authorization to use hazmats, just like a government-operated shop. The only difference with contractors is that the occupational health and safety review of their authorizations is just that – a cursory "review" and not an "approval". The government is not allowed to perform OSHA functions for a contractor; however, their authorization requests are reviewed for any impact on government personnel or property. The environmental reviewer, however, does approve both contractor and government requests to ensure that hazmat use will not violate any base permit conditions, waste streams are established, and other similar considerations.

All contracted activities begin first as a government requirement—somebody has a need and develops a statement of work. Both embedded and transient contractor hazmat require authorization, but how they are handled is different. Notify your HMMP team if you are involved in writing a statement of work to make sure the appropriate hazmat authorization and tracking language is included. That language will ensure the right deliverables to the HMMP team and will help the contracting officer select the appropriate Federal Acquisition Regulation (FAR) clauses to address hazmat usage.

4.8 Exceptions-to-da-Rules

You have all heard the old addage that "people don't plan to fail, they just fail to plan." We're all guilty of that sooner or later—and then sometimes "stuff" just happens that no amount of planning could have prevented from happening. Let's face it, stuff just happens!

There will invariably come a time when there will be an emergency need for a hazmat without an approved authorization and a virtual walk-through will be necessary. Because

authorization requests are routed electronically, you will need to call the HMMP team and tell them of your urgency so they can look out for your request in EESOH-MIS and process it as soon as possible.

If your emergency is so dire that you needed it "yesterday", your HMMP should have locally developed emergency procedures. Those procedures may be as simple as a verbal telephone approval followed up with an email. Once you have your emergency verbal/email approval, procure your hazmat, but understand that you still have a requirement to complete an authorization request in EESOH-MIS, and once approved, the emergency hazmat quantity usage logged.

Don't make every request an emergency—these should be rare and too many will negatively impact the trust between you and the HMMP team. The ESOH team understands the mission always come first and stands ready to support your requirements. The important thing is communication of some type. When it comes to hazardous materials, NEVER "ask forgiveness, rather than permission".

5. Ordering, Purchasing and Receiving HAZMATs

Each shop must have an assigned Servicing Hazmat Tracking Activity to track hazmat.

At this point you've successfully navigated the authorization process and with authorization in hand, you are now free to proceed with whatever method of procurement best suits your needs through your HTA. Every shop in EESOH-MIS is assigned at least one servicing HTA. The HTA performs the hazmat receipt and issue tracking in EESOH-MIS, so it is important to know the folks at your Servicing HTA. Keep in mind that **ALL** hazmat procurements (whether bought, free issued, or even shared) must happen through an HTA. All environmental reporting requires usage data, so while the authorization process allows you to safely use the material, it's actually the transactional data collected by the HTA and the shop usage data that satisfies the base's regulatory reporting needs for that material.

5.1 Ordering

EESOH-MIS supports a couple of business practices when ordering through your HTA. These practices are already in place at your installation and those are the procedures you must follow. The options are discussed below.

1 – EESOH-MIS Material Requests. Shops can place their material requests directly in EESOH-MIS. The system will display your authorizations and allow you to place an order for those items. The order request is then routed to your servicing HTA to fullfill. You can also track the status of your order in EESOH-MIS, along with your order history, HTA inventory, allowable quantities, etc.

2 – EESOH-MIS Process Verbal Requests. EESOH presents other options such as requesting material by visiting, calling, or faxing, your servicing HTA. They will put the request in EESOH-MIS for you. Check with your local HMMP Team for local business practices.

If the material request is routed through EESOH-MIS, the system will show the HTA all available inventory across the base. That will include their own inventory as well as other HTAs, along with any "free issue" in stock at the installation and Global Free Issue (free

issue material across the Air Force). They will complete your order request from available stock, otherwise the material will be placed on backorder.

5.2 Understanding How Much is Too Much or "Max on Hand"

A common problem in the old days was shop hoarder mentality to stock pile hazmats only to have them expire and get thrown away and the cycle repeat itself. There had to be a better way, so EESOH-MIS introduced a new term and a new way to limit how much of a material each shop can have in their possession at any one time – "MAX-ON-HAND". It's not overly important how much you order or how often you order it—your mission requirements will usually dictate that, but it is CRITICAL that your physical inventory never exceeds your max-on-hand. Your max-on-hand quantity for each hazmat is really an art based on many factors.

One of the AF Hazmat Program's goals is to minimize material stock in a shop and keep most of it in the HTAs ready for when you or somebody else needs it; something like a grocery store. This business case has many advantages—less waste from expired materials, less cost rebuying that wasted material, reduced storage liabilities in the shop, and the list goes on. So we (those who get to write this manual) do not want to see a lot of material sitting in shop stock. Shops should only have on the shelves what they will use in a reasonable period of time and can safely store. We can spend a lot of time debating what "reasonable" actually means, but the most sensible amount is about a 7-10 day supply. There are always exceptions-to-da-rules, and there are some understandable reasons to store more than that—thus the challenge with a one-size-fits all rule of thumb and the "art" of the deal.

So what do we consider "reasonable"? Consider a shop that is authorized a one pint can of grease to apply on gaskets and it takes the shop several months to use up that can. In this case, it's "reasonable" for the shop to have a new can in their cabinet for when the open can runs out or gets contaminated. The exception would be if the shelf-life of the new can would cause it to expire before the can in use was consumed – see the challenge? A sensible person might ask, what if the HTA had the extra can waiting? After all, that can might also be used by other shops and inventory management works better with multiple users, right? But the reality in the end is the good feeling you get when the materials you need (or might need) are right there in your shop. For this example a max-on-hand might be 2 or even 3 cans.

In NO WAY should the max-on-hand impede a mission. Remote sites with long supply chain pipelines may need larger quantities to remain mission-ready. The ESOH team gets that, and is there to support the mission and provide guidance on how to minimize risk and safely use authorized materials.

So why do we need a max-on-hand?

The first reason is regulatory reporting. Hazmats have quantity thresholds that when exceeded trigger regulatory compliance reporting. With EESOH-MIS, the HMMP team can project whether or not a threshold would be exceeded if every shop stored the max-on-hand for a given material. It also gives the first responders, safety, and occupational health functions a sense of how much material they can expect to be in a shop.

5.3 Receiving and Issuing

The hardest part is over at this point and you're almost home free. The hazmat is ordered and if it wasn't in stock already, will show up any day now (really, no kidding). The receiving and issuing actions usually happen in a single step through EESOH-MIS, but in the end you want to make sure the issue happened correctly. There are many issuing practices out there that work fine – some bases deliver material to you and some make you pick it up. However you get the material, it is important to make sure that what you receive is what you were authorized and what you ordered. While the HTA should check and ensure the right material is delivered, it never hurts to just double check. When your supporting HTA receives and issues the material through EESOH-MIS, an Issue Receipt (Figure 3) for the material will be printed. It should accurately reflect the material you ordered and received, to include manufacture, partnumber/tradename, lot/batch and expiration date if there is a *shelf-life.* Make sure you get this issue document when you receive hazmats because only then can you absolutely know it was tracked in EESOH-MIS and have documentation to prove it. These built in checks and balances work only if you take the time to make sure all is right. What you absolutely want to avoid is a hazmat inspection that finds materials in your shop without an authorization or issue record in EESOH-MIS.

Issue Receipt Report

Shop Code: BAH0002 Shop Name: CE STRUCTURES

Requestor's Information: Document #:

INVENTORY

MSN: 7930000567874 CUP-SUI: 8 FL OZ CN - 1/CN Location: Space 18A001A001

Amount Issued: 5 Total Cost: $ 0.00 Associated Processes: ROOF REPAIR & MAINTENANCE

MSDS Id	MSDS Prep. Date	Manufacturer	Trade Name	Batch Lot #	Expiration Date	Free Issue	Unit Cost
999000009381	2002/06/27	RECKITT BENCKISER INC	BRASSO METAL POLISH	NO BATCH		No	$ 0.00

Issuing Hazmart Container Numbers: 7714238, 7714239, 7714240, 7714241, 7714242

No Containers: 5

1. Conditions of use:

Environmental:

Safety:

Occupational Health:

2. THE MISUSE, LENDING, USED IN A PROCESS NOT AUTHORIZED, OR IMPROPER DISPOSAL OF THIS MATERIAL MAY RESULT IN DISCIPLINARY ACTION.

3. If you want a copy of this products Material Safety Data Sheet (MSDS) or wish to discuss its hazards, please contact the Hazardous Material Management office or your Bioenvironmental Engineering representative.

Figure 3 - EESOH-MIS Issue Receipt

5.4 GPC – Carte Blanche?

It's typically American, but when we get a credit card, a mysterious and yet still unexplained need to buy everything in sight invades our better sense. Having a GPC card does not translate to having authorization to buy hazmats. GPC is just another way to procure hazmats, and the process works exactly like any other order through your HTA—except the GPC program is fully decentralized and places proper HMMP tracking and accounting with the cardholder and billing official. To make your life easier, check the exempt list first and maybe you'll find something that will suit your needs—if that's the

case, no need to track any further unless you're using the exempted hazmat in a manner not consistent with typical consumer use.

There are several types of credit cards used by DoD functions to include the GPC and SPCs, but for the purposes of this document we will refer to all credit cards as GPCs. GPC policy is found in AFI 64-117, *Air Force Government-Wide Purchase Card (GPC) Program*.

The trouble with GPC is that there are no "built-in" checks and balances when procuring hazmats with your card, and the proper tracking of the hazmat rests solely with the cardholder. When a hazmat is bought downtown using a GPC, the clerk at the cash register does not check for an authorization first or cares about your max-on-hand. In these cases, you as the buyer become responsible to make sure you have an authorization, and that the proper order, receipt and issue transactions to your process are completed in EESOH-MIS through your servicing HTA.

So where do you start with a GPC purchase? After checking the exempt list, make your request in EESOH-MIS just like any other HTA order. Select GPC as the method of purchase in EESOH-MIS before sending onto your servicing HTA. The HTA will approve (or disapprove if they have stock to fulfill your needs) your GPC material request. A message will return to the requestor via their EESOH-MIS workbasket with a link for a GPC Authorization Report (see Figure 4). This is your "hall-pass" to buy a hazmat with your GPC, so it's a good idea to print this!

Authorization To Purchase Hazardous Material with a Government Purchase Card

MSN:	8010PHM00023932	**Noun:**	ENAMEL, SUN YELLOW,	**CUP-QIP/SUI:**	12 OZ CN - 1/CN
Request #:	999003461600	**Requestor:**	Zachery Kilgore	**Date Requested:**	2013/02/20
Requesting Shop/Hazmart:	BAH0001 - AGE				

Authorizing HazMart Name:	BAH HAZMART	**Authorizing HazMart Code:**	HAZ10
GPC Approval No:	GPCBAH00013051001	**Authorizing User Id:**	zachery.b.kilgore
Date Authorized:	2013/02/20	**Authorized Quantity:**	2
Authorized Until:	2013/03/02		

You are only authorized to purchase items from the list below. If your item to purchase is not on this list, you must submit the MSDS to your HMMP/ESOH Team prior to purchase.

Part #	Trade Name	Manufacturer
51806	51806, KRYLON INDOOR/OUTDOOR PAINT, SUN YELLOW	SHERWIN-WILLIAMS CO THE

Figure 4 - Authorization to Purchase Hazardous Material with a Government Purchase Card Report

This report will tell you exactly what you are authorized to buy and it will have a tracking number on it. Take it to the store with you so there's no accident buying the wrong stuff.

It is important to purchase the exact same item, in the exact size, from the exact vendor (this means manufacturer, not reseller) for which you have an authorization as stated on the GPC Authorization Report, i.e., if authorized to buy Windex, you can not buy Formula 409 Cleaner instead, even if it's cheaper. While you're at the store, ask for their most current SDS for the product. According to OSHA, only retail distributors that have commercial accounts are required to provide you an SDS if you ask. Retail distributors that do not have commercial accounts are not required to provide you an SDS and you will

It is important to purchase ONLY the exact product and size you are authorized

need to get it from another source such as the manufacturer (29 CFR 1910.1200 para (g)(7)(iii)).

To make sure what you buy is received and tracked through EESOH-MIS, installations can set a time period for you to check in the GPC purchases with your HTA—typically 2-3 days. What happens after the grace period is up and the hazmat not tracked in EESOH-MIS is quite the mystery, although sightings of the Kraken are reported around the same time the GPC holder inexplicably disappears. Given that, make every effort to get your GPC-purchased hazmat tracked in EESOH-MIS, and if you can't make the deadline be sure to call your HTA for an extension.

5.5 GPC and Services

If you use your GPC to procure a service such as cleaning the wash rack or painting the flag pole, you are responsible for making sure that any hazmats used in the performance of those services are authorized and tracked. These hazmats also count against the base hazmat quantity thresholds for regulatory reporting, and you do want to make sure the flag pole doesn't end up with a fresh coat of old lead-based paint that a small business had sitting in a forgotten corner. Call your HMMP team before you buy any service that requires the use of a hazmat so that tracking can be arranged.

5.6 GPCs and Private Vehicles

According to the Defense Transportation Regulations[8] (DTR) Part II, B. 3., the use of Privately Owned Vehicles (POVs) for transporting hazmat is prohibited. Additional training and placarding requirements may apply to the transport of hazmat. Consult your local Logistics Readiness Squadron transportation technical specialist to determine applicability based upon the type and quantity of materials to be transported.

So, make sure you pick up your locally procured hazmat in a government vehicle. At this point, you've gone downtown, bought exactly what you were authorized, and you are now driving back through the front gate. What do you do next?

5.7 Closing the deal - Go Directly to Your HTA!

You got it all covered so far—you made sure the hazmat was authorized, placed an order in EESOH-MIS, bought exactly what you were supposed to buy, and then got it safely back to base. Great job, but you're not quite done yet—there's one final action. Checking your material in through your servicing HTA and having it issued to your shop for use. The easiest way to get your issue receipt is to make your servicing HTA your first stop back on base so the hazmat can be properly processed through EESOH-MIS. This includes getting bar-codes or other markings if your base has chosen to bar-code or mark. The HTA will check to make sure that the SDS on file matches the SDS from the vendor if you got one, and verify the hazmat matches exactly what was authorized. If everything checks out, EESOH-MIS will print out a issue receipt and the procurement phase is complete. If for some reason you bought Formula 409

[8] Defense Transportation Regulation Part II (copy and paste link into browser: http://www.ustranscom.mil/dtr/part-ii/dtr_part_ii_204.pdf) "Ensure only commercial or MOV/government vehicles are used for transporting regulated HAZMAT and Hazardous Waste (HW) as defined by 40 CFR 261, Identification and Listing of Hazardous Waste, and 40 CFR 261.3, Definition of Hazardous Waste. Use of POVs for transporting HAZMAT and HW is prohibited. See Para F.3.d for the policy on the use of rental vehicles."

instead of the Windex you were authorized, you will be condemned to a painful and humiliating public flogging before we again release the Kraken, and you will either have to return the product for the correct one, or process an authorization request for the product you did buy. This only bogs down the tracking process and negatively impacts your mission effectiveness, so get only what you're authorized!

The general rule is material must be checked in through an HTA before it can be used in the shop. But there are even exceptions here when material can not be taken to the HTA first, perhaps due to size, bulk, hazard, or the HTA is out visiting shops, fishing, or feeding the Kraken. In these cases, you must still make arrangements to check in the hazmat and get it properly issued. Also, if you are delayed and will not be able to make your purchase within the alloted time, call the HTA to cancel or reschedule your order.

Best Business Practice#1: Attach the EESOH-MIS Issue Receipt to the material's store receipt. This shows the GPC auditor (close relative of the Kracken) that your hazmat was properly tracked.

Best Business Practice#2: Write the GPC approval number onto the receipt.

Here's a synopsis of GPC hazmat/services purchasing:

- ***Get an authorization for the hazmat (initial purchase/use only), see chapter 4)***
- ***Request the material in EESOH-MIS or through your HTA***
- ***Print out your GPC Authorization Report***
- ***Go to the store and buy your material· Pick up a current SDS***
- ***Return to the HTA to check in your material***
- ***Take the material to shop and use***
- ***Return any excess to the HTA (before it expires, please, so that it can be placed in free issue) (See chapter 10)***

5.8 Other "Sneaky" Contracting

In case it's not quite obvious yet, regardless of how you procure your hazmat—any supply system, GPC, mail order, free issue, finding, borrowing, sharing, stealing, claiming, or even making your own, all use of hazmat must be tracked in EESOH-MIS. The use of AF Form 9, *Request for Purchase*, and other contracting vehicles and methods also require the same level of tracking. Ordering and purchasing a hazmat commodity with an AF Form 9 works much the same way as with a GPC card, only the contracting office will require proof of a hazmat authorization before soliciting any bids or entering into a contract with a vendor for the material. Require in any bid or contract that the vendor provide an SDS with each material. If the contracting action is for a service, get with your HMMP team to make sure all HMMP requirements are included in the Statement of Work.

Once the hazmat arrives on base, you still need to properly process it into EESOH-MIS. The hazmat should have arrived with an SDS, if not, contact the vendor for one. The HTA will check to make sure that the SDS on file matches the SDS from the vendor, and that the hazmat matches exactly what was authorized. If everything checks out, EESOH-MIS will print out a issue receipt, at which time the procurement phase is done and the material

can be used in the shop. It's often the case that mega-amounts of a hazmat are purchased on the Form 9. If this is the case, the HTA will need to make arrangements to ensure that large amounts are acurately tracked. This will require some coordination between the HTA and you, but don't worry, it's often just a simple procedure!

5.9 Authorization Summary

With the exception of Exempt items noted in EESOH-MIS, there should never be unauthorized hazmat in your shop. We bring it up here because there are many different avenues for procuring hazmats and there is not a 100% foolproof system to prevent some purchases from slipping by the authorization process. The tracking system does not work without your involvement, and you are responsible for what is used in your shop. Never bring hazmats from home for use in a workcenter. Always have an issue receipt for every non-exempt hazmat in your shop (an authorization is not enough). Various organizations and inspection/audit functions will make random spot inspections of workcenters around the base to determine that EESOH-MIS is indeed capturing all reportable hazmat usage. When an unauthorized hazmat is found, its method of procurement will be investigated to prevent future occurrences. This becomes particularly important with decentralized procurement methods like credit card purchases. If a hazmat is procured with a credit card without an approved authorization, depending on the circumstances, AFI 64-117 provides for various ugly things to happen, (i.e. letters to your commanders, revoking your priveleges, even legal actions). Not to mention again a possible release of the Kraken.

It is Air Force policy to track all hazmats on base, and everyone plays an important role with accomplishing this seemingly simple but somewhat complex task. We did the heavy upfront work to get the hazmat tracking process all set up and operational, all we ask is your help to take the extra moment and ensure all hazmats in your work center are tracked through EESOH-MIS.

6. Shop use of HAZMATs

You now own a container that has pictures of skulls and cross bones, bold warnings, and built in safety features that includes a cap the jaws of life can't get off. Those are all there because the contents are dangerous when improperly handled, and that can understandably make even the most fearless warrior a little uneasy.

As with most things, there is a common sense approach to using hazmat in the shop. An obvious one is following the directions on the container and heeding the warnings. Another is to read and follow any Conditions of Use identified by the ESOH approvers, such as a specific PPE requirement or special disposal instructions. Note that the conditions of use are not just a regurgitation of the warning label or the SDS—if they differ, always follow the conditions defined by the ESOH approvers. Contact your ESOH functional for clarification.

7. Proper Storage of HAZMATs

By storage, we don't just mean how or where it sits on a shelf, but how that inventory is proactively managed by the shop. This is probably where most folks have problems. In the old days, shops had 2-3 lockers just packed with half-empty bottles of hazmats that might be needed again some day, usually expiring before that time ever came. Then once in a while or just before an Environmental, Safety, and Occupational Health Compliance Assessment Management Program (ESOHCAMP) assessment, the shop would go through and throw away all those old bottles, just to turn around and repeat the whole process with a fresh new bunch of hazmats. It was no coincidence that hazardous waste quantities always spiked right before an assessment. Hazmats are handled in a very different way today, with a goal to minimize what is stored in the shop to not only make the workcenter safer, but to also save money by minimizing expired shelf-life and avoiding disposal costs.

So the first thing to avoid is storing large quantities. Store only what you would use in 7-10 working days whenever possible. This means ordering less quantity but more frequently. If you find yourself disposing of expired hazmat regularly or can never seem to finish a can before the contents become unserviceable, your max-on-hand is not correctly set or the size container authorized to your process is too big. These are easily fixed problems—save yourself and the AF a lot of time and money by getting those issues resolved with HMMP team help.

Hazmats are a lot like groceries. You don't leave the milk out on the counter or in the pantry, right? If you did, you just shorthened the shelf- life, and would likely end up dumping it out. Hazmats are the same way. The environment you store a hazmat in can dramatically affect how long it stays serviceable. If it requires refrigeration, make sure you do so. If you store the container in direct sunlight and let it bake, expect a shortened shelf-life. Common sense definitely applies here, and these are discussed more in the Manage Shelf Life chapter.

Where common sense ends, rules begin. There are many rules to proper storage, like what can be stored together, what kind of locker you will need, how many lockers you can have, and the list goes on. Safe storage of hazmat is a concern as incompatible chemicals stored together can cause toxic fumes, spark fires, or let off explosive vapors. By minimizing hazmats in your work area, not only do you reduce the risk of a tragic event, but you also make it safer for emergency first responders in the case of a problem.

You should become familiar with AFJMAN 23-209, *Storage and Handling of Hazardous Materials*, and AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*. Here are some important highlights that when followed will keep you out of most problems:

7.1 Hazard Classes

There are a lot of different chemicals out in the world, and it helps to safely manage them by grouping them together by the physical hazard they present. Many of these physical hazard classes don't play well with each other, so it's important to have some understanding of what they are so you don't accidentally store incompatible materials together. You can

usually find these hazard classes of the material on the label or SDS. Examples of physical hazard classes are:

- Flammable Solids, Liquids, Aerosols & Gases
- Explosives
- Self-Reactive Substances and Mixtures
- Oxidizing Solids, Liquids, & Gases
- Organic Peroxides
- Corrosives to Metals
- Pyrophoric Solids & Liquids
- Self-Heating Substances
- Substances which, in contact with water emit flammable gases

7.2 Incompatibles

Some hazard classes can not be stored together because they are incompatible. By incomaptible, we mean that when the two hazard classes are mixed an undesirable chemical reaction can occur, sometimes resulting in deadly gases, fire, or very rapid changes that can result in explosions. The smart thing is to never store the above hazard classes in the same locker or limited enclosed space. Common incompatible storage findings typically involve acids and alkalines or corrosives and oxidizers. Check your storage area to make sure these are stored in their own dedicated lockers or storage units.

The SDS, Section 10, Stability and Reactivity, can help you determine incompatible hazard classes. If you cannot determine the hazard class of a material, call your HMMP team—like the base Bioenvironmental Engineering Flight, Safety, or Fire Services. It's always better if you call for help before a real problem happens or an inspector finds the violation. All we ask is that you don't wait until just before an inspection to call us!

7.3 Hazmat Storage Lockers

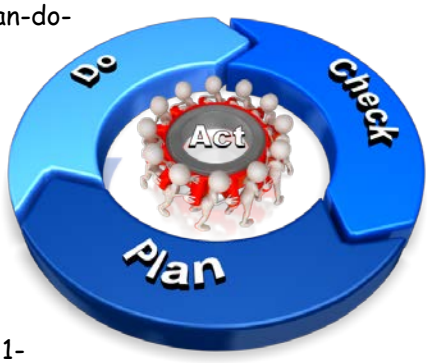
There was a time when even the smallest shops had hazmat storage lockers that could easily handle a pro football team. Those were the days of yore. Today, each shop (as defined in EESOH-MIS) may have only one locker per hazard class of material. That means one locker for flammables and one locker for corrosives, etc. Use only the number of lockers and types of lockers you are approved to have in the workcenter. If you need more than one locker for a hazard class be sure and get an "all clear" from the Fire Department. Contact your local Fire Department for their specific procedures.

The best guidelines for those big yellow flammable storage lockers, (you know the ones flashing to an inspector "Come over here and look inside me") can be found in AFI 91-203, Chapter 22.

It is not policy, but it really helps if you label your lockers with your EESOH-MIS Shop Code. If you don't know your Shop Code (shame on you) then ask the HMMP team. Write it down, tattoo it on your arm, whatever it takes to remember it, as it will invariably come in handy some day.

8. The BIG Picture (Environmental Management System)

You likely impact the environment in some way when using a hazmat in your shop or process. The area of the environment you impact is called the environmental aspect—air emissions, generating waste (solid and hazardous), dumping wash water down the drain, etc. If you're now scratching your head over what we're talking about with aspects and impacts, those are really the environmental areas or programs we have been managing for years through our environmental management flights. The activities or processes you accomplish that impact the environment in some way or another draw you into your base Environmental Management System (EMS). Using a hazmat without an environmental impact is rare—you probably generate waste or an air emission with your hazmat, or you store enough where there are special precautions required—these are all examples of aspects and impacts.



So what does that mean for you? The base EMS promotes a plan-do-check-act cycle for environmental concerns. You probably had no idea, but you already did some of the planning, doing, and acting parts of this when you submitted the request for the process and any hazmat through the HMMP for approval. The HMMP Team does their part of the plan, do, acting by providing any legal or other environmental requirements and guidance needed to accomplish that process or task. That leaves the check piece hanging out there. For most folks the checking piece is covered by completing the ESOHCAMP Stage 1-All Shops checklist quarterly in the Management Internal Control Toolset (MICT). If you use a hazmat and are not using the "All shops" checklist, contact your HMMP team or base EMS coordinator as soon as possible. The checklist has simple questions on using approved hazmats, managing hazardous waste, maintaining shop tanks and others designed to help the shop supervisor keep his work center compliant with typical environmental shop issues. In addition, depending on the process or hazmat used, the environmental function may identify additional checks you must accomplish to do your job, whether it is keeping a paint log or just keeping your shop clean and free of any leaks or spills. If you find something wrong, you need to know what to do (spill response, paint booth not working, or other), and who to contact—first responders, UEC and/or environmental management personnel.

9. Managing Shelf Life

There's a little pack-rat in all of us—we just never know when we might need that old can of WD-40, so we just hang onto it in the hopes that someday our hunch proves right. Then there was the time we ordered hazmat for something that ended up never happening, but kept the material until it expired on us. Or the time we overestimated how much hazmat was needed and ended with a bunch of extra hazmat that we decided to hang onto for the next time. Only next time never came. The common thread through these scenarios is inventory management. Unlike the by-products from your process, wastes generated by poor inventory management are easily preventable by simple advance planning. Expired shelf-life material is the number one reason unused material is disposed, costing the government millions of dollars each year. Inadequate inventory management makes no business sense; you buy a hazmat only to end up paying for disposal later when it expires, at which point you turn around and buy the hazmat again. The process then repeats itself, unless we learn from our mistakes. In short, every effort should be made to avoid this

situation, and while EESOH-MIS tracks usage and imposes a max-on-hand to help manage excess, nothing beats your careful management of hazmat usage and inventory.

So how do you avoid having expired shelf-life material?

When your HTA receives material into EESOH-MIS that is managed as a shelf-life item, the system inventories the batch or lot number and the date of expiration for each container. Then, when you request material, EESOH-MIS displays to the HTA the remaining shelf-life for each container so that the oldest get issued first (they follow good inventory management practices, too!). You will also know the remaining shelf-life as it is printed on your issue receipt. Check this date—since the HTA is trying to avoid expired material disposal just like you, sometimes the remaining time can get short. Keep the hazmat if you can use it up before the expiration date, but be wary about those containers that take months to empty and you have 3 weeks left on the expiration date. You should not accept more material than you can use before the shelf-life expires whenever possible—balance that with your mission requirements and urgency of need as that may be all they have in stock.

Think about going to the grocery store. You're probably one of those folks that reaches in the back and pulls out the gallon of milk with the longest shelf-life left on it (even though there's only a two day difference from the gallon in front!). Perhaps you need every one of those days to get through that gallon a glass at a time, or maybe you don't as you're making a gallon of ice cream—these are important considerations. Think about your hazmats in a similar way. You want to be able to consume the product before its shelf-life expires—that way you don't waste money by throwing it away. Here's where the milk analogy gets seriously different. When you have left-over milk, you throw it down the drain and you're out a few cents. When you have left-over hazmats, you can't just pour them down the drain and the disposal cost is usually more than the original purchase price, not to mention you need to buy more material to do your job.

Shelf-Life Trivia

The Shelf-Life for an MRE (Meals Ready to Eat) is 130 months if stored at 60°F and only 30 days if stored at 120°F

Another way to avoid being in possession of expired shelf life material is to take smaller quantities or get smaller units of issues. It happens—you take a large can of "stuff" that you invariably end up throwing out because you cannot use it up before it expires or goes bad. Go back to your HTA and ask them to help you find the material in a smaller unit of issue. Maybe you don't drink that much milk and buying a gallon results in waste—for that reason, the milk industry offers the same milk in a more convenient quart size or all the way down to a pint!

While max-on-hand is designed to avoid stockpiling large amounts of hazmat in a shop and keep shop quantities low, it can also habitually get used as a "ceiling" of sorts that folks feel they must have at all times—it becomes their right to have all that hazmat. If you always seem to be throwing out hazmats because you had too much and they just got old, then maybe your max-on-hand is set too high. The HMMP is always happy to help lower that number to better manage inventory, and will work with you to find the happy middle ground that meets your mission needs with minimal waste.

Another thing to be aware of with shelf-life is how it is stored. If you buy a gallon of cold milk with 2 weeks left on the shelf-life and leave it on the kitchen counter for a couple of days, that stated shelf-life will not be valid and the product performance will be dramatically altered—go ahead and taste a chunk of it if you don't believe us! The same is true with many of our sealants and adhesives, although tasting is not recommended to determine servicability. If they are not stored at a proper temperature, they age prematurely. The bad news is that unlike the milk, it is not always evident how much the product performance of an improperly stored material was affected and the consequences of applying a bad sealant or adhesive to an airplane can be catastrophic. If there is any doubt about the quality of the material being applied to critical end items, don't do it! Too much is at stake.

Monitor your material with shelf-life and be sure to take shelf-life extension actions BEFORE it is expired.

9.1 Shelf-Life Policy Stuff

There are a few things about shelf-life policy you need to know.

The DoD Shelf-Life program is administered by the Defense Logistics Agency and they have a nice web site located at https://www.shelflife.dla.mil (see figure 5).

Figure 5 - DoD Shelf-Life Program Web Site

The policy and references are easily accessible and each MAJCOM has a shelf-life POC to help with your every-day questions. We added their name and phone number on the Shelf-Life page in eDASH. Goto the Hazardous Materials page: https://cs1.eis.af.mil/sites/edash/Web%20Part%20Pages%20%20Program%20Pages/Environmental/Hazardous%20Materials.aspx and then select the Shelf Life topic on the right hand side list. You will also find all the shelf-life related policies at this site.

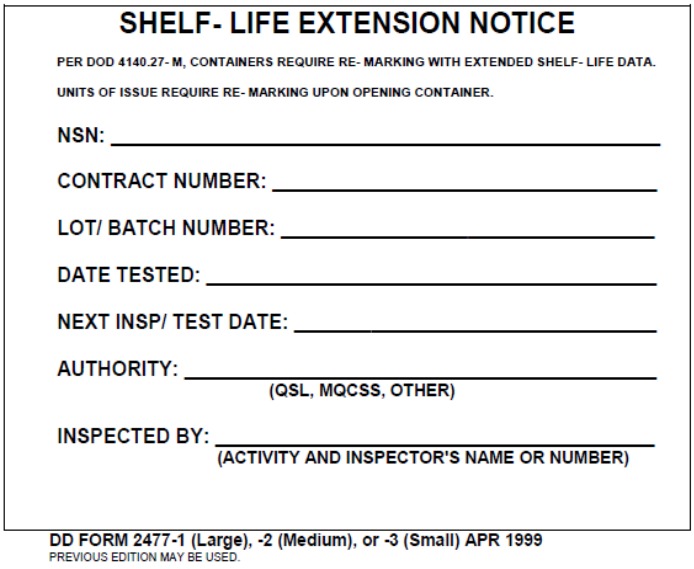
DoD assigns shelf-life material a code and type. The code is how long the material is serviceable and the type is whether or not the material shelf-life can be extended. Type I material CANNOT be extended when it expires and must be turned-in, but Type II material can be tested and updated for a period of time according to policy. If material expires while in the shop, then someone needs to understand the process for updating the material or disposing of it. As a hazmat user, look at the expiration date on the container and if it is expired, then look to see if there is a shelf-life extention label such as a DD Form 2477, *Shelf-Life Extension Notice*. In the absence of a good expiration date or label, the material must be considered expired. As users, you need to know to look at the expiration date or an extension label. If the material is expired, then it should not be used until action is taken.

Under no circumstances can you use expired shelf-life material on a weapon system or where the failure of the material will impact the end item.

9.2 Updating Shelf-Life Material

The DoD shelf-life program also sponsors the Shelf-Life Extension System (SLES) database. SLES is accessible from any .mil computer without having to register for a separate login at https://www.shelflife.dla.mil, just select the SLES tab along the top.

SLES maintains all the lab results from tests performed on Type II material. It is easy to go in and check to see if your material has already been updated. If it has, all you have to do is put a DD Form 2477 on the material and you can use it until the new expiration date. Your HTA personnel can help if you need additional information.



SHELF- LIFE EXTENSION NOTICE

PER DOD 4140.27- M, CONTAINERS REQUIRE RE- MARKING WITH EXTENDED SHELF- LIFE DATA.

UNITS OF ISSUE REQUIRE RE- MARKING UPON OPENING CONTAINER.

NSN: _____

CONTRACT NUMBER: _____

LOT/ BATCH NUMBER: _____

DATE TESTED: _____

NEXT INSP/ TEST DATE: _____

AUTHORITY: _____
(QSL, MQCSS, OTHER)

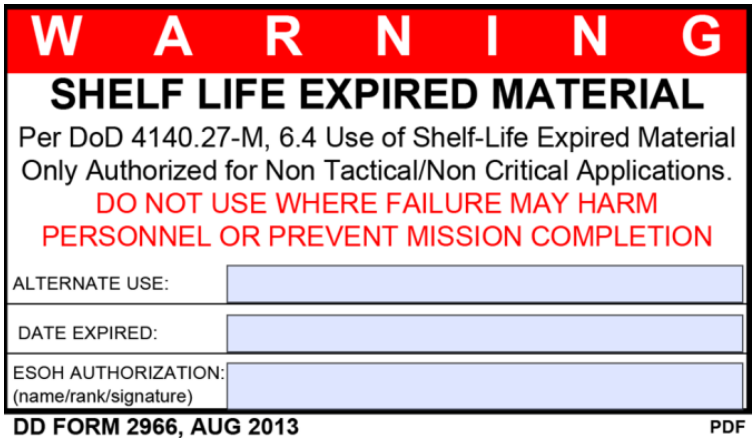
INSPECTED BY: _____
(ACTIVITY AND INSPECTOR'S NAME OR NUMBER)

DD FORM 2477-1 (Large), -2 (Medium), or -3 (Small) APR 1999
PREVIOUS EDITION MAY BE USED.

Figure 6 - DD Form 2477, Shelf-Life Extension Notice Label

10. Left-Overs

So, despite all your efforts to get just what you need to avoid disposal, you end up with hazmat you no longer need. Don't throw it away! The HTA can help determine if there are other uses for the material if it's not inherently waste like. Sometimes, folks just let old hazmat sit in a storage cabinet until the can rusts or leaks—you might want to avoid their fridges too or you might find something that looks like a science experiment in there, just saying! Habits usually prevail in these cases. Just think, all those refridgerator science experiments could have fed a small family of four had someone taken the initiative to do something, but instead ended up only fit for the garbage. This is exactly the same with hazmats. If you wait until it's no good, it will surely become a hazardous waste. If you're more proactive and turn unwanted serviceable hazmat back in to the HTA as soon as you know you don't need it anymore, they can help determine if there are other uses for the material. Some expired but still serviceable (still works for its intended purpose or other similar purpose) hazmats can be used for other non-technical processes, or redistributed to other users via the free-issue program. For example, lubricants that can no longer be used on aircraft could work perfectly well on fifth-wheels or golf carts. Hey if it's good enough for an F-16, imagine what it can do for the carts! Keep in mind that even in these cases, the lubricant must still be authorized for that process, even on the golf cart—just in case there was some heavy metal or something in the grease specially made for the F-16. Expired shelf-life items that are still serviceable may be used for a non critical/non tactical purpose. Be sure it has a DD Form 2966, *Shelf Life Expired Material*, affixed to the container or at least clearly marked.



W A R N I N G

SHELF LIFE EXPIRED MATERIAL

Per DoD 4140.27-M, 6.4 Use of Shelf-Life Expired Material Only Authorized for Non Tactical/Non Critical Applications.

DO NOT USE WHERE FAILURE MAY HARM PERSONNEL OR PREVENT MISSION COMPLETION

ALTERNATE USE:	
DATE EXPIRED:	
ESOH AUTHORIZATION: (name/rank/signature)	

DD FORM 2966, AUG 2013 PDF

It's a win-win: a waste stream is avoided and a new user doesn't have to buy it again—we all save twice! So make sure to turn in any unwanted unopened containers to the HTA and check with them before you dispose of an opened, uncontaminated hazmat to find out if it can be reused anywhere.

When you return material to your HTA, EESOH-MIS won't give you your money back, but you do get a different kind of credit. EESOH-MIS tracks hazmats to your shop for environmental and occupational health reasons. When you return material, EESOH-MIS doesn't count that material used in a process for environmental regulatory reporting, and doesn't count the occupational health exposure to your shop. Not to mention that you did the right thing (and who knows, we just might send a thank-you letter to your commander).

10.1 Getting Rid of Left-overs

If you have leftovers for any reason, you have two options for getting rid of them. We explain them generally here, so check with your HMMP team for details at your base.

1 – Turn in the material to your HTA

2 – Complete a Request for Disposition through EESOH-MIS

OPTION 1 – Turn it back in

If the HTA takes your material then you are home free and the material is gone.

So why would they take the material?

1 – It is still serviceable and there are other users on the installation. There is a reasonable probability they can "free-issue" the material to another customer.

2 – It can be returned to the Source of Supply (wherever it was bought).

So why would they NOT take the material?

It's been opened and can't guarantee to the next user that it still meets specs, it might be unserviceable, or they know they simply cannot reissue the material to another user. They aren't stupid and don't want to get left holding the bag. So, if the HTA will not take the material off your hands, you're left with Option 2.

OPTION 2 – Make a Request for Disposition

EESOH-MIS provides you the ability to submit a Request for Disposition that is basically a "Help Me - I don't know what to do with this stuff" request.

The process is simple. Fill out the easy Request for Disposition in EESOH-MIS and submit.

It then routes from the shop to the HTA, who will consider what their options are for reuse or redistribution. If the HTA has a plan to reuse or redistribute the material, they will return the Request for Disposition to you with instructions on what to do. If the HTA cannot reuse or redistribute the material, EESOH-MIS will pass the request to either an Installation Material Disposition Request Approver (MDRA) or to the installation hazardous waste manager (depending on how your base set up the workflow).

Either the MDRA or hazardous waste manager will return instructions on what to do with the material in your EESOH-MIS workbasket.
Follow them.

Told you it was simple.

10.2 Free-Issue

The only thing better than a hazmat that works well is a FREE hazmat that works well! Before you start loading up your shopping cart with all that free hazmat, you need to realize that the free issue program is not an open door, come-get-what-you-want-free-for-all. First, all free issue hazmats still require an approval by the HMMP Team in an approved process—the basics still apply including max-on-hand. Then when you order a hazmat

through your HTA, EESOH-MIS checks available inventory and always checks free-issue stock first. If free issue stock is available, the HTA will issue it to your shop free of charge. The free issue program is not a loophole through which someone can obtain a hazmat without proper authorization. (But you already knew that!)

10.3 Open Containers

The decision to take and re-issue containers that have been opened is difficult, but is a common practice at many installations and can help minimize waste disposal costs. There are many considerations to keep in mind when deciding to use someone else's open container of hazmat. Once opened, a container's expiration date can become dramatically shorter—we see this in certain paints and glues. There's no way to know if the material is contaiminated or had been mixed with anything. You have no idea if the container was properly stored;, particularly important for temperature-sensitive hazmats. These are all pitfalls to be careful of with open containers, and is why you NEVER use a free-issue open container on a technical order need, critical end-item, or weapon system. So what would be a good use of a partially used open hazmat? Using that lubricant on a hangar door hinge, the leftover wall paint to touch up a spot that has been bugging you, or that leftover floor wax to polish another room. These are excellent non-critical ways to make good use of open leftovers. We recommend you just keep painting until the can is empty (they say that fourth coat really seals the color!) but your self-help store or CE HTA may have a program to take back partially used facility paints – it's not like we get to pick the colors we want. Share with others if you have other creative waste avoidance efforts out there.

10.4 Waste Streams

A good rule of thumb is that a material with an SDS or a warning or caution statement on a container will likely require special disposal in accordance with the law.

Process waste streams include hazardous and non-hazardous discarded, abandoned, or very simply waste-like or spent material. Your hazardous waste manager will determine which is hazardous and which is not. In some cases even an unused material can become a waste stream when shelf-life has expired, been damaged or is unserviceable due to quality concerns. These must either be reused, redistributed, or disposed.

Processes can generate many waste streams. As an example, spray painting usually generates different waste streams including waste paint, waste thinner, waste barrier paper, waste respirator cartridges, waste booth filters and the list goes on and on. While some of these wastes may be non-hazardous solid waste, others are in fact hazardous wastes that will require proper disposal. As if buying the material wasn't enough, we now have to pay to get rid of it when it becomes a waste.

The EESOH-MIS waste module links the waste stream to the materials that went into the process, which makes waste determination and reporting much cheaper, easier and more reliable. Especially when several base customers are using the same hazmats for the same process and generating the same wastes.

I have a waste now… who do I call?

Always consider a process waste as hazardous until your hazardous waste manager tells you otherwise. This simple rule will keep you out of deep trouble, especially if it started out as a hazmat, became hazardous as a result of the process, or was at some point mixed with a hazmat. If you are not sure what your next step is now that you have a waste, call the HAZWASTE office. They can tell you how to prepare your waste for pickup, and what paper work is necessary.

10.5 Oops – Spill Management

Accidents happen. We get that. But what usually gets folks in trouble with spills is how they handle the resulting mess. The second a liquid hazmat hits the ground it becomes a waste—no five second rule here. How big your spill is plays a big difference in what actions are expected of you, and unfortunately these actions will differ from base to base. Consult your base spill plan (Spill Prevention, Control, and Countermeasure Plan, commonly known as the SPCC) or ask your HMMP team for help with finding the right procedures. If you store large quantities of liquid hazmat in your shop, like oil, fuel, and antifreeze, make sure you find out your responsibilities in case of a spill and post them for all shop workers to read BEFORE it happens! Waiting until after a spill is too late.

10.6 Bar-coding

Right off the bat, let us state that bar-coding is way cool with red lasers and all, but it is **not** a mandatory requirement to properly track hazmat. Any decision to bar-code should be carefully considered and supported by the installation HMMP team and the Environmental, Safety, and Occupational Health Council (ESOHC) because bar-coding is much more resource intensive than not bar-coding. Which of the various bar-code options selected in EESOH-MIS can significantly impact how a shop manages their material. But this is one time you have to ask yourself if the technological advantange is worth the effort. The answer will be different at each base depending on their ops tempo, volume of hazmat used, and regulatory requirements. There are really just two reasons to bar-code, although there are more efficient alternatives that work just as well for most bases:

First reason: Bar-coding for Accountability

An inventory record is created in EESOH-MIS whenever a hazmat is received and logged in the system by the HTA. The system assigns a unique number to each container in the background, and is unseen to users unless a bar-code is applied. That unique container number exists whether you bar-code or not to ensure the system accounts for every single last container of hazmat. The bar-code simply allows you to see the "secret number" EESOH-MIS assigned to the container. So if you thought that bar-coding was all that was standing between you and an apocalyptic inventory chaos, worry no longer as the system has you covered. So while bar-coding may not offer much inventory tracking value, it does offer easy, visible, official-looking PROOF that the material was tracked in EESOH-MIS. This proof makes it really easy for an inspector to know that the shop material was processed in EESOH-MIS. In this case, the bar-code is really just a flag that the material was properly

authorized, HTA issued and fully tracked in EESOH-MIS. If this is the job your bar-code ended up satisfying, there are more cost effective ways to do that.

The "Albertson" Method. If your base decided to use bar-codes just because they need to put the visible proof on the container that it was tracked, then anything will do! MSgt John Albertson at the Reno Air National Guard purchased grocery guns that dispense tamper-proof dated labels. Once you get the hang of using the labler, you can tag a whole lot of hazmat in short order without expensive printers, paper, ink, not to mention all that time sticking bar-codes on material. John's idea went viral and is now used at many AF installations, and has even been seen in grocery stores! So whether you use an EESOH-MIS generated bar-code, grocery gun label, or a hot pink smily face label, any standard visual indicator will work to indicate a properly approved and tracked hazmat. The low-tech answer may be a better solution depending on your reasons to bar-code.

Second reason: Bar-coding for Inventory

The second reason to bar-code is to facilitate tracking inventory down to the shop level. Material hazard, quantity across the installation, or a regulatory requirement such as air emission tracking may drive a heavier tracking requirement that must take into account inventories outside the HTAs.

EESOH-MIS tracks all hazmat inventory in the HTAs, but depending on the installation setting, will adjust or clear that material inventory when issued to a shop or process. However, if you are bar-coding, EESOH-MIS "moves" the inventory from the HTA to the shop when issued. Since an inventory record now exists at the shop, they have a responsibility to "clear the bar-code" or "empty the container" from EESOH-MIS. Bases do have different business practices to best accomplish this, for example some bases make the shops return the empty containers and the HTA clears the bar-codes. However it is done, the whole bar-coding process is a waste of time if the bar-code is not cleared when the containers are empty. Bases that end up "mass clearing" bar-codes from the system are basically using them for accountability purposes only. Mass clearing barcodes will also result in large spikes of hazardous material usage over short periods, which can affect regulatory reporting.

Hand-held scanners can also facilitate inventory and auditing when bar-coding. Many bases have such small inventory of material that all this technology and effort is overkill.

What if we don't bar-code?

When material is properly received and issued through EESOH-MIS, all the tracking we need to accomplish the regulatory reporting requirements is achieved. The decision to add the bar-coding burden to the warfighter community should be carefully weighed and properly administered. Bar-code for the right reasons.

11. The Hazard Communication Standard[9]

OSHA's Hazard Communication Standard (29CFR 1910.1200) otherwise known as "HAZCOM" is the law that ensures employers and employees know about work hazards and how to protect themselves. This includes knowing about the chemicals they are exposed to in the workplace. This Standard became law in 1983 and the Air Force Hazcom Program is documented in AFI 90-821. In May 2012, OSHA's HAZCOM aligned with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). This update was designed to make information more consistent and better communicate the hazards.

We won't repeat what is already written in the AFI, but we will take a moment to emphasize a few things that directly apply to you. The shop supervisor is responsible for implementing AFI 90-821, but all workers need to understand the program for it to work. The components of HAZCOM are:

- Written Hazard Communication Program
- Labels
- Safety Data Sheets
- Information and training. Employers must provide employees with effective information and training on hazardous chemicals in their work area and whenever a new hazard is introduced into the work area.

The HMMP process and material authorization is the perfect tool to make sure hazards are reviewed and addressed for new materials, and EESOH-MIS tracking ensures an accurate SDS is always available to the employees.

12. Shop Pollution Prevention (P2)

There is no one more qualified to identify potential reductions in hazmat than those that work with them – you. Your ESOH team and many others are always looking for safer, less hazardous materials. While we are always concerned for your health and safety, there are also requirements mandated by law to reduce our hazmat footprint and hazardous waste generation. That drives all types of metrics that end up in pretty charts showing whether we (the Air Force) are accomplishing our reduction goals. The benefits to you are more obvious – fewer hazmats means a safer workplace. Less hazmat and waste results in less PPE, monitoring, waste disposal cost, and so on.

So you have a great P2 idea? No matter how small or large the idea, just tell your HMMP team and they will get it started and work it from there. If your idea saves a lot of money, use the AF suggestion program to cash in on the savings! Yes, you can P2!

[9] http://www.osha.gov/dsg/hazcom/index2.html. This link will take you directly to OSHA's page on Hazard Communication

13. Training

The single most asked question concerning hazmat is in reqards to training. There is training that is required by law such as mandated by the Hazard Communication Standard (see chapter 11) and OSHA Expanded Standards. Hazcom training is required for everyone that uses hazmat and is typically delivered by the shop supervisor. The OSHA Expanded Standard training will kick in if you have one of a particular nasty chemical in use in your shop. Don't worry you if you have one because them BEEs will be buzzing around your shop taking measurements and making sure you are safe. Job Safety Training is required for all shops and is usally provided by the shop supervisor. There may be some installation developed training. We've even developed a Shop Level Hazmat Familiarization PowerPoint presentation which can also be delivered by a shop supervisor or just read on your own – basically some of the highlights presented in this guide. But, unless you transport hazardous materials, work in a hazardous waste function, or are part of spill response team there is not a lot of required training. As a hazmat user, your primary concerns are AF policies as referenced throughout this document and the safe use, handling, and disposal of the hazmat. In addition to any base-specific training, we listed the training requirements below. OCONUS bases may have other training requirements—check with your HMMP Team.

Functional Area	Training Required	Driver	Applicability
Occupational Health	Hazard Communication	AFI 90-821, Hazard Communication	All employees that use hazmat
Safety	Job Safety Training	AFI 91-202, The US Air Force Mishap Prevention Program	Job Safety Training is required on safety, fire protection/prevention and health requirements specific to the shop
Transportation	Various courses	DoD 4500.9-R, Defense Transportation Regulations	Employees engaged in transporting hazmat
HMMP	Shop-Level Hazmat Familiarization (PowerPoint presentation)	AFI 32-7086	All employees that use hazmat

Table 4 - Shop Level Hazmat Training

14. Reports

What good is it to put data into a system if you can't get it back out in a meaningful way? EESOH-MIS produces numerous reports that will help you manage your hazmats. Attachment 1 list some reports produced in EESOH-MIS for your use. There are plenty more, but these either have a direct interest to the shop or can provide additional information.

15. To Infinity… and Beyond!

This process has come a long way from those early "caveman days", but we are on a mission (some would even call it an impossible mission) to improve the process and ensure all hazardous materials used at a base are vetted first through the HMMP. By all accounts this has been a very difficult mission, but if you decide to accept it (not that there is really a choice), there are a couple of things you can do to help us! First, by following the process, and second by helping us improve the process.

Your team starts at the installation, and is supported by your AFCEC Installation Support Team, the EESOH-MIS Help Desk, and those of us representing the HAF HMMP team. We all promise to listen. Sometimes change appears in slow motion (just like page refreshes on EESOH-MIS), but some changes can be quick. There are "great ideas" discussed today that were talked about back in the 90's, but some ideas just need the right people, place and time to make them a reality. We will make sensible changes whenever we can, and the most sensible ideas come from folks like you working the program every day. We have our government-issued secret decoder rings so all we need is your message. No formal letter needed, no permissions, no approvals - just send us an email or pick up the phone. You tell us what you're thinking and we'll do what we can. Our names and contact information are on the Hazmat eDASH page and occasionally on the back of milk cartons.

Having a sense of humor in this serious line of work does help us keep our sanity, and to that end we wrote this shop-level guidance with some levity and tongue in cheek where possible without losing the message. We all thank you for your efforts with hazardous materials management, and glad you've agreed to accept this mission!

....this message will self-destruct in five seconds…

Footnote: A special thanks to Mr. Patrick Woods, AFCEC/CZTQ, for his special brand of wit and the many folks that contributed to this document.

ATTACHMENT 1 – EESOH-MIS REPORTS

Report Title	Brief Description
User List by Installation and Role	Provides information on EESOH-MIS users and roles to track and maintain users. Report shows all the users on an installation, what roles they have and shops assigned. Report does not show users with more than 5 assigned installations such as Installation Support Teams, MAJCOM and HAF users, and EESOH-MIS Program Office personnel.
Master Shop List	Report shows all the basic information for shops identified on the installation to include locations and servicing HTAs. Reviewing this report can show that all organizations on the installation have been identified.
Hazmarts to Shop	Report shows the servicing hazmart(s) for each shop.
PHM/LPN Cross-Reference	Provides a cross-reference list between the Stewarded Local Purchase Numbers in EESOH-MIS and the installation Locally Assigned Numbers. The Material Stock Number (MSN) is the NSN or stewarded local purchase number (SLPN) used in EESOH. All authorizations are associated to a MSN. Some supply systems maintain a separate number and this report provides the cross reference.
Personnel Management	Reports personnel assigned to a shop. Dependent on base tracking personnel.
Material Authorization by Chemical	Provides authorizations by CAS/Chemical and includes authorized shops, MSNs, process, and product information. Reports only the information for SDSs associated to the installation.
****Material Authorizations with Product Data**	Provides MSNs and product information authorized in a shop. Reports only the information for SDSs associated to the installation. Note: If the material has never been received through EESOH-MIS on the installation, it will not display the partnumber/tradename or manufacturer. This is a report to satisfy the HAZCOM inventory requirements.
Material Authorizations in Shop Sequence	Reports shop material authorizations in MSN sequence and associated processes. This is a quick reference for the shops of the materials to processes they are authorized by MSN.
Potential Hazard by Authorization	Reports potential hazards of authorized materials in a particular location. Allows personnel to assess the hazards of material actually in inventory in a shop, building or installation-wide. Can be used to show material is stored compatibly and also to show hazards authorized to a shop for training purposes. Report is based on authorizations and only products linked to the installation.
Process Authorization	Reports the process authorization details for a shop. Equivalent information to an AF Form 3952. Note: there is NO requirement to print an authorization. The AFI allows for these to be maintained electronically.
Material Authorizations/Usage by Justification	Identifies justifications, end items/weapon systems and documents, e.g. Technical Orders, justifying the need for hazardous materials. This report can assist when looking for chemical reduction opportunities.
Process to Material Authorizations	Provides process authorizations for a shop and associated materials (MSNs). This is a quick reference for the shops to see processes and their authorized MSNs. This is a good report to reference prior to requesting a new process or material to determine the type of action to take.
****Material Authorizations in MSN Sequence**	Report shows hazmat authorizations in MSN sequence with shop, process and quantity information.

EMS Aspects	Reports EMS Aspects and scores. Can be grouped by Aspect Category and Aspect (with maximum score) or listed by individual shop process. Look at overall aspect risk and impact across installation--provides Macro view of installation aspects. Use when determining aspect significance and impact.
Process Scoring	Reports shop processes with scored EMS Aspects. Can be grouped by Process Type (with maximum score) or listed by individual shop process. Report provides a view of aspects at the process level as well as rolling up aspects risks for all similar processes. Demonstrate aspect inventory, as well as using when determining aspect significance. Use when creating targets that associated to objectives to target known processes.
Shop Aspects	Reports all processes and the associated EMS Aspects, Impacts, and scores. Can include all processes whether or not there are associated EMS data. Provides shop level view of impacts to environment and the aspects associated to their activities. Also provide views of conditions associated to their activities which may include responsibilities (Legal, operational controls, and/or targets to reduce risk associated with their activities).
Installation Activity	Reports activity at the Hazmart and Shop level per installation. This is a data mining report to show effectiveness of HMMP coverage.
Installation SDSs	Reports SDSs associated to your base.
SDS by Chemical	Reports associated MSNs and SDS by CAS/Chemical. When a particular CAS or Chemical is targeted this report will show all the products where the material is found. Reports only those products associated to the installation.
Exempt List	Reports MSNs that are exempt from management under the HMMP by installation. Shows the exempt items on a base so that shop personnel can seek exempt items first.
Kit Definition	Reports all kits and components associated to your base.
Container Inventory	Reports container inventory by employee or shop. Allows the shops to see what containers are currently in the shop. Applicable to bar-coding installations only.
Container Status/History	Reports the status/location of a container.
Inventory/Shelf Life Report	Reports inventory in a Shop or Hazmart with shelf life data, associated locations, and cost. Can show shelf-life materials that are either expired or will expire in the future.
Hazard by Inventory	Reports hazards and locations of material in inventory. Allows personnel to assess the hazards of material actually in inventory in a shop, building or installation-wide. Based on actual inventory at time of the report. Note: if your EESOH-MIS shop settings are for Consume at Receipt there will be no shop inventory.
Defense Reserve ODS MSN Report For Receipts	Reports all Defense Reserve MSN ODSs received on your base.
Defense Reserve ODS MSN Report For Usage	Reports all Defense Reserve ODSs consumed on your base by process.
Ozone Depleting Substances Status - Receipts	Reports all ODSs by chemical received on base regardless of source.
Ozone Depleting Substances Status - Usage	Reports all ODSs by chemical consumed on base by process.
Dangerous Goods Advisor	Reports all chemicals flagged as an EU dangerous goods reportable.

Tier Two Emergency and Hazardous Chemical Inventory	Reports EPCRA calculations by reporting year. This report is compiled ahead of need and provided to the base when ready.
Material Usage for Air Quality	Reports all chemicals used that are flagged with a Clean Air Act attribute.
Issues By Chemical/Regulatory Group	Reports all chemicals used that are included in a specific regulatory chemical group, e.g., EHS, REACH, chromium compounds, etc.
Container Usage	Reports material use by containers issued, used, and returned. Reports by employee or shop. Report is only good if the installation has chosen to enter employee information which is optional.
GPC Tracking	Reports GPC requests, approvals and receipts.
Material Disposition Request Status	Reports MSNs that where a disposition request was initiated and returns the current status.
Material Issues by MSN	Reports MSNs issued to a shop.
Material Request History	Reports all material requests by Hazmart.
Shop Detailed HAZMAT Usage	Reports the chemical usage by MSN against a process in a shop.
Shop Material Use by Process	Reports total containers issued to a shop by process with constituent data for a given date range.
Shop Material Requests/Hazmart Due-Ins Report	Reports all requests initiated but not yet filled by a Hazmart.
Transactions	Reports all receipt and issue transactions by Hazmart.

ATTACHMENT 2 – PROCESS AUTHORIZATION FIELD INSTRUCTIONS

The Process Authorization in EESOH-MIS is laid out in Tabs. Below is a detailed explanation of each field by Tab.

Screen Name	Definition	Shop Data Entry
PROCESS TAB		
Local Process Name	The name that describes the process being performed. Process names typically include the activity being performed, what the end item is, and how it is being performed. For example: Painting F-16 aircraft with HVLP Gun.	Make your Local Process Name as descriptive of the process as possible. A good Local Process Name includes the following: - the activity being performed - what the end item is - how the process is being performed - the location when the shop spans more than one location The most important thing with the Local Process Name is that it makes sense to you so that you will readily know which materials go to the process. Avoid using broad process names such as "Shop Maintenance" and "Equipment Maintenance". Good Process Name examples: - Painting T-38 aircraft with HVLP (High Volume Low Pressure) Gun in Hangar 48 - Degreasing aircraft parts in cold solvent tank - Surface paint removal with plastic bead blast media - Cleaning aircraft surface with power washer in large wash rack - Add/Replace fluids to AGE equipment, multiple operations - Aircraft engine truss coating and preservation using a standard gun
Process Category Process Type Process Name	The Process Category, Type, and Name refer to the 3-tier DoD Process Codes.	The Process Category/Type/Name are selected from a list of values (LOV's) which filter after each selection. The complete list of Process Codes is at Attachment 2. First select the Process Category, then select the Process Type and then the Process Name. Select the most descriptive Process code. Avoid using Not Otherwise Categorized (NOC) or miscellaneous codes when a more descriptive code is available. When defining your cleaning process performed in the shop you can easily find an Industrial Category, then Cleaning operations for the process type – but you must carefully define the process name to accurately describe the process you are performing – try to avoid "all usages" or "NOC" as much as possible. Different methods of cleaning will lead to different PPE requirements, and exposure considerations.
Process Description	Write a description of the Process	Provide a detailed explanation of the process. Try to think about how you would explain the process to someone who may have limited knowledge of what you do on a daily basis. This information can speed the ESOH review and approval process and eliminate the need for the reviewers

Screen Name	Definition	Shop Data Entry
		to ask you additional questions. For example a bad description would be "Cleaning parts" A good description would be "Vapor degreasing aircraft parts prior to NDI (Non Destructive Inspection)". If your local process name is sufficient to fully describe the process, you can repeat it here; however, this is your opportunity to provide additional information about the process. Refrain from describing how each material is used, rather, adequately describe how the process is performed.
Process ID:	Auto-generated code representing the Process Category/Type/Name and a system-generated serial number.	Display Only
Shop:	The name of the shop performing the process	Ensure the shop name is the correct shop. If the person logged in is assigned to more than one shop, select the correct EESOH-MIS shop code at the time the process is created, from the LOV that will be performing the process.
Conditions of Use	Any special conditions of use imposed by the E, S, or OH reviewers for the process being performed in the specified shop. The process authorization is valid only when these conditions of use are complied with by the shop. The conditions of use are input into the system during the ESOH approval process and will appear here as READ ONLY once the authorization is approved.	Display Only after authorization approval. It is important to follow any conditions of use placed here by the reviewing functions.
Environmental	Conditions of use specified by the Environmental Reviewer	Display Only after authorization approval.
Safety	Conditions of use specified by the Safety Reviewer	Display Only after authorization approval.
Occupational Health	Conditions of use specified by the Occupational Health Reviewer.	Display Only after authorization approval.
Air Manager Use Only		
Air Source ID	The unique identifier for an air process. This ID is created in CCS (APIMS) and passed to EESOH-MIS via the I2 interface.	Display Only. This data comes from the Air Program Information Management System (APIMS) after authorization approval.
Does the process require a manual log?	Indicates that the process has a time sensitive usage log requirement driven by an air emission regulatory requirement.	Select the correct radio button (Yes or No).
DETAILS TAB		
What is the *typical* frequency at which this process is	The typical or average frequency the process is expected to be performed.	Enter a frequency (number) in the first box to represent how many times you typically perform this process. Then select a period of time from the drop down box to represent how

Screen Name	Definition	Shop Data Entry
performed?		often the process is performed. Values in the drop down box are: • DAILY • EVERY 2 YEARS • EVERY 3 YEARS • EVERY 4 YEARS • HOURLY • MONTHLY • QUARTERLY • WEEKLY • YEARLY For example 8 x month, 1 x quarterly. This number will not affect the quantity of material you receive so please be as accurate as possible. A consideration that may be made as a result of this information is whether this process is infrequent and qualifies as a non-routine task under the Hazard Communication Standard.
What is the *maximum* frequency at which this process is performed?	The maximum frequency the process is expected to be performed such as during surge periods.	Enter a frequency (number) in the first box to represent how many times the process could be performed during a surge period. Then select a period of time from the drop down box to represent how often the process is performed. Values are: • DAILY • EVERY 2 YEARS • EVERY 3 YEARS • EVERY 4 YEARS • HOURLY • MONTHLY • QUARTERLY • WEEKLY • YEARLY For example 8 x month, 1 x quarterly, etc. If yes, depending on the hazards, there could be changes to PPE, engineering controls or a condition of use specifying workload limitations.
Do the seasons affect how often this process is performed?	An indicator that the process is performed with more or less frequency during particular seasons.	Select the correct radio button (Yes or No) to indicate if the seasons affect how often this process is performed.
If seasons affect how often this process is performed, please explain		
Explanation	The explanation provided if the seasons affect the process.	If the seasons affect the process, provide an explanation of how the seasons affect the frequency of the process. For example de-icing of aircraft wings is performed only during the winter months or the base swimming pool may use chlorine only during the months of June, July and August.
What is the duration of the process?	The duration of a single occurrence of the process.	Enter a numeric frequency and a Time Period from the drop down box for the length of time a process occurs. Time Periods are: • H (Hours) • MIN (Minutes)

Screen Name	Definition	Shop Data Entry
		For example 2 hours or 30 minutes. For processes that are continuous, enter 24 hours.
Enter the date the process starts	The date the process starts	Choose the start date by clicking on the calendar icon, scrolling through the calendar screens until you find the correct date, and then clicking on the date to select.
If you can project an end date, please specify date:		
End date	The date the process ceased to be performed in the shop.	DO NOT END DATE a process without prior consultation from your HMMP team. If the process is for a specific one-time use or Time Compliance Technical Order (TCTO) you may enter the projected end date. An example of a process that would have an end date is smoke oil used for the Thunderbird Air Show. Warning: once the process is end dated, all related items to that process are also end dated (materials, PPE, Engineering Controls, etc.) Once you've consulted with the HMMP team, and you must end date the process, choose the end date by clicking on the calendar icon, scrolling through the calendar screens until you find the correct date, and then clicking on the date to select.
End Date Reason	The reason the process was end dated.	Choose the appropriate reason the process is being ended by clicking on the drop down box. Values in the drop down box are: • Original Approval was Incorrect • Other • Process Reorganization • Shop no longer exists or combined with another shop • Workload No Longer Exists
For ESOH Use Only		
BEE Process Description	For BEE to further describe the process for their use	Leave Blank - For BEE use only
Next Action Date	The date an ESOH reviewer may want to review the process	Leave Blank –For ESOH use only
WEAPON SYSTEMS SUBTAB		
Add Weapon System	Add a weapon system to your process.	Enter the weapon system that is affected by this process. You may enter more than one weapon system. If the end item is not a weapon system listed in this sub-tab, describe the end item under the Justification Tab and do not load a weapon system.
Service Component	The service component that owns the weapon system.	Select each tier from the Weapon System List of Values : • AIR FORCE • ARMY • COAST GUARD • NAVY
Category	The category of weapon system.	Make this first selection and it will determine what is filtered in the next list.
Type	The type of weapon system.	Select the type of weapon system. This selection will determine what displays on the next list.

Screen Name	Definition	Shop Data Entry
System	The name of the weapon system.	Select the name of the weapon system.
LOCATION TAB		
Is this process performed in the Shop?	Identifies if the process is performed in the shop.	Select the correct radio button (Yes or No) to indicate if the process is performed in the shop, as opposed to your shop personnel travel somewhere else to perform the process.
If the process is not performed in the shop, specify where it is performed:		
Location	The location(s) other than the shop where a process may be performed.	If the process is performed somewhere other than the shop, enter the location(s) where the process is performed. Example: if the shop is located inside an aircraft hangar, but the work is performed on the flight line, you would first select "No" then enter the location where the work will typically be performed. Select the locations from the List of Values. The location must have been entered in the location pick list associated to the shop for it to appear in the List of Values.
Is this process performed indoors, outdoors, or both?	Indicates if the process is performed indoors, outdoors, or both.	Select the correct radio button (Indoors, Outdoors, Both) to indicate if the process is performed indoors, outdoors, or both indoors and outdoors.
Is this process performed in a small or restricted space?	Indicates if the process is performed in a small or restricted space.	Select the correct radio button (Yes, No, or Not Selected) to indicate if the process is performed in a small or restricted space, such as a small room, inside an aircraft, or mechanical room. If you don't know, contact the Wing Safety Office, and they will help you.
Is this process performed in a confined space?	Indicates if the process is performed in a confined space as defined by 29 CFR 1910.146	Select the correct radio button (Yes, No, or Not Selected to indicate if the process is performed in a confined space. If you are unsure whether this process is performed in a confined space, contact the base Safety office. There are specific AFOSH and OSHA requirements that must be met when a process is performed in a confined space.
JUSTIFICATIONS TAB		
Add Justification	Add a justification to your process.	Justifications include the driver for your process (i.e. Technical Order, DoD Publication, etc). You may have multiple justifications for a single process. You must have at least one justification.
If the end item is not a Weapon System, describe the end item		
Please describe the end item	A description of the end item affected by the process.	If the end item is not a weapon system, describe the end item. If the end item is a weapon system, enter the weapon system in the weapon system sub tab found under the Details Tab. The end item is whatever item you are applying the hazardous material to, such as a piece of Aerospace Ground Equipment, a tank, a building, etc.
Justification Type	The broad category of what justifies the process and/or materials.	Select the Justification Type from the drop-down list. Values are • COMMERCIAL PUBLICATION – this may include the Owner's manual • CONTRACTING DOCUMENT • DEPLOYMENT • DOD PUBLICATION – any government publication

Screen Name	Definition	Shop Data Entry
		that is not a Technical Order, TCTO or Technical Manual such as an AFI • FACILITY MAINTENANCE – includes housekeeping functions such as stripping floors, cleaning windows, etc. • LABORATORY PROCEDURE • OFFICIAL CORRESPONDENCE • SPECIAL PROJECT • STANDARD OPERATING PROCEDURES - Use this justification when the process and material is a standard shop procedure and no critical end item or weapon system is involved. This justification is for processes that obviously have no written call-outs. A justification document is not expected to exist. An example is general purpose lubricating oil applied to tools for corrosion prevention. • TECHNICAL ORDER/TCTO/TECHNICAL MANUAL
Is the document classified?		Click on the Yes or No radio button to indicate if the justification for the process is classified.
If the justification type is a Technical Order, please provide a Tech Order Number		
Tech Order Number	Document identifying the repair and maintenance of a weapon system end item.	If the justification that supports the process or material(s) used in the process is a Technical Order or TCTO, select it from the List of Values. When the justification is a TO/TCTO/TM, and a specific system/equipment TO is applicable to the process and end item, it should be referenced as the primary justification rather than a general TO. In the event of a conflict between a system/equipment TO and a general TO, the system/equipment TO always takes precedence. If a system/equipment TO references a general TO for a chemical use, the general TO will be referenced as the secondary justification. In either case specific paragraphs in both TOs must be referenced. TOs are required as the justification if one has been published for the material, end item or process requested.
Request New Technical Order	Request the Helpdesk add a new Technical Order to EESOH-MIS.	If the TO or TCTO is not listed in the LOV, click on the Request New Technical Order hyperlink, and enter the Technical Order number, Title directly off the front page of the document, and Revision if applicable. You may also call the EESOH-MIS Help Desk at 1-866-488-4069 with the information and they will validate the request and load the data.
Document #	Document number and/or name justifying the process and/or hazardous materials.	If the justification document is not a Technical Order or TCTO, enter the document number that supports the process or material(s) used in the process.
Page #	The Page No in the justification document supporting the process and/or hazardous materials	Enter the Page Number of the justification document. This is not required unless the justification is a Technical Order.
Paragraph #	The Paragraph No in the justification document supporting the process and/or hazardous materials	Enter the Paragraph Number of the justification document. This is not required unless the justification is a Technical Order.

Screen Name	Definition	Shop Data Entry
Revision #	The revision number of the Technical Order or other justification document supporting the process and/or hazardous material.	Enter the Revision Number of the justification documents. If a selection is made from the Tech Order LOV, this field should auto-populate.
Revision/Change Date	The revision or change date of the Technical Order or other justification document supporting the process and/or hazardous material	Enter the Revision or Change Date of the justification document. If a selection is made from the Tech Order LOV this field should auto-populate.
Justification Remarks	Additional information about the justification.	Enter any additional information to support the justification of the material and process. This field can be left blank if not known or not applicable.
Current File (5 MB Limit)		This will display any files previously uploaded. The maximum file size is (5MB). If the file is too large, any previous data entered on this page will not be saved.
Upload New File to Replace Current File	Browse and upload file to replace existing file.	Justification documents or pages from the document can be electronically attached to the process authorization. Click on the Browse Button to find the location of the file to upload and attach to the process. AFI 32-7086 requires that the justification for the process and/or hazardous materials is supported with the documentation. If the justification document is not electronically attached, hard copies can be provided to the approving officials.
MATERIAL HANDLING TAB		
How will the materials be mixed?	Describes how materials will be mixed in the process.	Describe how the hazardous materials will be mixed or combined with other ingredients in performing the requested process. Values in the drop down box are: • CLOSED CONTAINER MIXER • HAND • NOT MIXED • OPEN CONTAINER MIXER • STIRRED
How will the materials be abraded?	Describes how materials used in the process will be abraded.	Describe how the hazardous materials will be abraded, OR used to facilitate the abrasion of another material in performing the requested process. Values in the drop down box are: • GRINDER • NOT ABRADED • SANDER • WIRE BRUSH
How will the materials be heated?	Describes how materials will be heated in the process.	Describe how the hazardous materials will be heated in/by performing the requested process. Values in the drop down box are: • ELECTRIC HEATED TANK • ELECTRIC OVEN • GAS HEATED TANK • GAS OVEN • NOT HEATED

Screen Name	Definition	Shop Data Entry
		• OVEN • SOLDERING IRON • TANK • TORCH If the hazardous materials will be heated, enter the estimated minimum and maximum temperatures.
How will the materials be transferred?	Describes how materials will be transferred in the process.	Describe how the hazardous materials will be transferred. Values in the drop down box are: • NOT TRANSFERRED • POURED • PUMPED
If materials will be heated, specify minimum and maximum temperatures:		
Minimum	The minimum temperature material will be heated in the process.	Enter the minimum temperature at which material may be heated in the process.
Maximum	The maximum temperature material will be heated in the process.	Enter the maximum temperature at which material may be heated in the process.
Unit	The temperature unit of measure for a heated process	Select from the drop down • CELSIUS • FAHRENHEIT KELVIN
What is the pressurization method?		Describe how the hazardous materials will be pressurized during performing the requested process. Examples: • AIR HOSE • HAND-PUMP • NOT PRESSURIZED
If materials will be pressurized, specify minimum and maximum pressures:		
Minimum	The minimum value the material will be pressurized in the process	Enter the minimum pressure at which material may be pressurized in the process.
Maximum	The maximum value the material will be pressurized in the process	Enter the maximum pressure at which material may be pressurized in the process.
Unit	The pressurization unit of measure for the process	Select the unit of measurement from the drop down list. The values are: • ATMOSPHERE • INCHES OF MERCURY • INCHES OF WATER • MILLIMETERS OF MERCURY • POUNDS PER SQUARE FOOT • POUNDS PER SQUARE INCH
MATERIALS TAB		
Add Material	**Add a material used in your process.**	**You may add as many materials as required. It is helpful to know the MSN you need to add, any research for MSN should be conducted prior to adding the material to the process. Note: a process may be created without a hazmat.**
MSN	The unique number identifying the hazardous material item. The number may be either a National	Select the MSN that will be used in the process from the List of Values. The MSN must be verified within EESOH-MIS to proceed with

Screen Name	Definition	Shop Data Entry
	Stock Number (NSN) or Stewarded Local Purchase Number (SLPN).	the addition of new material to this process. If the MSN is not verified, you may conduct further research in the Manage Products (MSDS) area, or contact the Installation SDS Gatekeeper for assistance. When the correct number is found, click CONTINUE. This will bring up details of the material selected and allow you to enter additional information.
Noun	The noun is a description of the material that is unique to the material without referencing a particular manufacturer.	Display Only Nouns are built with an item name from FEDLOG and contain other characteristics in the description of the material. They are generic in nature but informative and unique to the material. Example: Lubricating Oil, Engine 10W30 or Adhesive, White, Silicone Rubber.
Description of Material	This is additional information to help describe the material.	Display Only
Container Size	This is a unique numeric value for the material that helps construct the CUP – Container Unit of Measure and Package. Different CUPs will require a different MSN.	Display Only This is a numeric value that works in conjunction with the next two data fields to describe the unique size of material container and packaging.
Container UOM	The Unit Of Measure that makes up the CUP.	Display Only This value is a unit of measure that describes the means in which the container and package of the material are measured.
Container Package	The Container Package is the final component of the CUP. If this value should differ for the same material – then a new MSN is required.	Display Only This value is a text description of the package that stores the material.
Quantity in Package	This is the quantities that comprise the package or container.	Display Only This value shows the number of containers in the package.
Supply Unit of Issue	This value is directly from FEDLOG/WebFLIS	Display Only This value describes the type of container to be issued (i.e. CO-container, BX- Box, CY- Cylinder etc.)
If this MSN is being added to replace an MSN already on the process, please select the existing MSN and the reason for the replacement:		
MSN	List of previously approved MSNs are displayed in the dropdown	If the MSN is being added to replace an MSN already on the process, please select the existing MSN and the reason for the replacement.
Reason for MSN Replacement	Replacing an MSN in a process authorization may be required in the future to accurately describe the changes that can occur in the life of material usage for a process.	Select the appropriate reason from the following list of values: • Erroneously Approved • Hazardous Ingredient/Material Not Allowed on Base • Material Justification No Longer Supports • Material No Longer Available • Material No Longer Needed In Process • Material Poses Regulatory Concern • Other • Replaced with Less Hazardous/Exempt/Green Material
Shop Material Preferences: *Displayed are the shop's current preferences for this material.*		

Screen Name	Definition	Shop Data Entry
If editable, the shop has no preferences for this material. *To make changes to the Shop's Material Preferences, please go to Manage Shops:*		
Draw Amount	The amount a shop will typically draw when requesting the hazardous material from a HAZMART.	Enter the Draw Amount, Frequency and Draw Frequency values. This will represent the quantity of material and number of times and frequency material will be drawn from your distribution point, usually a HTA. For example: - 5 (units of issue) 5 X Month - 3 (units of issue) 1 X Yearly The Draw Amount is used in conjunction with the Draw Frequency to reflect how much material and how often material will be withdrawn from the HTA for a typical/normal workload. Increased amounts may be required during surge periods. Note: Keep the CUP/QIP/SUI in mind, especially when selecting a large amount (55 GL DR) or boxes/cases (24/BX, 12/CS) of material.
Draw Frequency	The typical frequency a shop will request the Draw Amount from a distribution point.	The Draw Amount and Draw Frequency are numeric values – enter the number. Select the Draw Frequency from the drop down box. Values are: • BI-WEEKLY • DAILY • GY – Greater than one Year • HOURLY • MONTHLY • ONE-TIME ONLY • QUARTERLY • WEEKLY • YEARLY
Max On Hand		Display Only. This will show as 0 until the process has been approved. EESOH-MIS will allow a max-on-hand of 3 times the draw amount. You may adjust this max on hand quantity once the material has been approved.
Will you accept the same draw amount of material in a smaller unit of issue?	Indicates a smaller unit of issue of the same material can be issued, should the original unit of issue not be available/in stock at the time of request.	Click on the YES or NO radio button to indicate that you will accept the same material in a smaller unit of issue. **Note: currently this functionality does not work**
Is there a sole source requirement for this material?	Indicator that the material has a sole source requirement.	Click the Yes or No radio button to indicate there is a sole source requirement for this material. A sole source requirement is not a material preference but a documented requirement for a particular vendor's material. If this authorization indicates there is a sole source requirement, EESOH-MIS will only allow the issue of the particular material indicated as the sole source requirement.
If there is a sole source requirement for this material, please complete the fields below:		

Screen Name	Definition	Shop Data Entry
Explanation	The justification for a sole source requirement.	Provide an explanation to justify the sole source requirement. Citing the document forcing you to buy a specific item, is very helpful!
Part #	The part number of the material required to satisfy a sole source requirement.	Click on the LOV to perform a search for the material part number that must be used for this process.
Trade Name	The trade name of the material required to satisfy a sole source requirement.	Enter the trade name only if you have chosen "Yes" to sole source requirement.
Manufacturer Name	The manufacturer's name of the material required to satisfy a sole source requirement	Enter the manufacturer name only if you have chosen "Yes" to sole source requirement.
If the material is specifically called out by a specification, identify it here. The format displayed here is Justification Type and Document #.		
Justification	The justification for a particular hazardous material in a process.	Select the justifications from the shuttle box list on the left that supports the requested hazardous material. Click the ADD button to move the justification to the right shuttle box. Only the justifications entered in the Justification Tab will appear in the left-hand shuttle box. If the particular justification for the material does not appear, save this screen and return to the Justifications Tab to enter the missing justification. Clicking on the REMOVE button will remove a selection from the right-hand shuttle box.
How is this material used in the process	Describe how the hazardous materials will be used in the requested process.	This is where you can add more detail about how the material is specifically used in this process.
ODS Approval Number	An ODS Approval number that is granted for the use of an Ozone Depleting Substance that is managed in the DoD reserve for weapon system support. The DoD ODS reserve for weapon system support consist of various class 1 refrigerants (R-11, 12, 114, 500, 502), halons (1211, 1301, 1202), solvents (1,1,1 trichloroethane, & 113), and associated containers.	Enter the ODS Approval Number as received from the ODS Management Office.
ODS Application	Indicates the ODC use category.	Select the ODS Application from the drop down list. Values are: • FIRE SUPPRESSANT • NOT APPLICABLE • OTHER • REFRIGERANT • SOLVENT
For ESOH Use Only		
Section 311/312	Describes the exemption under Emergency Planning Community Right to Know Act (EPCRA) Section 311 and 312 that the authorization	For Environmental Use

Screen Name	Definition	Shop Data Entry
	meets	
Section 313	Describes the exemption under EPCRA Section 313 that the authorization meets	For Environmental Use
WASTE TAB		
What happens to materials as a result of this process?	The anticipated method by which a material will be disposed of when used in the authorized process.	There are many considerations with regards to where material will ultimately be or what may be generated as a result of the process. If hazardous materials are being used, consider where the material will be after the process occurs. Also, what may be generated as a result of the process? Select all that are applicable to the process. Select the applicable disposal method from the shuttle box list on the left. To add a disposal method, click the Add button. To remove a disposal method, click the Remove button. • Air Emission – no containerized waste is generated for disposal and the process only generates air emissions • Used Oil- any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use is contaminated by physical or chemical impurities • Burned/Incinerated – the material or process generates a waste that is sent to an incinerator for disposal. • Consumed in Use (Partially) – the material is partially consumed and a portion has an alternate disposal method or emission. For example: the material used in painting; a portion will remain on the painted end item, a portion will become air emissions, and a portion will become containerized waste, i.e. filters, clean up of paint guns. • Consumed in Use (Completely) - the material is either consumed in use, is permanently applied to an item or becomes a part of the item and no waste is generated for disposal • Drained to Industrial Waste Treatment Plant (IWTP)- the material or process generates any amount of waste that is discharged down a dedicated line to an industrial waste treatment plant • Drained to Sanitary Sewer – the material or process generates any amount of waste that is discharged down a drain that leads to the sanitary sewer • Industrial Waste Treatment Plant (IWTP) – when the material or process generates any amount of waste that is accumulated in any type container for disposal at the IWTP • Medical Waste, Removed By Contractor- the material is removed by a contractor. For example, short-term contractors that remove their own waste or a “Safety

Screen Name	Definition	Shop Data Entry
		Kleen" contractor who pumps out a tank and replaces it with clean solvent. • Other – A disposal method is not listed here. Explain in the remarks block. • Recycled Off-Site – the material is recycled off-site after use in the process • Recycled On-site – the material is recycled on-site after use in the process • Reused – the material is reused after initial use in the process. • Scrap Metal, Recycled – The process generates a waste that is crushed and recycled. • Stormwater – the process generates waste that enters the storm water system, however, only a very special installation configuration would allow this to occur. Typically, hazardous material should never enter a storm water system. • Trash, Municipal Waste – the material or process generates any amount of waste that is disposed in a municipal dumpster that goes to the city landfill. • Hazardous Waste • Universal Waste • Non-Hazardous Waste • Other Regulated waste • PCBs • State Listed Waste • Bulk Container - the material or process generates any amount of waste that is disposed of in a tank, gondola, or other bulk container larger than an 110 gallon container
What will the waste generated from this process look like? (i.e., green sludge, metal chips)	The expected appearance of any waste generated from a process	If you expect waste to be generated from the process describe as completely as possible what it will look like. Examples include: - Rags contaminated with oil - Paint chips mixed with blast media
Is this process going to generate containerized waste?	Indicates the process will generate containerized waste.	Click the Yes or No radio button to indicate that the material or process generates any amount of waste that is disposed of in a drum or container of 5 – 110 gallon capacity. If the process will generate containerized waste complete the questions below.
If the process will generate containerized waste complete the questions below.		
Estimate Waste Container Size:	The size and type of waste container that will be used to collect waste	Estimate the size of the waste container. Examples include: 4 ft cardboard box 8 ft cardboard box 5 gallon metal bung type can 10 gallon metal bung type can 15 gallon metal bung type can 20 gallon metal bung type can 30 gallon metal bung type drum 55 gallon metal bung type drum 1 cubic yard DOT bag

Screen Name	Definition	Shop Data Entry
		6 gallon cardboard drum 10 gallon cardboard drum 15 gallon cardboard drum 20 gallon cardboard drum 30 gallon cardboard drum 55 gallon cardboard drum Cardboard box 10 gallon octagon cardboard box 1 gallon capacity can 4 x 4 CW pallet Cylinder 30 yard bulk waste container 3 yard dempster dumpster Steel flask for mercury 19 yard gondola 250 gallon port tank (for IWTP) 5 gallon open-top metal drum 10 gallon open-top metal drum 12 gallon open-top metal drum 15 gallon open-top metal drum 20 gallon open-top metal drum 25 gallon open-top metal drum 30 gallon open-top metal drum 55 gallon open-top metal drum Open top over pack metal drum Open top plastic over pack 570 gallon port tank (USPCI) 1 gallon plastic container 5 gallon plastic container 10 gallon plastic container 15 gallon plastic container 20 gallon plastic container 30 gallon plastic container 35 gallon plastic container 55 gallon plastic container 300 gallon metal portable tote Dumpsters and storage tanks 300 – 350 gallon pallet size
Approximately how much waste will be generated?	Quantity and frequency of waste generated.	Estimate the quantity of waste to be generated in a given period of time. For example: 1 55 gallon drum per month
Waste Site:	The waste site number where the waste stream will be accumulated.	Enter the waste site number where the waste will be accumulated. A satellite accumulation point is assigned by the Environmental Flight representing a location where waste is accumulated under satellite accumulation rules. If the waste site number is unknown, contact the installation waste manager, typically in the Environmental Flight.
IH CONTROLS TAB		
User will click Add IH Control and list of previously entered PPE will be displayed, and entering the Start Date will associate PPE to the process. If the PPE you use is not displayed, click the Create IH Control button and follow the steps below.		

Screen Name	Definition	Shop Data Entry
Start Date	The start date the IH Control is added to the process.	Choose the start date by clicking on the calendar icon, scrolling through the calendar screens until you find the correct date, and then clicking on the date to select.
End Date	The end date the IH Control is no longer associated to the process.	Choose the end date by clicking on the calendar icon, scrolling through the calendar screens until you find the correct date, and then clicking on the date to select.
Comments	Free text field to enter additional information	
Control Category	Industrial hygiene controls can be broken down into categories. These categories are listed as Administrative, PPE, and Engineering. Administrative controls are examples of training and certification. If you are not trained or certified – then you cannot perform the process. Personal Protective Equipment is another category that is available. This choice will help to specify particular type of protective equipment for an industrial hygiene control. The engineering category will help to identify specific types of engineering controls (i.e. ventilation systems, vacuum sanders) used in the process to protect the shop worker.	Drop down: • PPE • Engineering • Administrative The entire list of control categories, types, and names is at Attachment 4.
Control Type	The control type is the general class of IH control. If you were to specify administrative as the category now you can specify signs, annual training, or ergonomics.	LOV – selecting a control category from above will determine a list of values unique to the control category. The entire list of control types and names is at Attachment 4.
Control Name	The control name now gets into the specific type of control. If you selected Control Type as sign now you can specify if this is a warning sign or painted lines.	LOV – selecting a control type will determine a list of values unique to the control type selecting from above. For example – if you picked the control type of Engineering – you would see lists for vibration control mat, and various other ergonomic controls.
Description	For the description you have the option of providing a further detailed description of the IH control in a free text field. " The lines are painted in yellow and black stripes on the raised edges of the floor entering the warehouse"	This a text box that the user must utilize to further describe the IH control utilized in the process.
Facepiece	This field becomes mandatory if the PPE selected is a Respirator (i.e. full-face, half-face, etc.).	Enter the information directly from the respirator FF Full-Face FFPD Filtering Facepiece (FFPD)

Screen Name	Definition	Shop Data Entry
		GM Industrial Gas Mask HD Hood HD/AB Hood, Abrasive Blasting HD/W Hood, Welder's HEL Helmet HEL/AB Helmet, Abrasive Blasting HEL/W Helmet, Welding HM Half-Mask HM/HD Half-Mask with Hood MP Mouthpiece MSK Disposable Mask (Surgical/Dust) QM Quarter-Mask
Mask Type	This field becomes mandatory if the PPE selected is a Respirator (i.e. air purifying, airline, SCBA, PAPR).	Enter the information directly from the respirator Air Purifying (APR) Air Purifying/Supplied Air Particulate Respirator Powered Air Purifying (PAPR) Self-Contained Breathing Apparatus (SCBA), Closed Circuit Self-Contained Breathing Apparatus (SCBA), Open Circuit Supplied Air (SAR) Supplied Air, Entry/Escape Supplied Air, Escape Only
Equipment Tab		
Name	The equipment name.	If there is equipment associated to or used in the process, select the equipment from the LOV. The LOV will display the Name, Serial # and Model # of equipment that has been added in the Manage Equipment section and associated to the shop. Enter any and all equipment associated to the process.
Model #	The model number of the equipment.	
Serial #	The serial number of the equipment	
Sequence	Shop developed numbering system to identify equipment	
Location	Where Equipment is located	Location must be created in the Manage Equipment Section and associated to the shop
Start Date	The date the equipment is added to the process.	Choose the start date by clicking on the calendar icon, scrolling through the calendar screens until you find the correct date, and then clicking on the date to select.
Aspect/Hazard Inventory Tab		
Aspect	An aspect is an element of your organization's activities, products, or services that interact with the	LOV – There are 47 Aspect categories to choose from to determine the interaction or classification of interaction with the environment. Start by selecting the first aspect if there are

Screen Name	Definition	Shop Data Entry
	environment. Examples of Aspects are air emissions from painting operations, or waste water generation from wash rack operations.	potentially many interactions with the environment. Pick an element of your organizations activities, products, or services that interact with the environment. There is not one choice that is correct – this is up to your interpretation and there could in fact be many interactions with the environment, not just one. At your installation this may be a task completed in conjunction with the base EMS manager. The following are examples of Aspect Categories: Carbon monoxide emission Hazardous air pollutant emission Lead emission Nitrogen oxide emission Ozone emission (8 hour) Ozone depleting substance emission Particulate matter emission (2.5 microns) Sulfur oxide emission Volatile organic compound emission Other emissions to atmosphere Interaction with surface soil / sediment Interaction with subsurface soil/rock Interaction with land, other Interaction with groundwater, point source Interaction with groundwater, non-point source Interaction with surface water, point source Interaction with surface water, non-point source Interaction with wetland, point source Interaction with wetland, non-point source Interaction with water, other Conservation of cultural resources Conservation of energy Conservation of fuel Conservation of land Conservation of materials Conservation of natural resources Conservation of water Conservation of other Consumption of cultural resources Consumption of energy Consumption of fuel Consumption of land Consumption of materials Consumption of natural resources Consumption of water Consumption of other Generation of dust Generation of heat Generation of light Generation of noise Generation of odor Generation of radiation, ionizing Generation of radiation, non-ionizing

Screen Name	Definition	Shop Data Entry
		Generation of waste, hazardous Generation of waste, non-hazardous Generation of waste, solid Generation of other waste
Request New Aspect Button		Click on this button to request an aspect to be added to the available list of aspects. This form sends a work basket message including any text entered for the Steward to review. Enter the requested Aspect Description and click the SAVE button.
Aspect Info	Provide additional information about the aspect and its interaction with the environment. This can be helpful to further define the aspect and its interaction with the environment. This is especially helpful if there are similar aspects listed for one process.	Is this an aspect that requires special notification or extra clarification? This can be helpful to further define the aspect and its interaction with the environment. This is especially helpful if there are similar aspects listed for one process.
Aspect Group	Further definition of an aspect that is either permitted or not permitted.	Drop Down - Not Permitted/Unintended/Unregulated - Permitted/Intended/Regulated
Regulatory Driver	Each aspect for the process may have a related environmental law that regulates or monitors its interaction with the environment.	LOV – There are 26 regulatory drivers available to associate to this aspect to help define the regulatory requirements. There may be multiple environmental laws related to particular aspects, its' okay to pick more than one. The following are examples of regulatory drivers available for selection: - Clean Air Act - Clean Air Act Amendments - Comprehensive Environmental Response, Compensation, and Liability Act - Clean Water Act (Federal Water Pollution Control Act) - Clean Water Act Amendments - Emergency Planning And Community Right-To-Know Act - Food, Drug, and Cosmetic Act - Federal Facility Compliance Act - Federal Insecticide, Fungicide and Rodenticide Act - Hazardous Waste Operations and Emergency Response - Hazardous Materials Transportation Act - Hazardous and Solid Waste Amendments - National Environmental Policy Act - Oil Pollution Act - Occupational Safety and Health Act - Federal Pollution Prevention Act - Resource Conservation And Recovery Act - Superfund Amendments and Reauthorization Act - Safe Drinking Water Act

Screen Name	Definition	Shop Data Entry
		- Asbestos Hazard Emergency Response Act - Indoor Radon Abatement Act - Lead-Based Paint Exposure Reduction Act
End Date	Select an end date for this aspect if this is an aspect that has a possible time limit.	Calendar – Select the values from the calendar to enter the date that this aspect and its impacts will end.
Save Button		Click on the SAVE button to perform the Aspect Scoring
Add Impact Button	There are 46 Impacts that can be selected from to relate to the aspect that you have chosen	- Click on the Add Impact LOV to access the list of possible Impacts
Impact	An Impact is the determination to the degree of which an aspect will Impact the environment positively or negatively.	LOV - There are 46 Impact categories that can be selected from to relate to the aspect that you have identified for this process. This does not have to be a one to one relationship. Your aspects, your interaction with the environment from your product or service can have many impacts on the environment. Select the Impacts from the following list that apply for the process: - Degradation/reduction of air quality, indoor - Degradation/reduction of air quality, outdoor - Degradation/reduction of built infrastructure/facilities - Degradation/reduction of cultural resources - Degradation/reduction of land quality - Degradation/reduction of natural resources - Degradation/reduction of water quality (drinking water) - Degradation/reduction of water quality (groundwater) - Degradation/reduction of water quality (surface/storm water) - Degradation/reduction of quality of life - Degradation/reduction of other - Disposal to surface (landfill) - Disposal to subsurface - Disposal to other - Improvement/preservation of air quality, indoor - Improvement/preservation of air quality, outdoor - Improvement/preservation of built infrastructure/facilities - Improvement/preservation of cultural resources - Improvement/preservation of land quality - Improvement/preservation of natural resources - Improvement/preservation of water quality (drinking water) - Improvement/preservation of water quality (groundwater) - Improvement/preservation of water quality (surface/storm water) - Improvement/preservation of quality of life - Improvement/preservation of other

Screen Name	Definition	Shop Data Entry
		- Recycling of air - Recycling of land - Recycling of water - Recycling of waste, hazardous - Recycling of waste, non-hazardous - Recycling of waste, solid - Recycling of other - Reuse of air - Reuse of land - Reuse of water - Reuse of waste, hazardous - Reuse of waste, non-hazardous - Reuse of waste, solid - Treatment of air - Treatment of land - Treatment of water - Treatment of waste, hazardous - Treatment of waste, non-hazardous - Treatment of waste, solid - Treatment of other - Reuse of Other
Relative Cost	Relative cost is the cost of compliance related to the aspect. This can be measured in terms of training, manpower, and the use of materials. This is not the cost of operation or maintenance but what is spent to stay in compliance.	1 point – Relative costs in the lowest 20% (0 to 20%) of the range for all individual installation impacts. 2 points – Relative costs in the fourth 20% (21-40%) of the range for all individual installation impacts; and 3 points – Relative costs in the third 20% (41-60%) of the range for all individual installation impacts; 4 points – Relative costs in the second 20% (61-80%) of the range for all individual installation impacts; 5 points – Relative costs in the top 20% (81-100%) of the range for all individual installation impacts;
Risk Probability	Assess the potential risk that this aspect impact poses on the local community and the environment. This is one category to determine the frequency of which this impact could occur to the local community or environment. This category in combination with risk severity will help to identify overall environmental risk.	The following entries are selections found in the EESOH-MIS drop down menu Frequent: Qualitative Definition – Occurs often in the life of the system. Quantitative Definition – Probability of occurrence is greater than one in ten. Likely: Qualitative Definition – Occurs several times in the life of the system. Quantitative Definition – Probability of occurrence is less than one in ten but greater than one in a hundred. Occasional: Qualitative Definition – Will occur in the life of the system. Quantitative Definition – Probability of occurrence is less than one in a hundred but greater than one in a thousand. Seldom: Qualitative Definition – Unlikely, but could occur in the life of the system. Quantitative Definition – Probability of occurrence is less than one in a thousand but more than one in a million. Unlikely: Qualitative Definition – So unlikely you can assume it will not occur in life of the system. Quantitative Definition – Probability of occurrence is less than one in a million.

Screen Name	Definition	Shop Data Entry
Risk Severity	The potential risk for an aspect is the impact it has on the local community and the environment in the worst case scenario. This in combination with risk probability will help to define the environmental risk.	The following definitions are used to describe the severity of consequences likely to result from the worst-case scenario impact. Catastrophic: Irreversible or extreme damage to a natural environment or loss of a critical natural habitat, natural resource or cultural resource. Replacement costs exceeding $100,000, death, or permanent total disability to an individual. Critical: Reversible damage to a natural environment, major degradation to a critical natural habitat, natural resource or cultural resource. Replacement cost exceeding $50K but less than $100K. Permanent partial disability or severe injury or occupational illness that may result in hospitalization of at least one person. Reversible environmental damage causing a violation of law or regulation. Marginal: Minor reversible damage to a natural environment, natural habitat, natural resource or cultural resource. Loss exceeding $10K but less than $50K, injury or minor occupational illness resulting in a lost work day, or environmental damage where restoration activities can be accomplished without violation of law or regulation. Negligible: Less than minor environmental degradation, loss exceeds $2K but less than $10K, injury or occupational illness not resulting in a lost work day, or minimal environmental damage not violating law or regulation.
Regulatory Implications	Each aspect that has a relationship to a compliance requirement needs to be evaluated with a regulatory score.	1 point: Unregulated Aspect 2 points: Currently below regulated thresholds – Currently below regulated thresholds; would likely become regulated if thresholds are reduced or activity increases. 3 points: Currently in compliance – Currently in compliance with no history of non-compliance. 4 points: Not in Compliance no enforcement actions– Currently in compliance, but with a documented history of occasional instances on non-compliance. 5 points: Not in compliance with NOV issued– Currently not in compliance or in compliance with a substantial history of instances of non-compliance.
Potential Mission Degradation	This score is the ability of the aspect to affect the mission capability of supporting its mission requirements. Review each aspect and score to determine its ability to affect the mission.	1 = No mission restrictions 2 = Minor mission restrictions 3 = Moderate mission restrictions 4 = Serious mission restrictions 5 = Unable to accomplish mission
Community Concern	This criterion scores the local community's perception of environmental issues at your installation. The community perception of a crisis can seriously affect the installations ability to support the mission.	1 = Community supports/ unconcerned 2 = Community could become concerned 3 = Some concern 4 = Serious concern 5 = Public outcry / lawsuits
Calculated Aspect Score	EESOH-MIS combines the scores from all the criteria in the previous sections to provide a total score for	These scores help to define which aspects are significant for an installation. Some of the criteria may have more weight that other depending on the location of the installation, its

Screen Name	Definition	Shop Data Entry
	the aspect. The score can help to define the significance of the aspect.	compliance history, and relationship with the public. Do not forget that both Environmental Risk and Frequency are combined in a matrix to give a single score for each criterion.
Override Score	There is an opportunity for an ESOH team member to review the score set by shop personnel and copy or update the shop personnel's evaluation with an override score based on the ESOH team member's evaluation.	Provide the override score in the field based on the overall score from the ESOH reviewer for this processes aspect that is reviewed.
Override Reason	Text box available for entry of an override reason if the ESOH reviewers feel that it is necessary to load new scores against an environmental aspect.	
Is this a Significant Aspect?	There is a baseline score that should be identified at the installation by the Cross Functional Team that determines when an Aspect is significant and will be studied further.	Yes no radio
Objective	Objectives are the issues that will be the focus of the energies of the installation.	Type in the specific objective that is related to the Aspect that has been scored for this process. An example would be something like " Reduce air emissions"
Targets	The Target is the goal or milestone that is established to support the objective.	Type in the specific target that is related to the Aspect that has been scored for this process. An example of a target would be something like "Provide training to all shops that operate generators on maintaining usage logs by December 2006"

ATTACHMENT 3 – PROCESS CODES

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
A	Administrative	AD	Administrative	1104	Calculator/key pad use
				1172	Clerical and office automation
				1250	Computer use, multiple operations
				1251	Computer use, NOC
				1252	Computer use/keyboard and VDT
				1263	Copying/sorting
				1456	Filing/general
				1591	Keying/typing/mousing
				1614	Lifting/pushing/pulling
				1637	Management
				1707	Monitoring visual displays
				1756	Paper shredding
				1945	Stapling
				2043	Telephone use
				2149	Writing/illustrating
				1028	Administrative, NOC
I	Industrial	AB	Adhering/Bonding/Sealing	1021	Adhering/bonding/sealing - aerosol
				1022	Adhering/bonding/sealing - all usages
				1023	Adhering/bonding/sealing - brush/dobbing
				1024	Adhering/bonding/sealing - gun
				1025	Adhering/bonding/sealing - hand tool
				1026	Adhering/bonding/sealing - hand wipe
				1027	Adhering/bonding/sealing - squeeze tube
I	Industrial	AO	Aircraft/Flightline Operations	1033	Air traffic control
				1034	Aircraft loading
				1276	Cryogenics (liquid oxygen handling)
				1320	Deicing, chemical
				1321	Deicing, mechanical- hand
				1322	Deicing, mechanical- powered
				1425	Engine Run-Ups
				1471	Flight line operations
				1472	Flight line operations, multiple operations
				1473	Flight line operations, troubleshooting
				1474	Flight Ops, all modes
				1475	Flight Ops, landings
				1476	Flight Ops, takeoffs
				1477	Flight Ops, taxi

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1603	Launch and recovery
				1697	Mk105 sled operation
				1746	Operate support equipment
				2072	Unmanned aerial vehicle ops
				1035	Aircraft/flightline operations, NOC
I	Industrial	AW	Asbestos Work	1050	Asbestos abatement, blasting
				1051	Asbestos abatement, chemical encapsulation
				1052	Asbestos abatement, glovebag/box
				1053	Asbestos abatement, physical enclosure
				1054	Asbestos abatement, scraping
				1055	Asbestos abatement, stripping
				1056	Asbestos air sampling
				1057	Asbestos air sampling, background
				1058	Asbestos brake/clutch work
				1059	Asbestos fiber counting/identification
				1060	Asbestos gasket work
				1061	Asbestos inspection
				1062	Asbestos inspection and bulk sampling
				1063	Asbestos insulation, multiple operations
				1064	Asbestos work, fabrication
				1066	Asbestos, HEPA vacuum maintenance
				1067	Asbestos, installation
				1137	Class I OSHA asbestos work, glove box
				1138	Class I OSHA asbestos work, mini-enclosure
				1139	Class I OSHA asbestos work, multiple glove bag
				1140	Class I OSHA asbestos work, negative pressure enclosure
				1141	Class I OSHA asbestos work, single glove bag
				1142	Class I OSHA asbestos work, water spray process
				1143	Class II OSHA asbestos work
				1144	Class III OSHA asbestos work, glove bag
				1145	Class III OSHA asbestos work, mini-enclosure
				1146	Class IV OSHA asbestos work, building maintenance
				1527	Handling/cleanup, asbestos
				1525	Handling, mechanical loader bagging
				1654	Mechanical loader bagging
				1732	Non-containment removal
				1753	Packing material
				2063	Transite panel removal
				2092	Vinyl asbestos tile, floor care/maintenance

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1065	Asbestos work, NOC
I	Industrial	BC	Brazing/Soldering/Welding/ Cutting	1101	Brazing
				1289	Cutting, air carbon arc
				1290	Cutting, arc
				1291	Cutting, electron beam
				1292	Cutting, laser
				1293	Cutting, multiple operations
				1295	Cutting, oxygen/oxyacetylene
				1296	Cutting, plasma
				1297	Cutting, thermal
				1294	Cutting, NOC
				1346	Desoldering
				1555	Hotwork helper/firewatch
				1934	Soldering, electrical
				1935	Soldering, gun
				1936	Soldering, heated iron
				1938	Soldering, torch
				1937	Soldering, NOC
				2049	Tinning
				2124	Welding, air carbon arc
				2125	Welding, arc
				2126	Welding, electron beam
				2127	Welding, flux core processes
				2128	Welding, gas metal arc (MIG)
				2129	Welding, gas tungsten arc welding (TIG)
				2130	Welding, laser
				2131	Welding, multiple operations
				2133	Welding, oxyfuel gas
				2134	Welding, plasma arc
				2135	Welding, resistance spot
				2136	Welding, shielded metal arc welding (smaw/stick)
				2137	Welding, solid state
				2138	Welding, spot
				2139	Welding, stud
				2132	Welding, NOC
I	Industrial	CT	Cementing and Related Tasks	1103	Brick cutting
				1119	Cement/mortar mixing
				1120	Cementing and related tasks, multiple operations

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1652	Masonry
				1121	Cementing and related tasks, NOC
I	Industrial	CD	Cleaning- Chemical, & Degreasing	1013	Acid cleaning, bright dip
				1014	Acid cleaning, descaling
				1015	Acid cleaning, etching
				1016	Acid cleaning, pickling
				1017	Acid cleaning, spray
				1018	Acid cleaning, wipe
				1036	Alkali cleaning, etching
				1134	Chemical stripping
				1150	Cleaning, chemical
				1151	Cleaning, chemical, manual wiping
				1152	Cleaning, chemical, multiple operations
				1167	Cleaning/washing, cold dip tank & cold soak
				1168	Cleaning/washing, detergent
				1169	Cleaning/washing, enclosed washer
				1170	Cleaning/washing, flush cleaning
				1171	Cleaning/washing, heated dip tank/heated soak
				1301	Degreasing, brush/dobbing
				1302	Degreasing, dip tank, cold
				1303	Degreasing, dip tank, heated
				1304	Degreasing, emulsion
				1305	Degreasing, flush cleaning
				1306	Degreasing, gun
				1307	Degreasing, manual wiping
				1308	Degreasing, multiple operations
				1309	Degreasing, NOC
				1310	Degreasing, open-top vapor
				1311	Degreasing, power wash
				1312	Degreasing, spray
				1313	Degreasing, squeeze tube
				1314	Degreasing, vapor
				1315	Degreasing, wipe cleaning
					Degreasing, aerosol
I	Industrial	CL	Cleaning- Mechanical	1084	Barrel finishing
				1541	Handsanding
				1645	Manual wirebrushing
				1661	Metal cleaning, chipping

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1662	Metal cleaning, deck crawler
				1663	Metal cleaning, grinding
				1664	Metal cleaning, multiple operations
				1665	Metal cleaning, polishing and buffing
				1666	Metal cleaning, sanding
				1667	Metal cleaning, scraping
				1668	Metal cleaning, wirebrushing
				1810	Polishing, machine assisted
				1811	Polishing, manual
				1149	Cleaning- mechanical, NOC
I	Industrial	CO	Cleaning- Other	1153	Cleaning, other - all usages
				1154	Cleaning, other - gun
				1155	Cleaning, other - hand
				1156	Cleaning, other- hand sanding
				1157	Cleaning, other - hand wipe
				1158	Cleaning, other- compressed air
				1159	Cleaning, other- manual wirebrushing
				1160	Cleaning, other- media blasting
				1161	Cleaning, other- multiple operations
				1163	Cleaning, other- powered
				1164	Cleaning, other- scraping
				1165	Cleaning, other- steam
				1166	Cleaning, other- ultrasonic cleaning
				1162	Cleaning, other- NOC
I	Industrial	CR	Coating/Paint Removal	1001	Abrading
				1002	Abrasive blast, aluminum oxide
				1003	Abrasive blast, cleanup
				1004	Abrasive blast, glass bead
				1005	Abrasive blast, glove box, NOC
				1006	Abrasive blast, hopper tending/helper
				1007	Abrasive blast, hydro
				1008	Abrasive blast, mineral grit
				1009	Abrasive blast, organics
				1010	Abrasive blast, sand
				1011	Abrasive blast, shot
				1012	Abrasive blasting, NOC
				1178	Coating/paint removal, chemical stripping, dip
				1179	Coating/paint removal, chemical stripping, pour
				1180	Coating/paint removal, chemical stripping, spraying

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1181	Coating/paint removal, chemical stripping, wipe/brush
				1183	Coating/paint removal, heat gun
				1184	Coating/paint removal, laser
				1182	Coating/paint removal, hand sanding/scraping
				1185	Coating/paint removal, machine sanding/scraping
				1186	Coating/paint removal, needlegunning
				1188	Coating/paint removal, thermal stripping
				1187	Coating/paint removal, NOC
I	Industrial	CP	Coating/Painting Operations	1192	Coating/painting, brush/roller
				1175	Coating, powder
				1176	Coating, wipe
				1177	Coating/paint mixing/pouring
				1190	Coating/painting, airbrushing
				1191	Coating/painting, airless spraying
				1192	Coating/painting, brush/roller
				1193	Coating/painting, cleaning equipment
				1194	Coating/painting, dip
				1194	Coating/painting, dip
				1195	Coating/painting, electrophoretic
				1196	Coating/painting, multiple operations
				1196	Coating/painting, multiple operations
				1197	Coating/painting, plastic flame coating
				1202	Coating/painting, spray/aerosol
				1202	Coating/painting, spray/aerosol
				1198	Coating/painting, spray - electrostatic automatic
				1199	Coating/painting, spray - electrostatic manual
				1200	Coating/painting, spray - HVLP gun
				1201	Coating/painting, spray - standard gun
				1253	Conformal
				1651	Masking/Surface Prep
				1754	Painting, spray latex
				1189	Coating/painting operations, NOC
I	Industrial	CM	Communications	1225	Communications, equipment operation
				1226	Communications, microwave and radio frequencies
				1227	Communications, multiple operations
				1229	Communications, teletype operation
				1249	Computer room operation
				1228	Communications, NOC

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
I	Industrial	CW	Composite Work	1230	Composite work, cutting
				1231	Composite work, drilling
				1232	Composite work, grinding/sanding
				1233	Composite work, handling
				1234	Composite work, layup- hand
				1235	Composite work, layup- spray
				1236	Composite work, man-made fibers
				1237	Composite work, mixing
				1238	Composite work, molding of parts
				1239	Composite work, multiple operations
				1241	Composite work, remove paint- blast
				1242	Composite work, remove paint- grind
				1243	Composite work, remove paint- needlegun
				1244	Composite work, remove paint/sand
				1240	Composite work, NOC
I	Industrial	CF	Crafts	1048	Artifact restoration/preservation
				1122	Ceramics work
				1271	Crafts, multiple operations
				1509	Glass blowing
				1510	Glass cutting
				1511	Glazing
				1592	Kilning
				1272	Crafts, NOC
I	Industrial	DE	Dental	1324	Dental equipment sterilization
				1325	Dental, acid etching teeth
				1326	Dental, anesthesia
				1327	Dental, blasting
				1328	Dental, cement application
				1329	Dental, cleaning
				1330	Dental, filling/drilling
				1331	Dental, general
				1332	Dental, grinding
				1333	Dental, housekeeping services
				1334	Dental, laboratory analysis
				1335	Dental, mixing
				1336	Dental, multiple operations
				1337	Dental, NOC
				1338	Dental, prophylaxis
				1339	Dental, prosthetics casting
				1340	Dental, prosthetics grinding
				1341	Dental, prosthetics/acrylics

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1342	Dental, tooth extraction
				1344	Dental, x-rays
				1343	Dental, x-ray processing
				1423	Endodontics
				1747	Oral surgery
				1750	Orthodontics
				1950	Sterilization
				1956	Sterilization, using EtO
				1337	Dental, NOC
I	Industrial	DP	Drywall/Plastering	1385	Drywall installation
				1589	Joint compound, mix & apply
				1796	Plastering
				1797	Plastering, multiple operations
				1386	Drywall/Plastering, NOC
I	Industrial	EE	Electrical/Electronics	1077	Avionics equipment repair
				1395	Electrical, facility maintenance
				1398	Electrical, multiple operations
				1391	Electrical parts repair
				1393	Electrical, battery charging
				1394	Electrical, battery maintenance
				1396	Electrical, installation/repair
				1397	Electrical, motor rewind
				1399	Electrical, NOC
				1401	Electronics repair, pressurizing waveguide
				1402	Electronics repair, calibration, manometric
				1403	Electronics repair, calibration, other
				1404	Electronics repair, calibration, RFR equipment
				1405	Electronics repair, installation repair
				1406	Electronics repair, multiple operations
				1408	Electronics repair, operate equipment
				1407	Electronics repair, NOC
				1648	Manufacturing, circuit board
				2042	Telecommunications installation, repair, service
I	Industrial	EL	Electroplating	1409	Electroplating, brush/dobbing
				1410	Electroplating, dip tank
				1411	Electroplating, mixing/pouring solutions
				1413	Electroplating, spray - flame
				1414	Electroplating, spray - plasma
				1415	Electroplating, vaporization

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1903	Selective plating
				1412	Electroplating, NOC
				1583	Jet engine testing, afterburner
				1584	Jet engine testing, all modes
				1585	Jet engine testing, approach
				1586	Jet engine testing, idle
				1587	Jet engine testing, intermediate
				1588	Jet engine testing, military
				1426	Engine testing, NOC
I	Industrial	ER	Environmental & Remediation	1031	Air sparging
				1032	Air stripping
				1086	Bio remediation
				1087	Bio venting
				1092	Biomass
				1518	Groundwater monitoring
				1569	Injection wells
				1597	Land farming
				1819	Prescribed/controlled burns
				1840	Pump & treat
				1864	Remediation monitoring
				1932	Soil reclamation
				1933	Soil vapor extraction
				1430	Environmental remediation, NOC
I	Industrial	EV	Environmental Response	1088	Biological response, contamination reduction zone (decon)
				1089	Biological response, exclusion zone
				1091	Biological response, support zone
				1090	Biological response, NOC
				1130	Chemical response, contamination reduction zone (decon)
				1131	Chemical response, exclusion zone
				1133	Chemical response, support zone
				1132	Chemical response, NOC
				1737	Oil response, booming
				1738	Oil response, decontamination
				1739	Oil response, dispersant
				1740	Oil response, insitu burning
				1742	Oil response, shoreline cleanup
				1743	Oil response, support activities
				1744	Oil response, VOSS/SORS/Skimming
				1741	Oil response, NOC

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1848	Radiological response, contamination reduction zone (decon)
				1849	Radiological response, exclusion zone
				1851	Radiological response, support zone
				1850	Radiological response, NOC
I	Industrial	EQ	Equipment Repair/Prev. Maintenance	1124	Charging/recharging, closed-loop pressurized
				1125	Charging/recharging, electric current
				1126	Charging/recharging, NOC
				1127	Charging/recharging, R22 leak check
				1424	Engine accessory testing
				1428	Environmental chamber testing
				1429	Environmental cold chambers
				1434	Equipment assembly/disassembly
				1436	Equipment installation, cable pulling
				1437	Equipment installation/removal
				1491	Fuel accessory testing
				1504	Gauge calibration
				1570	Inspecting
				1625	Lubricating, aerosol
				1626	Lubricating, brush/dobbing
				1627	Lubricating, gun
				1628	Lubricating, hand application
				1629	Lubricating, heated dip tank /heated soak
				1630	Lubricating, multiple operations
				1716	NOC, body work
				1717	NOC, brake/gearbox/clutch work
				1719	NOC, electrical/battery
				1718	NOC, crane maintenance
				1720	NOC, elevator/hoist
				1725	NOC, non-asbestos gaskets
				1721	NOC, generators
				1722	NOC, hydraulics
				1723	NOC, life support/survival equipment
				1724	NOC, multiple operations
				1726	NOC, office equipment repair
				1727	NOC, pneudralics
				1728	NOC, prop & rotor
				1729	NOC, tire & wheel
				1822	Preventive maintenance
				1439	Equipment repair/prev. maint., NOC
I	Industrial	FW	Fabric Work	1106	Canvas fabrication/repair

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1173	Cloth impregnation
				1388	Dyeing
				1613	Leather cutting
				1631	Machine sewing
				1905	Sewing and cutting
				2046	Textile/rope cloth manufacturing
				1450	Fabric work, NOC
I	Industrial	FP	Food Preparation/Handling	1080	Baking
				1257	Cooking
				1351	Dishwashing
				1482	Food preparation and handling
				1484	Food service cleanup
				1485	Food serving
				1653	Meat cutting/packing
				1710	Multiple operations
				1751	Oven cleaning
				1899	Scullery work/dishwashing
				1483	Food preparation/handling, NOC
I	Industrial	FU	Fuels	1205	Combusting fuel, AV-gas, internal
				1206	Combusting fuel, coal, external
				1207	Combusting fuel, fuel oil #2/diesel, external
				1208	Combusting fuel, fuel oil #2/diesel, internal
				1209	Combusting fuel, fuel oil #4/kerosene, external
				1210	Combusting fuel, fuel oil #6/heating oil, external
				1211	Combusting fuel, isobutane
				1212	Combusting fuel, JP-10, internal
				1213	Combusting fuel, JP-4, internal
				1214	Combusting fuel, JP-5, internal
				1215	Combusting fuel, JP-7, internal
				1216	Combusting fuel, JP-8, internal
				1217	Combusting fuel, mogas unleaded regular (MUR), internal
				1218	Combusting fuel, natural gas, external
				1219	Combusting fuel, natural gas, internal
				1220	Combusting fuel, propane (LPG), external
				1221	Combusting fuel, propane (LPG), internal
				1222	Combusting starter fluid, internal
				1223	Combusting waste oil, external
				1224	Combusting, dimethyl ether, external
				1353	Dispense/load, pour

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1354	Dispense/load, pump/nozzle
				1355	Dispense/load, rack/arm
				1492	Fuel cell repair, NOC
				1493	Fuel cell, purging/depuddling - air
				1494	Fuel cell, purging/depuddling - ambient air
				1495	Fuel cell, purging/depuddling - pump/blower/misc
				1496	Fuel/defuel aircraft
				1498	Fueling/defueling, non-aircraft
				1499	Fuels distribution
				1500	Fuels lab
				1941	Spilling/mishaps/leaking, equipment
				1501	Fuels, NOC
I	Industrial	HM	HM/HW Handling & Cleanup	1254	Container crushing/puncturing
				1255	Container opening/sampling
				1256	Contaminated materials handling
				1531	Handling/cleanup, issue/receive
				1526	Handling/cleanup, aerosol can crush/puncture
				1535	Handling/cleanup, mixed waste operations
				1538	Handling/cleanup, solvent/metal reclamation
				1539	Handling/cleanup, spill response
				1540	Handling/cleanup, tank cleaning/flushing
				1532	Handling/cleanup, lead shielding
				1534	Handling/cleanup, medical biological and infectious material
				1528	Handling/cleanup, ballast installation
				1529	Handling/cleanup, ballast removal
				1530	Handling/cleanup, filter maintenance
				1536	Handling/cleanup, multiple operations
				1537	Handling/cleanup, PCBs
				1615	Light bulb crushing
				1798	Plastic waste shredder/processor operation
				1816	Pouring
				1861	Recycling/reclaiming, closed-loop
				1862	Recycling/reclaiming, distillation
				1863	Recycling/reclaiming, solvents
				1859	Recycling multiple operations
				1860	Recycling, NOC
				1553	HM/HW handling & cleanup, NOC
I	Industrial	HJ	Housekeeping/Janitorial/ Maintenance	1245	Compressed air cleaning
				1452	Facility maintenance, crawl space/attic

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1453	Facility maintenance, general
				1454	Facility maintenance, multiple operations
				1455	Facility maintenance, NOC
				1506	General housekeeping
				1582	Janitorial/custodial, multiple operations
				1821	Pressure wash
				2035	Sweeping
				2142	Wet/dry vacuum operation
				1557	Housekeeping/janitorial, NOC
I	Industrial	HV	HVAC	1030	Air conditioning/refrigeration charging
				1147	Clean ventilation system
				1558	HVAC repair & maintenance
				1559	HVAC, NOC
I	Industrial	HA	Hyperbaric Atmospheres	1710	Multiple operations
				1939	Sonar dome work
				1560	Hyperbaric atmospheres, NOC
I	Industrial	IN	Incinerating	1565	Incineration, multiple chamber
				1566	Incineration, single chamber
I	Industrial	IS	Insulation	1573	Insulation, fabrication
				1574	Insulation, installation
				1575	Insulation, multiple operations
				1577	Insulation, removal
				1635	Man made fibers, multiple operations
				1636	Man made fibers, patching
				1640	Man-made fibers, fabrication
				1641	Man-made fibers, installation
				1643	Man-made fibers, removal
				1642	Man-made fibers, NOC
				1576	Insulation, NOC
I	Industrial	LO	Laboratory Operations	1040	Analysis, biological
				1041	Analysis, chemical
				1042	Analysis, environmental or occupational
				1347	Destructive testing
				1381	Drug testing
				1710	Multiple operations
				1790	Physical testing
				1834	Propulsion laboratory
				1839	Protocol research
				1843	Radiation research
				1847	Radiological analysis
				1865	Research and development

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1866	Research and development, NOC
				1594	Laboratory operations, NOC
I	Industrial	LS	Laundry Services	1382	Dry cleaner maintenance
				1383	Dry cleaning
				1604	Laundry services, multiple operations
				1618	Linen exchange
				1619	Linen folding
				1942	Spot removal
				1948	Steam pressing/ironing
				2097	Washer/dryer/pressing operation
				1605	Laundry services, NOC
I	Industrial	LA	Lead Paint Abatement	1533	Handling/cleanup, lead-based paint
				1607	Lead abatement, all methodologies
				1608	Lead abatement, blasting
				1609	Lead abatement, encapsulating
				1610	Lead abatement, scraping
				1611	Lead abatement, stripping
I	Industrial	MD	Medical	1037	Ambulance drivers/EMT
				1043	Anatomical specimen preservation
				1045	Anesthesia
				1100	Brace fabrication
				1109	Cast cutting
				1110	Cast fabrication
				1203	Collection of body fluid/waste samples
				1269	Corrective lens edging
				1270	Corrective lens manufacturing
				1282	Cryotherapy
				1420	Embalming
				1422	Emergency room services
				1524	Handling medical waste
				1556	Housekeeping services
				1563	Immunizations
				1593	Lab analysis
				1647	Manufacture of orthotic devices
				1655	Medical maintenance/optics repair
				1656	Medical, general or operations
				1657	Medical, multiple operations
				1659	Medical, radiology procedures, NOC
				1660	Medical, x-rays
				1734	Nuclear procedures/medicine

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1735	Occupational/physical therapy
				1758	Pathology lab/morgue
				1759	Patient care
				1760	Patient handling
				1761	Patient records
				1782	Pharmaceutical mixing/dispensing
				1783	Phlebotomy
				1835	Prosthetics work
				1868	Respiratory therapy
				1940	Specimen testing
				1951	Sterilization, chemical
				1952	Sterilization, EtO
				1954	Sterilization, oven/autoclave
				1955	Sterilization, ultrasonic
				1953	Sterilization, NOC
				2034	Surgical procedures
				2050	Tissue conference
				2051	Tissue disposal
				2052	Tissue/organ grossing
				1658	Medical, NOC
I	Industrial	MF	Metal Forming	1670	Metal forming, bending
				1671	Metal forming, crimping
				1672	Metal forming, drawing
				1673	Metal forming, extrusion
				1674	Metal forming, multiple operations
				1676	Metal forming, peening
				1677	Metal forming, squeezing
				1678	Metal forming, twisting
				1675	Metal forming, NOC
I	Industrial	MO	Metal Foundry Operations	1108	Cast cleaning/finishing
				1111	Casting, arc furnace
				1112	Casting, crucible furnace
				1113	Casting, cupola
				1114	Casting, furnace melting
				1115	Casting, induction furnace
				1116	Casting, open hearth
				1148	Cleaning and finishing
				1264	Coremaking, hot box system
				1265	Coremaking, no bake
				1266	Coremaking, shell
				1267	Coremaking, sodium silicate

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1488	Foundry operations, babbitting
				1489	Foundry operations, multiple operations
				1486	Forging
				1502	Furnance operation
				1612	Lead pouring operation
				1646	Manufacture of foundry items
				1681	Metal mold shakeout
				1682	Metal molding
				1698	Molding, full mold
				1699	Molding, green sand
				1701	Molding, investment casting
				1703	Molding, shell
				1705	Molten metal pouring
				1886	Sand casting
				1906	Shakeout
				1929	Small melt/pour operations
				2061	Transfer/pouring/cooling
				1490	Foundry operations, NOC
I	Industrial	MM	Metal Machining	1288	Cutting, abrasive blast method
				1367	Drilling and boring
				1400	Electro-discharge
				1515	Grinding
				1554	Honing
				1624	Locksmith
				1632	Machining, shear
				1679	Metal maching, multiple operations
				1679	Metal maching, multiple operations
				1679	Metal maching, multiple operations
				1679	Metal maching, multiple operations
				1685	Metals/plastic engraving
				1690	Milling
				1791	Piercing or punching
				1792	Pipe threading
				1871	Riveting
				1898	Sawing
				1907	Shaping
				1907	Shaping
				1907	Shaping
				1926	Slotting
				2068	Turning
				1680	Metal machining, NOC

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
I	Industrial	MT	Metals Treatment	1543	Heat treating/hardening, annealing
				1544	Heat treating/hardening, carburizing
				1545	Heat treating/hardening, cyaniding
				1546	Heat treating/hardening, gas nitriding
				1547	Heat treating/hardening, multiple operations
				1549	Heat treating/hardening, quenching
				1548	Heat treating/hardening, NOC
				1669	Metal etching
				1684	Metals treatment, NOC
I	Industrial	MI	Miscellaneous Operations	1117	Cathodic/anodic protection
				1118	Cathodic/anodic protection, zinc anode work
				1128	Chemical milling/masking
				1129	Chemical processing, NOC
				1129	Chemical processing, NOC
				1259	Cooling, cryogenics
				1260	Cooling, evaporative tower
				1261	Cooling, heat exchanger
				1258	Cooling maintenance
				1262	Cooling, natural convection
				1274	Crushing, manual
				1275	Crushing, mechanical
				1277	Cryogenics handling/transport
				1278	Cryogenics production
				1279	Cryogenics storage
				1280	Cryogenics, multiple operations
				1281	Cryogenics, NOC
				1284	Curing/Drying/Baking, autoclave
				1285	Curing/Drying/Baking, dryer
				1286	Curing/Drying/Baking, oven
				1300	Decontamination
				1356	Disposing/recycling, bulk
				1357	Disposing/recycling, container
				1358	Disposing/recycling, labpack
				1359	Disposing/recycling, NOC
				1438	Equipment monitoring
				1521	Haircutting/cosmetology, cutting hair
				1522	Haircutting/cosmetology, multiple operations
				1523	Haircutting/cosmetology, NOC
				1580	Ionizing radiation source use

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1600	Laser operations, chemical
				1601	Laser operations, optical
				1634	Mailroom operations
				1692	Miscellaneous, multiple operations
				1712	Nail salon processes
				1730	Noise hazardous equipment use
				1731	Non permit confined space entry
				1766	Permit required confined space entry
				1807	Pneumatic tool operation
				1845	Radiofrequency radiation (RFR) use
				1854	Rap job
				1869	Retail sales
				1892	Sanitation landfill operation
				1919	Shoe repair
				2030	Suit testing
				2066	Trash compacting
				2143	Wind tunnel testing
				1567	Industrial, NOC
				1567	Industrial, NOC
				1904	Service, NOC
				1904	Service, NOC
				2044	Testing, hazardous waste
				2045	Testing, NOC
I	Industrial	NC	NOC	1715	NOC
I	Industrial	ND	Non-Destructive Inspection/Testing	1019	Acid spot testing
				1020	Acoustical emission test
				1599	Laser inspection/test
				1620	Liquid penetrant test
				1633	Magnetic particle test
				1710	Multiple operations
				1757	Patch test
				1846	Radiography
				2069	Ultrasonic test
				2093	Visual inspection
				2122	Weight test
				1733	Non-destructive inspection/testing, NOC
I	Industrial	PC	Pest Control	1767	Pest control, aerosol can spray
				1768	Pest control, baiting/trapping
				1769	Pest control, fogging
				1770	Pest control, fumigation
				1771	Pest control, indoor

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1772	Pest control, multiple operations
				1774	Pest control, powder application
				1775	Pest control, power spraying from vehicle
				1776	Pest control, sprayer, hand-pump
				1777	Pest control, sprayer, powered
				1778	Pest control, spreader
				1779	Pesticide disposal
				1780	Pesticide mixing
				1781	Pesticide storage
				1773	Pest control, NOC
I	Industrial	PH	Photography/Graphic Arts	1427	Engraving
				1459	Film developing, automatic
				1460	Film developing, manual
				1461	Film processor chemical mixing
				1299	Decal manufacture
				1513	Graphic arts equipment cleaning
				1514	Graphics development
				1562	Illustration
				1621	Lithographics/photolithography
				1785	Photoetching
				1786	Photography equipment cleaning
				1923	Silk screening
				1949	Stenciling
				1787	Photography/graphic arts, NOC
I	Industrial	PP	Plastics/Rubber Processing	1283	Curing
				1287	Cutting
				1345	Depotting
				1366	Drilling
				1449	Extruding
				1479	Foaming
				1512	Gluing
				1515	Grinding
				1542	Heat sealing
				1542	Heat sealing
				1551	Helmet pour
				1596	Laminating
				1691	Milling/machining/engraving
				1693	Mixing, machine-assisted
				1694	Mixing, manual
				1700	Molding, injection
				1702	Molding, pour

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1793	Plaque pour
				1800	Plastisol
				1809	Polishing and buffing
				1815	Potting
				1826	Processing, multiple operations
				1887	Sanding
				1799	Plastics/rubber processing, NOC
I	Industrial	PL	Plumbing	1803	Plumbing, minor facility maintenance
				1802	Plumbing installation/repair
				1802	Plumbing installation/repair
				1804	Plumbing, multiple operations
				1806	Plumbing, transite water pipe
				1805	Plumbing, NOC
I	Industrial	PR	Printing/Reproduction	1038	Ammonia reproduction machine operation
				1085	Binding
				1093	Blueprint developing, Diazo/Blueline machine
				1204	Color printing
				1361	Document preparation
				1435	Equipment cleaning
				1736	Offset printing
				1745	Operate equipment
				1784	Photocopying/reproduction
				1824	Printing, multiple operations
				1875	Rotogravature
				1825	Printing/reproduction, NOC
I	Industrial	PT	Professional/Technical	1248	Computer operations
				1431	Environmental surveys
				1481	Food inspections
				1572	Inspections
				1595	Laboratory, chemical analysis/sampling
				1638	Management, multiple operations
				1639	Management, NOC
				1686	Microscope use
				1706	Monitoring
				1711	Musical performance
				1823	Preventive medicine services
				1827	Production control
				1830	Professional and technical, multiple operations
				1831	Professional, tech and mgmt
				1833	Project/process review

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1841	QA/product control
				1867	Respirator fit testing
				1876	Safety/industrial hygiene surveys
				1877	Sampling air
				1878	Sampling asbestos
				1879	Sampling drinking water
				1880	Sampling hazardous waste
				1881	Sampling lead
				1885	Sampling, remediation
				1882	Sampling storm water
				1883	Sampling waste water
				1884	Sampling, NOC
				1924	Simulator training
				2031	Supervison
				2040	Teaching/training
				2148	Workplace monitoring/measurements
				1832	Professionial/technical, NOC
				1832	Professionial/technical, NOC
I	Industrial	PF	Protective Services-Fire	1457	Filling fire extinguishers
				1458	Filling SCBA tanks
				1464	Firefighting
				1465	Firefighting training
				1462	Fire training pit, JP-8
				1463	Fire training pit, propane
				1838	Protective services, fire, NOC
I	Industrial	PS	Protective Services-Security	1268	Correctional facility operations
				1362	Document shredding
				1363	Dog handling
				1421	Emergency response
				1466	Firing range cleaning
				1467	Firing range pit cleaning
				1467	Firing range pit cleaning
				1468	Firing range supervision
				1519	Guard operations
				1762	Patrolling, bicycle
				1763	Patrolling, foot
				1764	Patrolling, vehicle
				1872	Road patrols/guard duty
				1902	Security, multiple operations
				1927	Small arms cleaning
				1928	Small arms firing

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				2041	Tear gas exercises
				1837	Protective services- security, NOC
I	Industrial	RS	Recreation/Services	1099	Bowling alley operation/maintenance
				1105	Campground operation/maintenance
				1520	Gym/recreational equipment maintenance
				1789	Physical fitness training
				1856	Recreation
				1925	Ski area operation/maintenance
				2036	Swimming pool operation/maintenace
				1857	Recreation/Services, NOC
I	Industrial	RG	Roads & Grounds Maintenance	1316	Deicing runway/road, chemical
				1317	Deicing runway/road, mechanical - hand
				1318	Deicing runway/road, mechanical - powered
				1319	Deicing runway/road, salting and sanding
				1348	Digging/excavating, machine
				1350	Digging/excavating, tool-powered
				1349	Digging/excavating, tool-hand
				1349	Digging/excavating, tool-hand
				1441	Excavating/grading
				1516	Grounds maintenance, multiple operations
				1517	Grounds maintenance, NOC
				1550	Heavy equipment operation
				1581	Jackhammering
				1606	Lawn maintenance
				1709	Mower operation
				1765	Paving
				1765	Paving
				1931	Snow removal
				2008	Street sweeping
				2067	Tree maintenance
				1873	Roads and grounds maintenance, NOC
I	Industrial	SM	Semiconductor Manufacturing	1135	Chemical vapor deposition
				1384	Dry etching
				1392	Electrical testing
				1579	Ion implantation
				1650	Mask making
				1683	Metallization
				1704	Molecular beam epitaxy
				1788	Photolithography (semiconductor)
				1794	Plasma etching
				2039	Tab assembly

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				2094	Wafer cutting
				2141	Wet etching
I	Industrial	SH	Stone/Mineral Handling	1842	Quarry work
				1957	Stone, mineral handling, cutting
				1958	Stone, mineral handling, drilling
				1959	Stone, mineral handling, installation
				1960	Stone, mineral handling, multiple operations
				1962	Stone, mineral handling, removal
				1961	Stone, mineral handling, NOC
I	Industrial	ST	Storage of Materials	1247	Compressed gas service
				1964	Storing, ASTs- chemical
				1965	Storing, ASTs- fuel AV gas
				1966	Storing, ASTs- fuel commingled
				1976	Storing, ASTs- fuel oil #2/diesel
				1977	Storing, ASTs- fuel oil #4/kerosene
				1978	Storing, ASTs- fuel oil #6/heating oil
				1967	Storing, ASTs- fuel isobutane
				1968	Storing, ASTs- fuel JP-10
				1969	Storing, ASTs- fuel JP-4
				1970	Storing, ASTs- fuel JP-5
				1971	Storing, ASTs- fuel JP-7
				1972	Storing, ASTs- fuel JP-8
				1973	Storing, ASTs- fuel liquid propane (LPG)
				1974	Storing, ASTs- fuel mogas unleaded regular (MUR)
				1975	Storing, ASTs- fuel natural gas
				1979	Storing, ASTs- fuel PF1
				1980	Storing, ASTs- hazardous waste
				1981	Storing, ASTs- materials
				1982	Storing, ASTs- waste oil
				1983	Storing, chemical
				1984	Storing, fuels/waste oil
				1985	Storing, hazardous waste
				1986	Storing, materials
				1987	Storing, sludge
				1988	Storing, storage piles
				1989	Storing, used oil
				1990	Storing, USTs- chemicals
				1991	Storing, USTs- fuel AV gas
				1992	Storing, USTs- fuel commingled
				2001	Storing, USTs- fuel oil #2/diesel

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				2002	Storing, USTs- fuel oil #4/kerosene
				2003	Storing, USTs- fuel oil#6/heating oil
				1993	Storing, USTs- fuel JP-10
				1994	Storing, USTs- fuel JP-4
				1995	Storing, USTs- fuel JP-5
				1996	Storing, USTs- fuel JP-7
				1997	Storing, USTs- fuel JP-8
				1998	Storing, USTs- fuel liquid propane (LPG)
				1999	Storing, USTs- fuel mogas unleaded regular (MUR)
				2000	Storing, USTs- fuel natural gas
				2004	Storing, USTs- fuel PF1
				2005	Storing, USTs- fuel waste oil
				2006	Storing, USTs- hazardous waste
				2007	Storing, USTs- materials
				2070	Underground storage tank testing
				1963	Storage of materials, NOC
I	Industrial	SX	Structure Demolition	2009	Structure demolition, ceiling tile removal
				2010	Structure demolition, floor tile removal
				2011	Structure demolition, machine assisted
				2012	Structure demolition, manual
				2013	Structure demolition, mastic removal
				2014	Structure demolition, multiple operations
				2016	Structure demolition, roof removal
				2017	Structure demolition, siding removal
				2018	Structure demolition, thermal system insulation removal
				2015	Structure demolition, NOC
				2015	Structure demolition, NOC
I	Industrial	SF	Structure Fabrication/Renovation	1713	Nailing
				1898	Sawing
				1505	General construction
				1505	General construction
				2019	Structure fabrication/renovation, ceiling installation
				2020	Structure fabrication/renovation, ceiling repair
				2021	Structure fabrication/renovation, floor
				2022	Structure fabrication/renovation, multiple operations
				2025	Structure fabrication/renovation, roofing repair
				2027	Structure fabrication/renovation, thermal system insulation removal/repair
				2028	Structure fabrication/renovation, transite

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
					panel removal
				2029	Structure fabrication/renovation, wharf building
				2024	Structure fabrication/renovation, powder actuated tool
				2026	Structure fabrication/renovation, structure lock/door
				2023	Structure fabrication/renovation, NOC
I	Industrial	SP	Supplies/Materials Handling	1068	Assemble/disassemble, bolting/screwing
				1070	Assemble/disassemble, prying
				1071	Assemble/disassemble, tool - manual
				1072	Assemble/disassemble, tool - powered
				1073	Assemble/disassemble, turning
				1074	Assemble/disassemble, wrenching
				1069	Assemble/disassemble, NOC
				1078	Bagging
				1082	Banding/unbanding
				1083	Bar code scanning
				1273	Crane operation
				1480	Foam-in-place packaging
				1622	Loading/unloading
				1644	Manual lifting
				1487	Forklift operation
				1752	Packaging
				1755	Palletizing
				1870	Rigging
				1918	Shipping
				2032	Supply and materials handling, multiple operations
				2053	Tool and parts issue
				2095	Warehousing, manual
				2096	Warehousing, mechanical
				2033	Supply and materials handling, NOC
I	Industrial	TS	Thermal Spraying	1389	Electric arc spraying
				1470	Flame spraying
				1552	High velocity oxyfuel (HVOF) spraying
				1795	Plasma spraying
				2047	Thermal spraying, mulitple operations
				2048	Thermal spraying, NOC
I	Industrial	TR	Transportation	1352	Dispatching
				1374	Driving, paved roads
				1375	Driving, taxi/bus
				1376	Driving, tractor trailer

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1377	Driving, truck
				1378	Driving, unpaved roads
				1852	Railroad track maintenance
				1853	Railroad yard operations
				1930	Small watercraft operation
				2060	Train operation
				2064	Transportation, multiple operations
				2065	Transportation, NOC
I	Industrial	UT	Utility Production/Distribution	1079	Baghouse maintenance/overhaul
				1094	Boiler ash removal
				1095	Boiler cleaning
				1096	Boiler plant operation
				1097	Boiler repair
				1098	Boiler water treatment
				1136	Chiller plant operation
				1174	Coal conveyor maintenance
				1246	Compressed air/breathing air distribution
				1390	Electrical distribution
				1438	Equipment monitoring
				1440	ESP maintenance/cleaning
				1503	Gas distribution
				1507	Generator and heating plant operation
				1508	Generator testing/operation
				1828	Production/dist. of utilities, multiple operations
				1909	Ship/shore connection
				1943	Stack cleaning
				1946	Steam line repair
				1947	Steam pit maintenance
				2062	Transformer repair/maintenance
				1829	Production/distribution of utilities, NOC
I	Industrial	VM	Vehicle Maintenance	2078	Vehicle repair, multiple operations
				2078	Vehicle repair, multiple operations
				2076	Vehicle repair, brake work
				2077	Vehicle repair, clutch work
				2073	Vehicle body repair, NOC
				2079	Vehicle testing/tuning
				2080	Vehicle tire repair
				2075	Vehicle radiator repair, NOC
				2074	Vehicle maintenance, NOC
I	Industrial	VS	Veterinary Services/Animal Care	1046	Animal care, multiple operations

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1047	Animal care, NOC
				1045	Anesthesia
				2091	Veterinary surgical procedures
				2090	Veterinary services, NOC
I	Industrial	WW	Water/Wastewater Plant Operations	1371	Drinking water system, operation and maintenance
				1372	Drinking water treating, chemical
				1373	Drinking water treating, mechanical
				2037	Swimming pool water treating, chemical
				2038	Swimming pool water treating, mechanical
				2098	Wastewater pre-treatment, chemical
				2099	Wastewater pre-treatment, mechanical
				2104	Wastewater/sanitary sewer operation and maintenance
				2100	Wastewater treatment, chemical
				2101	Wastewater treatment, mechanical
				2102	Wastewater treatment, multiple operations
				2103	Wastewater treatment, NOC
				2106	Water treatment, chlorination/bromination/other
				2107	Water treatment, multiple operations
				2108	Water treatment, NOC
				2109	Water/wastewater plant monitoring
				2110	Water/wastewater plant operations, NOC
I	Industrial	WP	Weapons & Ordnance	1039	Ammunition handling
				1049	Artillery repair
				1102	Breeching
				1123	Charging of chemical and riot dispersal cannisters
				1323	Demilitarization
				1433	EOD, explosives detonating
				1432	EOD operations, NOC
				1442	Explosive production, cleaning mixing equipment
				1443	Explosive production, detonation
				1444	Explosive production, mixing and pouring
				1445	Explosive production, multiple operations
				1447	Explosive production, premix operations
				1448	Explosive production, testing
				1446	Explosive production, NOC
				1564	Incendiary manufacturing
				1568	Inert ammunition loading

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				1571	Inspection of ammunition
				1689	Military specific operations
				1695	Mixing/bagging/handling explosives
				1696	Mixing/bagging/handling smokes and/or chemicals
				1748	Ordnance assembly/disassembly
				1749	Ordnance testing
				1855	Recoil mechanism testing
				1874	Rocket motor detonation
				1908	Shell loading
				2054	Torpedo assembly/disassembly
				2055	Torpedo disassembly
				2056	Torpedo fueling/defueling
				2057	Torpedo fueling/refueling
				2058	Torpedo priming
				2113	Weapons cleaning/preventive maintenance
				2114	Weapons/small arms firing, indoor range
				2116	Weapons/small arms firing, outdoor range
				2115	Weapons/small arms firing, NOC
				2117	Weapons/small arms handling, multiple operations
				2119	Weapons/small arms, backstop/pit cleanup
				2120	Weapons/small arms, range cleaning
				2121	Weapons/small arms, range supervision
				2118	Weapons/small arms repair
				2112	Weapons & Ordnance, NOC
I	Industrial	WD	Woodworking	1366	Drilling
				1387	Dust collector cleaning
				1512	Gluing
				1590	Jointing
				1602	Lathes
				1708	Mortising/routing
				1714	Nailing, automatic
				1820	Preservative application
				1888	Sanding, belt
				1889	Sanding, disk
				1890	Sanding, drum
				1891	Sanding, hand
				1898	Sawing
				1901	Sealing
				1944	Staining
				2144	Woodworking hobbies

Category Code	Process Category	Type Code	Process Type	Name Code	Process Name
				2145	Woodworking, multiple operations
				2146	Woodworking, NOC
I	Industrial	XR	X-Ray Processing	2150	X-ray developer chemicals, add/mix
				2151	X-ray developer chemicals, change-out
				2152	X-ray developing
				1818	Precious metal recovery

ATTACHMENT 4 – EESOH-MIS IH Controls List of Values

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Control Category/Type/Name
PPE
BODY/CLOTHING
ANTI-SAW CHAPS
APRON, BUTYL RUBBER
APRON, CHLORINATED POLYETHYLENE
APRON, CHROME LEATHER
APRON, DENIM
APRON, FABRIC
APRON, HEAT RESISTANT
APRON, LEAD
APRON, LEATHER
APRON, NATURAL RUBBER
APRON, NEOPRENE
APRON, NITRILE RUBBER
APRON, NITRILE/POLYVINYL CHLORIDE
APRON, NITRILE-BUTADIENE RUBBER
APRON, OTHER
APRON, PLASTIC
APRON, POLYETHYLENE
APRON, POLYURETHANE
APRON, POLYVINYL ALCOHOL
APRON, POLYVINYL CHLORIDE
APRON, SAFEGUARD CPF
APRON, SARANEX
APRON, SONTARA
APRON, STAINLESS STEEL MESH
APRON, STYRENE-BUTADIENE RUBBER
APRON, TYVEK
APRON, VINYL
APRON, VITON
BATTLE DRESS UNIFORM (BDU'S)
BIB-OVERALLS, BUTYL RUBBER
BIB-OVERALLS, CHLORINATED POLYETHYLENE
BIB-OVERALLS, CHROME LEATHER
BIB-OVERALLS, FABRIC
BIB-OVERALLS, HEAT RESISTANT
BIB-OVERALLS, LEATHER
BIB-OVERALLS, NATURAL RUBBER
BIB-OVERALLS, NEOPRENE
BIB-OVERALLS, NITRILE RUBBER
BIB-OVERALLS, NITRILE/POLYVINYL CHLORIDE
BIB-OVERALLS, NITRILE-BUTADIENE RUBBER
BIB-OVERALLS, OTHER
BIB-OVERALLS, POLYETHYLENE
BIB-OVERALLS, POLYURETHANE
BIB-OVERALLS, POLYVINYL ALCOHOL
BIB-OVERALLS, POLYVINYL CHLORIDE
BIB-OVERALLS, SAFEGUARD CPF
BIB-OVERALLS, SARANEX
BIB-OVERALLS, SONTARA
BIB-OVERALLS, STYRENE-BUTADIENE RUBBER
BIB-OVERALLS, TYVEK
BIB-OVERALLS, VINYL
BIB-OVERALLS, VITON
BULLET PROTECTIVE VEST
BUNKER GEAR, NOMEX
BUNKER GEAR, PBI
CAPE AND SLEEVES, WELDING
CHEMICAL SPLASH, BARRICADE COATED
CHEMICAL SPLASH, POLYETHYLENE
CHEMICAL SPLASH, SARANEX COATED
CHEMICAL SPLASH, TYVEK/SARANEX
CHEST ARMOR
COAT/JACKET, ALUMINIZED CARBON KEVLAR COAT (LONG)
COAT/JACKET, ALUMINIZED CARBON KEVLAR JACKET (SHORT)
COAT/JACKET, ALUMINIZED LEATHER COAT (LONG)
COAT/JACKET, ALUMINIZED LEATHER JACKET (SHORT)
COAT/JACKET, ALUMINIZED RAYON JACKET (SHORT)
COAT/JACKET, BUTYL RUBBER
COAT/JACKET, CHLORINATED POLYETHYLENE
COAT/JACKET, CHROME LEATHER
COAT/JACKET, FABRIC
COAT/JACKET, HEAT RESISTANT
COAT/JACKET, LEATHER COAT (LONG)
COAT/JACKET, LEATHER JACKET (SHORT)
COAT/JACKET, NATURAL RUBBER
COAT/JACKET, NEOPRENE
COAT/JACKET, NITRILE RUBBER
COAT/JACKET, NITRILE/POLYVINYL CHLORIDE
COAT/JACKET, NITRILE-BUTADIENE RUBBER
COAT/JACKET, OTHER
COAT/JACKET, POLYETHYLENE
COAT/JACKET, POLYURETHANE
COAT/JACKET, POLYVINYL ALCOHOL
COAT/JACKET, POLYVINYL CHLORIDE
COAT/JACKET, SAFEGUARD CPF
COAT/JACKET, SARANEX
COAT/JACKET, SONTARA
COAT/JACKET, STYRENE-BUTADIENE RUBBER
COAT/JACKET, TYVEK
COAT/JACKET, VINYL
COAT/JACKET, VITON
COAT/JACKET, WELDING
COLD, INSULATED JACKET WITH HOOD
COLD, PARKA
COLD, REFRIGWEAR INSULATED SUITS
COVERALLS, ALUMINIZED CARBON KEVLAR
COVERALLS, BUTYL RUBBER
COVERALLS, CHLORINATED POLYETHYLENE
COVERALLS, CHROME LEATHER
COVERALLS, COTTON
COVERALLS, FABRIC
COVERALLS, FLAME RETARDANT
COVERALLS, HEAT RESISTANT
COVERALLS, INDURA
COVERALLS, INSULATED, COTTON/POLY-COTTON
COVERALLS, KERMEL
COVERALLS, LEATHER
COVERALLS, NATURAL RUBBER
COVERALLS, NEOPRENE
COVERALLS, NITRILE RUBBER
COVERALLS, NITRILE/POLYVINYL CHLORIDE
COVERALLS, NITRILE-BUTADIENE RUBBER
COVERALLS, NOMEX
COVERALLS, OTHER
COVERALLS, PBI
COVERALLS, POLY-COTTON
COVERALLS, POLYETHYLENE
COVERALLS, POLYURETHANE
COVERALLS, POLYVINYL ALCOHOL
COVERALLS, POLYVINYL CHLORIDE
COVERALLS, RFR PROTECTION
COVERALLS, SAFEGUARD CPF
COVERALLS, SARANEX
COVERALLS, SONTARA
COVERALLS, STYRENE-BUTADIENE RUBBER
COVERALLS, TRI-LAYER
COVERALLS, TYVEK
COVERALLS, VINEX
COVERALLS, VITON
HARNESS, FALL PROTECTION
KNEE PADS
LAB COAT

LAB SMOCK
LEGGINGS/CHAPS, ALUMINIZED CARBON KEVLAR
LEGGINGS/CHAPS, ALUMINIZED LEATHER
LEGGINGS/CHAPS, BUTYL RUBBER
LEGGINGS/CHAPS, CHLORINATED POLYETHYLENE
LEGGINGS/CHAPS, CHROME LEATHER
LEGGINGS/CHAPS, FABRIC
LEGGINGS/CHAPS, HEAT RESISTANT
LEGGINGS/CHAPS, LEATHER
LEGGINGS/CHAPS, NATURAL RUBBER
LEGGINGS/CHAPS, NEOPRENE
LEGGINGS/CHAPS, NITRILE RUBBER
LEGGINGS/CHAPS, NITRILE/POLYVINYL CHLORIDE
LEGGINGS/CHAPS, NITRILE-BUTADIENE RUBBER
LEGGINGS/CHAPS, OTHER
LEGGINGS/CHAPS, POLYETHYLENE
LEGGINGS/CHAPS, POLYURETHANE
LEGGINGS/CHAPS, POLYVINYL ALCOHOL
LEGGINGS/CHAPS, POLYVINYL CHLORIDE
LEGGINGS/CHAPS, SAFEGUARD CPF
LEGGINGS/CHAPS, SARANEX
LEGGINGS/CHAPS, SONTARA
LEGGINGS/CHAPS, STYRENE-BUTADIENE RUBBER
LEGGINGS/CHAPS, TYVEK
LEGGINGS/CHAPS, VITON
NBC PROTECTIVE WEAR
OTHER
PANTS, ALUMINIZED CARBON KEVLAR
PANTS, ALUMINIZED LEATHER LEGGINGS
PANTS, BUTYL RUBBER
PANTS, CHLORINATED POLYETHYLENE
PANTS, CHROME LEATHER
PANTS, FABRIC
PANTS, HEAT RESISTANT

PANTS, LEATHER
PANTS, NATURAL RUBBER
PANTS, NEOPRENE
PANTS, NITRILE RUBBER
PANTS, NITRILE/POLYVINYL CHLORIDE
PANTS, NITRILE-BUTADIENE RUBBER
PANTS, OTHER
PANTS, POLYETHYLENE
PANTS, POLYURETHANE
PANTS, POLYVINYL ALCOHOL
PANTS, POLYVINYL CHLORIDE
PANTS, SAFEGUARD CPF
PANTS, SARANEX
PANTS, SONTARA
PANTS, STYRENE-BUTADIENE RUBBER
PANTS, TYVEK
PANTS, VITON
RAIN GEAR
SAFETY BELT
SAFETY LANYARD
SCRUBS, HOSPITAL TYPE
SLEEVES, POLYVINYL CHLORIDE
SLEEVES, PROTECTIVE, KEVLAR
SLEEVES, PROTECTIVE, LEATHER
SLEEVES, PROTECTIVE, SILVERSHIELD
SLEEVES, PROTECTIVE, TYVEK
SURGICAL GOWNS
TOTAL ENCAPSULATING, BUTYL RUBBER
TOTAL ENCAPSULATING, CHLORINATED POLYETHYLENE
TOTAL ENCAPSULATING, CPF
TOTAL ENCAPSULATING, FABRIC
TOTAL ENCAPSULATING, HEAT RESISTANT
TOTAL ENCAPSULATING, NATURAL RUBBER
TOTAL ENCAPSULATING, NEOPRENE
TOTAL ENCAPSULATING, NITRILE RUBBER
TOTAL ENCAPSULATING, NITRILE RUBBER/POLYVINYL CHLORIDE

TOTAL ENCAPSULATING, OTHER
TOTAL ENCAPSULATING, POLYETHYLENE
TOTAL ENCAPSULATING, POLYURETHANE
TOTAL ENCAPSULATING, POLYVINYL ALCOHOL
TOTAL ENCAPSULATING, POLYVINYL CHLORIDE
TOTAL ENCAPSULATING, REFLECTOR
TOTAL ENCAPSULATING, RESPONDER
TOTAL ENCAPSULATING, RESPONDER PLUS
TOTAL ENCAPSULATING, SAFEGUARD CPF
TOTAL ENCAPSULATING, SONTARA
TOTAL ENCAPSULATING, STYRENE-BUTADIENE RUBBER
TOTAL ENCAPSULATING, TEFLON
TOTAL ENCAPSULATING, TRELLCHEM HPS
TOTAL ENCAPSULATING, TYCHEM 10,000
TOTAL ENCAPSULATING, TYCHEM 9400
TOTAL ENCAPSULATING, TYVEK QC
TOTAL ENCAPSULATING, TYVEK/SARANEX
TOTAL ENCAPSULATING, VITON
EYES
#10 SHADE LENS MINIMUM
#11 SHADE LENS MINIMUM
#12 SHADE LENS MINIMUM
#13 SHADE LENS MINIMUM
#14 SHADE LENS MINIMUM
#2 SHADE LENS MINIMUM
#3 SHADE LENS MINIMUM
#4 SHADE LENS MINIMUM
#5 SHADE LENS MINIMUM
#6 SHADE LENS MINIMUM
#7 SHADE LENS MINIMUM
#8 SHADE LENS MINIMUM
#9 SHADE LENS MINIMUM
GOGGLES, CHEMICAL SPLASH
GOGGLES, CHIPPING, COVERSPEC TYPE
GOGGLES, CHIPPING, EYECUP TYPE

GOGGLES, CUSHIONED FITTING, RIGID BODY
GOGGLES, DUST
GOGGLES, FLEXIBLE, HOODED VENTILATION
GOGGLES, FLEXIBLE, REGULAR VENTED
GOGGLES, FREE FALL
GOGGLES, IMPACT/SAFETY
GOGGLES, LASER
GOGGLES, WELDING
GOGGLES, WELDING, COVERSPEC TYPE
GOGGLES, WELDING, EYECUP TYPE
OTHER
SAFETY GLASSES
SAFETY GLASSES, COBALT BLUE LENS
SAFETY GLASSES, EYECUP TYPE SIDESHIELD
SAFETY GLASSES, LASER EYEWEAR
SAFETY GLASSES, SEMI/FLAT FOLD SIDESHIELDS
SAFETY GLASSES, TINTED
SAFETY GLASSES, WITHOUT SIDESHIELDS
SUNGLASSES
FACE
FULL FACE SHIELD
FULL FACE SHIELD, CLEAR
FULL FACE SHIELD, GOLD FILM
FULL FACE SHIELD, LASER PROTECTION
FULL FACE SHIELD, LEADED
FULL FACE SHIELD, PLASTIC
FULL FACE SHIELD, PLASTIC WITH EYECUP TYPE SIDESHIELD SPECTACLES
FULL FACE SHIELD, PLASTIC WITH SEMI/FLAT FOLD SIDESHIELD SPECTACLES
FULL FACE SHIELD, PLASTIC WITH SPECTACLES WITHOUT SIDESHIELDS
FULL FACE SHIELD, TINTED
FULL FACE SHIELD, UV LIGHT
FULL FACE SHIELD, WELDING
FULL FACE SHIELD, WIRE MESH

FULL FACE SHIELD, WIRE MESH WITH EYECUP TYPE SIDESHIELD SPECTACLES
FULL FACE SHIELD, WIRE MESH WITH LASER SPECTACLES AND SIDESHIELD
FULL FACE SHIELD, WIRE MESH WITH SEMI/FLAT FOLD SIDESHIELD SPECTACLES
FULL FACE SHIELD, WIRE MESH WITH SPECTACLES WITHOUT SIDESHIELDS
OTHER
WELDER'S HOOD
FEET
BOOTS, BUTYL RUBBER
BOOTS, CHEMICAL RESISTANT
BOOTS, COLD WEATHER
BOOTS, CONDUCTIVE
BOOTS, FIREFIGHTER/BUNKER
BOOTS, FOUNDRY
BOOTS, MOLDER
BOOTS, NATURAL RUBBER
BOOTS, NEOPRENE
BOOTS, POLYVINYL CHLORIDE
BOOTS, PUNCTURE RESISTANT
BOOTS, STEEL TOE
BOOTS, STEEL TOE WITH METATARSAL GUARDS
BOOTS, STEEL TOE, POLYVINYL CHLORIDE
BOOTS, STEEL TOE, RUBBER
BOOTS, STEEL TOE, RUBBER, DIELECTRIC
BOOTS, STEEL TOE, STEEL SHANK
BOOTS, TYVEK DISPOSABLE
GUARDS, METATARSAL
GUARDS, STEEL TOE
INSERTS, SHOCK-ABSORBING
LEATHER SPATS
OTHER
OVERBOOTS
OVERSHOES
SHOE COVERS, DISPOSABLE
SHOES, CLOSED-TOE

SHOES, CLOSED-TOE LEATHER
SHOES, CONDUCTIVE
SHOES, METATARSAL GUARD
SHOES, PUNCTURE RESISTANT
SHOES, SAFETY TOE, ESD
SHOES, SAFETY/NON-CONDUCTIVE
SHOES, STEEL TOE
SHOES, STEEL TOE, METATARSAL GUARD
SHOES, TRACTION
GLOVES
ALUMINIZED
ANTI-VIBRATION
BUTYL RUBBER
CARBON FIBER
CHLORINATED POLYETHYLENE
CHROME LEATHER
COATED FABRIC
COLD SURFACES
COTTON
COTTON TUSETS
CUT RESISTANT/METAL MESH
CUTTING
DISPOSABLE
DOUBLE
DOUBLE SURGICAL
ELBOW LENGTH BUTYL RUBBER
ELECTRICAL PROTECTION
FABRIC
FUEL HANDLER, LEATHER
FUEL HANDLER, SYNTHETIC
HEAT RESISTANT
HOT MILL
HOT SURFACES, COTTON
IMPERVIOUS
KEVLAR
LATEX, MEDICAL EXAM
LEAD
LEATHER
LEATHER GAUNTLETS
LEATHER WELDING

METAL MESH
NATURAL RUBBER
NBC AGENTS
N-DEX
NEOPRENE
NITRILE RUBBER
NITRILE RUBBER SOLES
NITRILE/BUTYL RUBBER
NITRILE/POLYVINYL CHLORIDE
NITRILE-BUTADIENE RUBBER
OTHER
PE/EVAL (4H OR SILVER SHIELD)
POLYETHYLENE
POLYURETHANE
POLYVINYL ALCOHOL
POLYVINYL CHLORIDE
RUBBER, ELECTRICIAN
SAFEGUARD CPF
SARANEX
SONTARA
STAINLESS STEEL MESH
STYRENE-BUTADIENE RUBBER
TEFLON
TERRY CLOTH
TYVEK
VINYL
VITON
WELDING, HEAT RESISTANT
HAND
BARRIER CREAM
FINGER COTS
OTHER
WRIST GUARDS
HEAD
AIRMAN'S LINE CAP
BRIMMED HAT
BUMP CAP
CHEMICAL HOOD
COLD WEATHER HAT
CRANIALS
DISPOSABLE HEAD COVERING

FIREFIGHTER HELMET
FLAME RESISTANT HOOD
GRINDING HOOD
HAIR NET/CAP
HARD HAT
HELMET
KEVLAR BATTLE HELMET
OTHER
SURGICAL CAP
WELDING HELMET
HEARING
COMBINATION, MUFF/EARPLUG
COMBINATION, MUFF/EARPLUG WITH TIME LIMIT
COMMUNICATION HEADSET
DOUBLE PROTECTION, NOC
EAR/CIRCUMAURAL MUFF
EAR/CIRCUMAURAL MUFF, HIGH PERFORMANCE
EAR/CIRCUMAURAL MUFF, TYPE I/II
EARPLUG
EARPLUG, DISPOSABLE, FOAM PLASTIC
EARPLUG, DISPOSABLE, NON-HARDENING SILICONE
EARPLUG, SIZED, SINGLE FLANGE
EARPLUG, SIZED, TRIPLE FLANGE
HEARING BANDS/EAR CAPS/CANAL CAPS
HELMET, AVIATION
HELMET, NOISE ATTENUATION
OTHER
SINGLE PROTECTION, NOC
MISCELLANEOUS
OTHER
RESPIRATOR
RESPIRATORY PROTECTION
ENGINEERING
EMERGENCY WASH
DELUGE SHOWER/EYE WASH
FIXED EYEWASH
PORTABLE EYEWASH

ERGONOMICS
ANTI-FATIGUE MAT/INSOLES
ANTI-VIBRATION MAT
ANTI-VIBRATION SEATING
ANTI-VIBRATION WRAP/BARRIER
CHAIR/SEATING (INCLUDING ADD-ONS)
DOCUMENT HOLDER
DOLLY/HAND TRUCK
EQUIPMENT LOCATION/POSITION
FOOTREST
GLARE CONTROL (ANTI-GLARE SCREEN, PARABOLIC LOUVERS, HOODS, SHADES)
KEYBOARD TRAY (INCLUDES ADD-ONS FOR MOUSE)
KEYBOARD/SPLIT KEYBOARD
LIFT ASSIST DEVICES (LIFT TABLE, HOIST)
LUMBAR SUPPORT, EXCLUDING BACK BRACES
OTHER
PATIENT-HANDLING EQUIPMENT
SPECIALIZED EQUIPMENT
SPECIALIZED FIXTURE
SPECIALIZED TOOL
TOOL COUNTERBALANCE
TOOL DESIGN
TOOL LOCATION/POSITION
TOOL, EQUIPMENT MAINTENANCE (IMPROVE PERFORMANCE, REDUCE VIBRATION)
WORK REACH ADJUSTMENT (ALL DIRECTIONS INCLUDING FORWARD & OVERHEAD)
WORKING HEIGHT/WORKING SURFACE ADJUSTMENT
WORKSTATION MODIFICATION
WRIST REST/MOUSE REST
ERGONOMICS, CORRECTIVE ACTIONS
ALTERNATE BETWEEN SITTING AND STANDING TASKS
ALTERNATE GRIPS FOR PEN TO HELP REDUCE GRIPPING FORCE
ANGLE TELEPHONE BASE SLIGHTLY
ANGLE THE WORKSURFACE TO BRING THE WORK CLOSER TO THE BODY AND THE EYE
ANGLE WORK SURFACE TO BRING WORK CLOSER TO THE BODY AND THE EYES
AVOID HIGH FORCE TASKS WHILE SEATED
CALL FOR ASSISTANCE
CENTER NUMERIC PAD OR CALCULATOR IN FRONT OF BODY / MONITOR
CHANGE A PINCH GRIP TO A POWER GRIP
CHANGE LIFTING/CARRYING TASK INTO A ROLLING OR SLIDING TASK
CHANGE POSTURE FREQUENTLY
CLEAN SCREEN REGULARLY
CLOSE BLINDS OR CURTAINS
CLOSE DOORS WHEN POSSIBLE TO REDUCE NOISE
COVER OR TURN OFF UNDER CABINET LIGHTING
DECREASE LIGHT LEVELS
DIRECT COLD AIR AWAY FROM THE HANDS
DISTRIBUTE INTENSIVE ACTIVITIES THROUGHOUT THE PROCESS
ELIMINATE EXPOSURE TO HARD EDGES
ELIMINATE NEED TO CONSTANTLY HOLD TRIGGER
ELIMINATE UNNECESSARY TASKS
ELIMINATE/REDUCE LOUD RADIOS, PA ANNOUNCEMENTS, AND PHONE SIGNALS (RINGERS)
ENCOURAGE APPROPRIATE SEASONAL CLOTHING
ENCOURAGE ERGONOMIC WORK TECHNIQUES
ENCOURAGE PERSON TO HAVE VISUAL DISORDERS CORRECTED
GROUP FREQUENTLY USED ITEMS TOGETHER FOR CONVENIENT RETRIEVAL
HEAT METAL/MATERIAL TO MAKE MORE PLIABLE
IMPROVE CHARACTER SIZE AND STYLE ON DOCUMENT AND MONITOR
IMPROVE CLEAT DESIGN
IMPROVE FLOOR CONDITION
IMPROVE VISUAL ACCESS TO WORK
IMPROVE WHEEL CONDITION
INCORPORATE HEALTH COMFORT STRATEGIES: ALTERNATE TASKS, STRETCH, TAKE REST PAUSES
INCORPORATE REST PAUSES
INCREASE HANDLE LENGTH TO IMPROVE LEVERAGE
INCREASE LIGHT LEVELS
INCREASE ROOM TEMPERATURE
INCREASE TASK VARIETY
INCREASE WEIGHT OF WORK PIECE
INSTALL ALTERNATIVE MOUSE / CALCULATOR / KEYBOARD
INSTALL ANTI-GLARE SCREEN
INSTALL PALM SUPPORT ENTIRE LENGTH OF DRAFTING TABLE
INSTALL PARABOLIC LOUVERS TO DIRECT LIGHT DOWN ON THE SURFACE
INSTALL PRINTER COVERS TO ISOLATE NOISE
INSTALL PUSH BUTTON PHONE
INSTALL SEPARATE AIR CONDITIONING UNITS WHEN POSSIBLE
INSTALL WALL / ACOUSTICAL PANELS
KNEEL TO ACCESS LOW LEVEL SHELVES
KNEEL TO ACCESS LOWER LEVEL OF PHOTOCOPIER
LOCATE FREQUENTLY RETRIEVED ITEMS BETWEEN SHOULDER AND WAIST LEVEL
LOCATE HEAVY ITEMS BETWEEN KNEE AND WAIST LEVEL
LOCATE SORTING PILES NEAR WORK SURFACE EDGE
LOWER KEYBOARD TRAY / WORK PIECE / WORK SURFACE
LOWER THE CHAIR
LOWER THE HANDLE
LOWER THE MONITOR/SCREEN
LOWER THE PERSON
LOWER THE WORK PIECE/WORK SURFACE
MAINTAIN BOLTS AND SCREWS
MAINTAIN HAND TOOL/POWER TOOLS
MAINTAIN TRACKS, ROLLERS, AND MOVEMENT MECHANISMS
MINIMIZE CLUTTER ON DESK/WORKSURFACE
MINIMIZE MATERIAL WHICH MUST BE REMOVED MANUALLY
MODIFY FACILITIES TO DECREASE HANDLING
MODIFY FOOT PEDAL
MOVE CHAIR CLOSER TO SURFACE EDGE
MOVE CLOSER TO THE WORK LOCATION
MOVE KEYBOARD / MOUSE / MICROSCOPE FORWARD SO FOREARMS REST EVENLY ON SURFACE
MOVE MONITOR / SCREEN CLOSER TO BODY
MOVE MONITOR / SCREEN FURTHER AWAY FROM BODY
MOVE MONITOR FROM UNDERNEATH SHELF/CABINET LIGHTING
MOVE STAPLER CLOSER TO WORK SURFACE EDGE
MOVE WORK PIECE CLOSER TO BODY
OBTAIN PATIENT'S ASSISTANCE
OPEN DOORS/WINDOWS WHEN POSSIBLE
ORIENT PAPER BY TURNING IT SO WORK AREA IS CLOSE TO THE BODY
OTHER
PERIODICALLY LOOK AWAY FROM MICROSCOPE / SCREEN TO CHANGE THE TASK DEMAND ON THE EYE, AND FOCUS ON AN OBJECT OF VARYING DISTANCE.
PLACE HAND ON WORK SURFACE OR LAP WHEN NOT DIALING.

PLACE KEYBOARD / CALCULATOR /MONITOR ONTO LARGER SURFACE

PLACE MONITOR ON ALTERNATIVE WORK SURFACE

PLACE MONITOR PERPENDICULAR TO WINDOW

PLACE THE TRIGGER/SWITCH TO ALLOW A COMFORTABLE HAND/ARM POSITION

POSITION DOCUMENT AT A COMFORTABLE VIEWING DISTANCE FOR LARGER BLUE PRINTS BY FOLDING OR LOOSELY ROLLING DOCUMENT

POSITION DOCUMENT AT SAME HEIGHT AND ANGLE AS MONITOR, ON SIDE OF DOMINANT EYE. IF DOCUMENT IS HANDLED, FLIPPED, OR WRITTEN ON, SLIGHTLY INCLINE.

POSITION MONITOR 18 - 30 INCHES (45.7-76.2 CM.) FROM EYES

POSITION MONITOR APPROPRIATELY. FOR BIFOCAL USER, SO THAT THE NECK IS UPRIGHT, NOT TILTED, PLACE ON MONITOR BLOCKS, STAND, OR OTHER ELEVATED SURFACE.

POSITION MONITOR APPROPRIATELY. FOR DRAWING WORK, SO THAT EYE LEVEL IS AT MID-SCREEN.

POSITION MONITOR APPROPRIATELY. FOR NON-DRAWING TASKS, THE PRIMARY WORK AREA ON THE SCREEN SHOULD BE JUST BELOW EYE LEVEL.

POSITION MONITOR SO EYES ARE MID LEVEL ON SCREEN

POSITION MONITOR/SCREEN IN FRONT OF THE BODY

POSITION MOUSE/ INPUT DEVICE NEXT TO KEYBOARD

POSITION THE MONITOR/SCREEN IN FRONT OF THE BODY

PROGRAM MACRO KEYS TO REDUCE KEYING

PROVIDE A BALL-BEARING ROTATION TABLE

PROVIDE A CART

PROVIDE A CONTAINER FOR CARRYING TOOLS/SUPPLIES

PROVIDE A FLAT / LEVEL KEYBOARD

PROVIDE A FOOT PEDAL WHICH REQUIRES THE CORRECT AMOUNT OF FORCE TO USE

PROVIDE A FOOT PUMP

PROVIDE A FOOTRAIL OR FOOTREST

PROVIDE A FULL-SIZED INPUT DEVICE

PROVIDE A HIGH FRICTION GRIPPING SURFACE

PROVIDE A HOOK-TYPE TOOL TO PULL ITEMS

PROVIDE A KEYBOARD THAT DOES NOT REQUIRE EXCESSIVE FORCES

PROVIDE A KEYBOARD WHICH DOES NOT REQUIRE EXCESSIVE KEYING FORCES

PROVIDE A LARGER WORKSURFACE

PROVIDE A LIGHTER WEIGHT DOOR

PROVIDE A MACHINE/AUTOMATE SYSTEM

PROVIDE A MAGNIFYING GLASS

PROVIDE A MECHANICAL LIFT DEVICE

PROVIDE A MULTI-FINGER TRIGGER

PROVIDE A PADDED, COMPRESSIBLE SURFACE TO LAY ON

PROVIDE A PADDED, COMPRESSIBLE SURFACE TO SIT ON

PROVIDE A PALM REST

PROVIDE A POWER TOOL

PROVIDE A POWERED CART

PROVIDE A SHORTER HANDLE TO REDUCE ARM MOVEMENT

PROVIDE A SMALLER CONTAINER

PROVIDE A SPRING RELEASE MECHANISM ON PLIERS-TYPE TOOLS

PROVIDE A STORAGE BAG WHICH IS EASY TO PACK/UNPACK

PROVIDE A SWIVEL CONNECTION FOR AIR HOSE

PROVIDE A TELEPHONE HEAD SET

PROVIDE A TOOL THAT CAN BE USED WITH BOTH HANDS

PROVIDE A TOOL WHICH MINIMIZES EXPOSURE TO VIBRATION/IMPACT/ TORQUE

PROVIDE A TOOL WHICH REQUIRES MINIMAL FORCE TO USE

PROVIDE A TOOL WITH AN APPROPRIATE HANDLE ANGLE

PROVIDE A WHEEL BARROW

PROVIDE A WORK SURFACE THAT IS HEIGHT ADJUSTABLE

PROVIDE ADDITIONAL STAFF

PROVIDE ADEQUATE LEG CLEARANCE

PROVIDE ADEQUATE STORAGE

PROVIDE ADEQUATE TOE CLEARANCE

PROVIDE ADEQUATE WORK SPACE

PROVIDE ALTERNATIVE WORK SURFACE LAYOUT

PROVIDE AN ADJUSTABLE HEIGHT LIFT TABLE

PROVIDE AN ADJUSTABLE MIRROR

PROVIDE AN ALTERNATE CONTAINER

PROVIDE AN ALTERNATIVE KEYBOARD/MOUSE

PROVIDE AN APPROPRIATE ANTI-FATIGUE MAT

PROVIDE AN APPROPRIATE CHAIR / STOOL

PROVIDE AN APPROPRIATE HANDLE DIAMETER

PROVIDE AN APPROPRIATE HANDLE GRIP SPAN ON PLIERS-TYPE TOOLS

PROVIDE AN AUXILIARY TABLE

PROVIDE ANTI-VIBRATION MATERIALS

PROVIDE APPROPRIATE ABRASIVE MATERIAL

PROVIDE APPROPRIATE ANTI-FATIGUE MAT

PROVIDE APPROPRIATE CART

PROVIDE APPROPRIATE EQUIPMENT

PROVIDE APPROPRIATE GLOVES

PROVIDE APPROPRIATE HANDLES

PROVIDE APPROPRIATE KNEE PROTECTION

PROVIDE APPROPRIATE SHOE INSERTS

PROVIDE APPROPRIATE SOLVENT SOLUTION

PROVIDE AUTOMATIC OR SEMI-AUTOMATIC FEED FOR FASTENERS

PROVIDE BOLT AND SCREW HEAD DESIGNS THAT ARE DURABLE

PROVIDE CONTROLS WHICH DO NOT REQUIRE EXCESSIVE FORCES

PROVIDE DISPLAYS WHICH ARE READABLE AND EASY TO UNDERSTAND

PROVIDE EXTENSIONS FOR TOOLS

PROVIDE HANDLES WITH INSULATING MATERIAL

PROVIDE PORTABLE FAN(S)

PROVIDE PORTABLE HEATER(S)

PROVIDE POWERED ASSISTANCE FOR A MANUAL ACTIVITY

PROVIDE POWERED OR MECHANICAL ASSISTANCE FOR DOOR

PROVIDE PROTECTION FROM GLARE FROM NATURAL LIGHT

PROVIDE PROTECTION FROM GLARE FROM OVERHEAD LIGHTS / TASK LIGHTS

PROVIDE SCREEN HOOD/VISOR

PROVIDE SHIELDS OR BARRIERS FROM WIND

PROVIDE STANDING WORKSTATION

PROVIDE STAPLER WITH LONGER LEVER ARM

PROVIDE SUPPORT FOR REFERENCE DOCUMENTS

PROVIDE SUPPORT FOR THE ARMS

PROVIDE SUPPORT FOR THE CABLE OR HOSE

PROVIDE SUPPORT FOR THE HEAD

PROVIDE SUPPORT FOR THE LOWER BACK

PROVIDE SUPPORT FOR THE TOOL

PROVIDE SUPPORT FOR THE UPPER BODY

PROVIDE SUPPORT FOR THE WORK PIECES

PROVIDE TASK LIGHT

PROVIDE TELEPHONE HEAD SET

PROVIDE WHEELS

RAISE ARM REST(S)

RAISE KEYBOARD / WORK SURFACE / WORK PIECE

RAISE THE CHAIR

RAISE THE HANDLE
RAISE THE MONITOR/SCREEN
RAISE THE PERSON
RAISE THE WORK PIECE/WORK SURFACE
REARRANGE DESK/WORKSURFACE
REARRANGE WORK AREA TO AVOID FACE-TO-FACE WORK STATIONS
RECESS CONTAINER INTO WORK SURFACE
RE-DESIGN JOB
RE-DESIGN THE WORK SPACE
REDIRECT AIR CONDITIONING UNITS AND/OR FANS
REDUCE CARRY DISTANCE
REDUCE DEPTH OF STORAGE CONTAINER
REDUCE FORCE REQUIRED TO INSTALL OR REMOVE THE COMPONENT
REDUCE NUMBER OF FASTENERS USED
REDUCE THE ANGLE A PERSON HAS TO TURN TO TRANSFER AN ITEM
REDUCE THE WEIGHT OF THE LOAD ON THE CART
REDUCE WEIGHT OF WORK PIECE
RELOCATE THE WORK
REMOVE OBSTRUCTIONS
REMOVE OR LOWER ARMRESTS
REPLACE ABRASIVE OR CUTTING MATERIAL FREQUENTLY
REPLACE STANDING FOOT PEDALS WITH ALTERNATIVE CONTROLS
REPOSITION FOOT PEDAL
ROTATE THE WORK PIECE
SHARPEN BLADES FREQUENTLY
STAND TO PERFORM TASK
STAND UP AND REACH FOR ITEMS POSITIONED ABOVE DESK OR IN REFERENCE ZONE
STORE MATERIALS IN THE SAME ORIENTATION IN WHICH THEY ARE USED
SUGGEST COMPUTER GLASSES

TILT MONITOR DOWN SO IT IS PARALLEL TO THE FLOOR
TRAIN PROPER BODY MECHANICS/POSTURE
TRAIN PROPER CHAIR ADJUSTMENT
TRAIN PROPER FOOTREST USE
TRAIN PROPER KEYING STYLE
TRAIN PROPER MICROSCOPE TECHNIQUE
TRAIN PROPER TYPING/MOUSING STYLE
USE A DESK-BASED TAPE DISPENSER INSTEAD OF A HAND-HELD DISPENSER
USE A FLAT STAPLE REMOVER WITH A POWER GRIP RATHER THAN A PINCH GRIP
USE AIR CONDITIONING WHEN PROVIDED
USE ALTERNATIVE FASTENERS
USE AUTOMATIC STAPLER
USE AVAILABLE ALTERNATIVE WORK SURFACE
USE AVAILABLE CHAIR WITH ADJUSTABLE ARMREST(S) FOR FOREARM SUPPORT
USE CART TO MOVE BOXES AND FILES
USE HEAVY EXCAVATION EQUIPMENT (E.G., BACKHOE)
USE HEIGHT ADJUSTABLE ARMRESTS TO SUPPORT THE FOREARM
USE LARGER STAPLER WITH LONGER LEVER ARMS
USE STEP STOOL TO ACCESS HIGH LEVEL SHELVES
USE TWO OR MORE PERSONS TO PERFORM THE LIFT/TRANSFER
USE WELL-FITTING "GRIPPER" GLOVES TO PULL FILES
VENT PORTABLE AIR CONDITIONERS AND OTHER HEAT PRODUCING EQUIPMENT TO OUTDOORS WHEN POSSIBLE
WEAR APPROPRIATE SHOES
INTERLOCK
INTERLOCK
IONIZING RADIATION

AIR LOCKS
AUDIBLE ALARMS/SIGNALS
BARRIERS/SHIELDING
CONTROLLED AREA
EMERGENCY SHUTOFF
FENCES
GLOVE BOXES
HANDLING MATERIALS (TONGS, REMOTE UNITS, MECHANICAL DEVICES)
INTERLOCKS
KILL SWITCH
OTHER
ROPE OR CHAIN BARRIER
WARNING LIGHTS
LASER - ANSI CLASS 1
ACTIVATION WARNING SYSTEM, WALK-IN PROTECTIVE HOUSING
ENCLOSED BEAM PATH
ENCLOSED CLASS 3B/4, INTERLOCKS ON PROTECTIVE HOUSING
ENCLOSED CLASS 3B/4, SERVICE ACCESS PANELS
OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)
OTHER
PROTECTIVE HOUSING
TEMPORARY LASER CONTROLLED AREA
LASER - ANSI CLASS 2
EMISSION INDICATOR
ENCLOSED BEAM PATH
ENCLOSED CLASS 3B/4, INTERLOCKS ON PROTECTIVE HOUSING
ENCLOSED CLASS 3B/4, SERVICE ACCESS PANELS
OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)
OTHER
PROTECTIVE HOUSING
TEMPORARY LASER CONTROLLED AREA
VIEWING PORTALS/WINDOWS
LASER - ANSI CLASS 3A
EMISSION INDICATOR

ENCLOSED BEAM PATH
ENCLOSED CLASS 3B/4, INTERLOCKS ON PROTECTIVE HOUSING
ENCLOSED CLASS 3B/4, SERVICE ACCESS PANELS
LASER IN NAVIGABLE AIRSPACE
OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)
OTHER
PROTECTIVE HOUSING
TEMPORARY LASER CONTROLLED AREA
VIEWING PORTALS/WINDOWS
LASER - ANSI CLASS 3B
ACTIVATION WARNING SYSTEMS
BEAM STOP OR ATTENUATOR
COORDINATE USE IN NAVIGABLE AIRSPACE WITH FAA
EMISSION INDICATOR
ENCLOSED BEAM PATH
GUARDED SWITCH
INDOOR LASER CONTROLLED AREA
INTERLOCK AT ENTRANCE TO LASER CONTROLLED AREA
INTERLOCKS ON PROTECTIVE HOUSING
KEY CONTROL/MASTER SWITCH
LASER OUTDOOR CONTROLS
LASER TREATMENT CONTROLLED AREA
LIMITED OPEN BEAM PATH, HAZARD ANALYSIS/ESTABLISH CONTROLLED AREA
OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)
OTHER
PROTECTIVE BARRIERS AND CURTAINS
PROTECTIVE HOUSING
REMOTE INTERLOCK CONNECTOR
SERVICE ACCESS PANELS (INTERLOCKED, KEYED, OR WARNING LABEL)
TOTALLY OPEN BEAM PATH, HAZARD ANALYSIS/ESTABLISH CONTROLLED AREA

VIEWING PORTALS/WINDOWS

LASER - ANSI CLASS 4

ACTIVATION WARNING SYSTEMS

BEAM STOP OR ATTENUATOR

COORDINATE USE IN NAVIGABLE AIRSPACE WITH FAA

EMERGENCY SHUTOFF

EMISSION DELAY

EMISSION INDICATOR

ENCLOSED BEAM PATH

GUARDED SWITCH

INDOOR LASER CONTROLLED AREA

INTERLOCK AT ENTRANCE TO LASER CONTROLLED AREA

INTERLOCKS ON PROTECTIVE HOUSING

KEY CONTROL/MASTER SWITCH

LASER OUTDOOR CONTROLS

LASER TREATMENT CONTROLLED AREA

LIMITED OPEN BEAM PATH, HAZARD ANALYSIS/ESTABLISH CONTROLLED AREA

OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)

OTHER

PROTECTIVE BARRIERS AND CURTAINS

PROTECTIVE HOUSING

REMOTE FIRING AND MONITORING

REMOTE INTERLOCK CONNECTOR

SERVICE ACCESS PANELS (INTERLOCKED, KEYED, OR WARNING LABEL)

TOTALLY OPEN BEAM PATH, HAZARD ANALYSIS/ESTABLISH CONTROLLED AREA

VIEWING PORTALS/WINDOWS

LASER - OFCS

AUTOMATIC POWER REDUCTION

CONTAINMENT OF BEAM

DE-ENERGIZE THE OFCS

OTHER

SERVICE CONNECTORS

TOOL-SECURED ACCESS

VIEWING WITH A FILTERED OPTICAL INSTRUMENT

VIEWING WITH INDIRECT IMAGE CONVERTER

LASER-ANSI CLASS 1M

ACTIVATION WARNING SYSTEM, WALK-IN PROTECTIVE HOUSING

ENCLOSED BEAM PATH

ENCLOSED CLASS 3B/4, INTERLOCKS ON PROTECTIVE HOUSING

ENCLOSED CLASS 3B/4, SERVICE ACCESS PANELS

OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)

OTHER

PROTECTIVE HOUSING

TEMPORARY LASER CONTROLLED AREA

LASER-ANSI CLASS 2M

EMISSION INDICATOR

ENCLOSED BEAM PATH

ENCLOSED CLASS 3B/4, INTERLOCKS ON PROTECTIVE HOUSING

ENCLOSED CLASS 3B/4, SERVICE ACCESS PANELS

OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)

OTHER

PROTECTIVE HOUSING

TEMPORARY LASER CONTROLLED AREA

VIEWING PORTALS/WINDOWS

LASER-ANSI CLASS 3R

EMISSION INDICATOR

ENCLOSED BEAM PATH

ENCLOSED CLASS 3B/4, INTERLOCKS ON PROTECTIVE HOUSING

ENCLOSED CLASS 3B/4, SERVICE ACCESS PANELS

LASER IN NAVIGABLE AIRSPACE

OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)

OTHER

PROTECTIVE HOUSING

TEMPORARY LASER CONTROLLED AREA

VIEWING PORTALS/WINDOWS

LASER-FDA CLASS I

ACTIVATION WARNING SYSTEM, WALK-IN PROTECTIVE HOUSING

ENCLOSED BEAM PATH

ENCLOSED CLASS 3B/4, INTERLOCKS ON PROTECTIVE HOUSING

ENCLOSED CLASS 3B/4, SERVICE ACCESS PANELS

OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)

OTHER

PROTECTIVE HOUSING

TEMPORARY LASER CONTROLLED AREA

LASER-FDA CLASS II

EMISSION INDICATOR

ENCLOSED BEAM PATH

ENCLOSED CLASS 3B/4, INTERLOCKS ON PROTECTIVE HOUSING

ENCLOSED CLASS 3B/4, SERVICE ACCESS PANELS

OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)

OTHER

PROTECTIVE HOUSING

TEMPORARY LASER CONTROLLED AREA

VIEWING PORTALS/WINDOWS

LASER-FDA CLASS IIA

ACTIVATION WARNING SYSTEM, WALK-IN PROTECTIVE HOUSING

ENCLOSED BEAM PATH

ENCLOSED CLASS 3B/4, INTERLOCKS ON PROTECTIVE HOUSING

ENCLOSED CLASS 3B/4, SERVICE ACCESS PANELS

OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)

OTHER

PROTECTIVE HOUSING

TEMPORARY LASER CONTROLLED AREA

LASER-FDA CLASS IIIA

EMISSION INDICATOR

ENCLOSED BEAM PATH

ENCLOSED CLASS 3B/4, INTERLOCKS ON PROTECTIVE HOUSING

ENCLOSED CLASS 3B/4, SERVICE ACCESS PANELS

LASER IN NAVIGABLE AIRSPACE

OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)

OTHER

PROTECTIVE HOUSING

TEMPORARY LASER CONTROLLED AREA

VIEWING PORTALS/WINDOWS

LASER-FDA CLASS IIIB

ACTIVATION WARNING SYSTEMS

BEAM STOP OR ATTENUATOR

COORDINATE USE IN NAVIGABLE AIRSPACE WITH FAA

EMISSION INDICATOR

ENCLOSED BEAM PATH

GUARDED SWITCH

INDOOR LASER CONTROLLED AREA

INTERLOCK AT ENTRANCE TO LASER CONTROLLED AREA

INTERLOCKS ON PROTECTIVE HOUSING

KEY CONTROL/MASTER SWITCH

LASER OUTDOOR CONTROLS

LASER TREATMENT CONTROLLED AREA

LIMITED OPEN BEAM PATH, HAZARD ANALYSIS/ESTABLISH CONTROLLED AREA

OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)

OTHER

PROTECTIVE BARRIERS AND CURTAINS

PROTECTIVE HOUSING

REMOTE INTERLOCK CONNECTOR

SERVICE ACCESS PANELS (INTERLOCKED, KEYED, OR WARNING LABEL)

TOTALLY OPEN BEAM PATH, HAZARD ANALYSIS/ESTABLISH CONTROLLED AREA
VIEWING PORTALS/WINDOWS
LASER-FDA CLASS IV
ACTIVATION WARNING SYSTEMS
BEAM STOP OR ATTENUATOR
COORDINATE USE IN NAVIGABLE AIRSPACE WITH FAA
EMERGENCY SHUTOFF
EMISSION DELAY
EMISSION INDICATOR
ENCLOSED BEAM PATH
GUARDED SWITCH
INDOOR LASER CONTROLLED AREA
INTERLOCK AT ENTRANCE TO LASER CONTROLLED AREA
INTERLOCKS ON PROTECTIVE HOUSING
KEY CONTROL/MASTER SWITCH
LASER OUTDOOR CONTROLS
LASER TREATMENT CONTROLLED AREA
LIMITED OPEN BEAM PATH, HAZARD ANALYSIS/ESTABLISH CONTROLLED AREA
OPTICAL AIDS/COLLECTING OPTICS (ATTENUATED, FILTERED)
OTHER
PROTECTIVE BARRIERS AND CURTAINS
PROTECTIVE HOUSING
REMOTE FIRING AND MONITORING
REMOTE INTERLOCK CONNECTOR
SERVICE ACCESS PANELS (INTERLOCKED, KEYED, OR WARNING LABEL)
TOTALLY OPEN BEAM PATH, HAZARD ANALYSIS/ESTABLISH CONTROLLED AREA
VIEWING PORTALS/WINDOWS
MISCELLANEOUS
ADDITIONAL LIGHTING
DEAD MAN SWITCH
MATERIAL SUBSTITUTION

MECHANICAL/MOTORIZED ASSISTANCE
OTHER
PROCESS CHANGE
PROCESS ENCLOSURE
ROPE BARRIERS
WORKER ENCLOSURE
PROCESS ISOLATION
BARRIERS/SHIELDING
DISTANCE
GLOVE BAGS
GLOVE BOXES
MACHINE GUARDING
MINI-ENCLOSURES
OTHER
PROCESS ISOLATION
TIME
RFR
ABSORBERS
AZIMUTH BLANKING
BARRIERS/SHIELDING
CONTROLLED AREA
DEAD MAN SWITCH
DUMMY LOAD
FENCES
FLASHING LIGHTS/AUDIBLE SIGNALS
INTERLOCKING RFR HATS
INTERLOCKS
KILL SWITCH/PANIC BUTTON
OTHER
REMOTE OPERATION
ROPE OR CHAIN BARRIER
SHIELDED ROOM
VENTILATION - CLEAN ROOMS
DUCTED MODULE
PRESSURIZED PLENUM
RETURN AIR ARRANGEMENTS
VENTILATION - COMMON HOODS
BELL MOUTH
BOOTH WITH STRAIGHT TAKEOFF
BOOTH WITH TAPERED TAKEOFF

DUCT END (ROUND)
DUCT END (SQUARE)
FLANGED DUCT END (ROUND)
FLANGED DUCT END (SQUARE)
FLANGED MULTIPLE SLOT OPENING, 2 OR MORE SLOTS
FREE-STANDING SLOT HOOD, END FLANGES INSTALLED
GENERAL DIP TANK
LAB FUME
OPEN SURFACE TANK, CANOPY
OTHER
PLAIN MULTIPLE SLOT OPENING, 2 OR MORE SLOTS
PLAIN OPENING
PLAIN SLOT
SLOTTED WITH SIDES AND BACK
TAPERED
VENTILATION - CONFINED SPACES
BLOWER
EXHAUST
VENTILATION - DILUTION
MECHANICAL DILUTION
NATURAL DILUTION
VENTILATION - FILLING OPERATIONS
BAG FILLING
BAG TUBE PACKER
BARREL FILLING
SAMPLING BOX
SHAFT SEAL ENCLOSURE
TOXIC MATERIAL BAG OPENING
WEIGH HOOD ASSEMBLY - DRY MATERIAL
WEIGH HOOD DETAILS - DRY MATERIAL
VENTILATION - FOUNDRY OPERATIONS
CORE MAKING MACHINE-SMALL ROLLOVER TYPE
FOUNDRY SHAKEOUT
FOUNDRY SHAKEOUT-ENCLOSING
FOUNDRY SHAKEOUT-SIDE DRAFT
SHELL CORE MAKING

VENTILATION - GAS TREATMENT
ETHYLENE OXIDE STERILIZERS
FUMIGATION BOOTH
VENTILATION - KITCHEN EQUIPMENT
CHARCOAL BROILER & BARBEQUE PIT VENTILATION
DISHWASHER VENTILATION
KITCHEN RANGE HOOD
KITCHEN RANGE HOODS
VENTILATION - LABORATORY
BIOLOGICAL SAFETY CABINET-CLASS I
BIOLOGICAL SAFETY CABINET-CLASS II, TYPE A
BIOLOGICAL SAFETY CABINET-CLASS II, TYPE B
BIOLOGICAL SAFETY CABINET-CLASS III
DRY BOX OR GLOVE HOOD FOR HIGH TOXICITY & RADIOACTIVE MATERIALS
HORIZONTAL LAMINAR FLOW CLEAN BENCH (PRODUCT PROTECTION ONLY)
OVEN EXHAUST
PERCHLORIC ACID HOOD
SPECIALIZED LABORATORY HOOD DESIGNS
TYPICAL LABORATORY HOOD
VERTICAL LAMINAR FLOW CLEAN BENCH (PRODUCT PROTECTION ONLY)
VENTILATION - LOW VOLUME - HIGH VELOCITY EXHAUST SYSTEMS
EXTRACTOR HEAD FOR SMALL RADIAL GRINDERS
EXTRACTOR HOOD FOR DISC SANDER
EXTRACTOR TOOL FOR VIBRATORY SANDER
HOOD FOR CUP TYPE SURFACE GRINDER AND WIRE BRUSHES
PNEUMATIC CHISEL SLEEVE
TYPICAL SYSTEM, LOW VOLUME-HIGH VELOCITY
VENTILATION - MACHINING
COLD HEADING MACHINE VENTILATION

HIGH TOXICITY MATERIALS MILLING MACHINE HOOD
LATHE HOOD
METAL CUTTING BANDSAW
METAL SHEARS HIGH TOXICITY MATERIALS
OTHER
VENTILATION - MATERIAL TRANSPORT
BIN & HOPPER VENTILATION
BUCKET ELEVATOR VENTILATION
CONVEYOR BELT VENTILATION
RAIL LOADING
TOXIC MATERIAL BELT CONVEYING HEAD PULLEY
TOXIC MATERIAL CONVEYOR BELT LOADING
TRUCK LOADING
VENTILATION - MECHANICAL SURFACE CLEANING AND FINISHING
ABRASIVE BLASTING CABINET
ABRASIVE BLASTING ROOM
ABRASIVE CUT-OFF SAW
BACKSTAND IDLER POLISHING MACHINE
BUFFING LATHE
CIRCULAR AUTOMATIC BUFFING
CORE GRINDER
GRINDING WHEEL HOOD - SURFACE SPEEDS ABOVE 6500 SFPM
GRINDING WHEEL HOOD - SURFACE SPEEDS BELOW 6500 SFPM
HAND GRINDING BENCH
HORIZONTAL DOUBLE-SPINDLE DISC GRINDER
MANUAL BUFFING AND POLISHING
METAL POLISHING BELT
OTHER
PORTABLE CHIPPING AND GRINDING TABLE
STRAIGHT LINE AUTOMATIC BUFFING
SURFACE GRINDER
SWING GRINDER
TUMBLING MILLS
VERTICAL SPINDLE DISC GRINDER

VENTILATION - METAL MELTING FURNACES
CRUCIBLE MELTING FURNACE - HIGH TOXICITY MATERIAL
FIXED POSITION DIE CASTING HOOD
INDUCTION MELTING FURNACE - TILTING
MELTING FURNACE - ELECTRIC, ROCKING
MELTING FURNACE - ELECTRIC, TOP ELECTRODE
MELTING FURNACE CRUCIBLE, NON-TILT
MELTING FURNACE, TILTING
MELTING POT & FURNACE
MOBILE HOOD, DIE CASTING
POURING STATION
VENTILATION - MISCELLANEOUS OPERATIONS
BACK DRAFT/SIDE DRAFT SLOT
CANOPY HOOD
DOWNDRAFT TABLE
FLUIDIZED BEDS
FURNITURE STRIPPING TANK
HANDGUN AND SMALL BORE RIFLE RANGE
MORTUARY TABLE EXHAUST HOOD
NEGATIVE PRESSURE ENCLOSURES
OTHER
OUTBOARD MOTOR TEST
SCREENS
SPRAY ROOM, HANGAR
TABLE SLOT
VENTILATION - MIXING
AIR-COOLED MIXER AND MULLER
BANBURY MIXER
MIXER AND MULLER HOOD
ROLLER MILL VENTILATION
RUBBER CALENDAR ROLLS
VENTILATION - MOVEABLE EXHAUST HOODS
GRANITE CUTTING AND FINISHING
HAWLEY TRAV-L-VENT PERSPECTIVE LAYOUT
MOVABLE EXHAUST HOODS

VENTILATION - OPEN SURFACE TANKS
OPEN SURFACE TANKS, VS-70-01
OPEN SURFACE TANKS, VS-70-02
PUSH-PULL HOOD
SOLVENT DEGREASING TANKS
SOLVENT VAPOR DEGREASING
VENTILATION - OTHER
TEMPORARY SERVICES
VENTILATION - PAINTING OPERATIONS
DIP TANK
DRYING OVEN VENTILATION
LARGE DRIVE-THROUGH SPRAY PAINT BOOTH
LARGE PAINT BOOTH
PAINT BOOTH VEHICLE SPRAY
PAINT MIX STORAGE ROOM
SMALL PAINT BOOTH
TRAILER INTERIOR SPRAY PAINTING
VENTILATION - VEHICLE
DIESEL ENGINES UNDER LOAD
OTHER
SERVICE GARAGE VENTILATION - OVERHEAD
SERVICE GARAGE VENTILATION - UNDER FLOOR
VENTILATED BOOTH FOR RADIATOR REPAIR SOLDERING
WATER WASH DOWNDRAFT PAINT BOOTH
VENTILATION - WELDING AND CUTTING
FUME EXTRACTION GUN
METAL SPRAYING
PRODUCTION LINE WELDING BOOTH
ROBOTIC APPLICATION
TORCH CUTTING VENTILATION
WELDING VENTILATION - MOVABLE EXHAUST HOOD
WELDING VENTILATION BENCH HOOD
VENTILATION - WOODWORKING

AUXILIARY EXHAUST RETROFIT FOR AIR POWERED ORBITAL HAND SANDER
BAND SAW
DISC SANDERS
EXHAUST PLENUM RETROFIT FOR ORBITAL HAND SANDER
FLOOR TABLE SAW
HORIZONTAL BELT SANDER, STRIPPER SYSTEM
HORIZONTAL BELT SANDERS
JET STRIPPER FOR DISC SANDER
JOINTERS
MULTIPLE DRUM SANDER
RADIAL ARM SAW
SINGLE DRUM SANDER
SWING SAW
TABLE SAW GUARD EXHAUST
WOOD LATHE
ADMINISTRATIVE
COMPLIANCE PLANS
1,2-DIBROMO-3-CHLOROPROPANE
1,3-BUTADIENE
2-ACETYLAMINOFLUORENE
3,3'-DICHLOROBENZIDINE
4-AMINODIPHENYL
4-DIMETHYLAMINOAZOBENZENE
ACRYLONITRILE
ALPHA-NAPHTHYLAMINE
ASBESTOS
BENZENE
BENZIDINE
BETA-NAPHTHYLAMINE
BETA-PROPIOLACTONE
BIS-CHLOROMETHYL ETHER
CADMIUM
ETHYLENE OXIDE
ETHYLENEIMINE
FORMALDEHYDE
INORGANIC ARSENIC
LEAD

METHYL CHLOROMETHYL ETHER
METHYLENE CHLORIDE
METHYLENEDIANILINE
N-NITROSODIMETHYLAMINE
OTHER
VINYL CHLORIDE
ERGONOMICS
BROADENING/VARYING JOB CONTENT
EXERCISE/STRETCHING
JOB ROTATION
OTHER
RECOVERY PAUSES
REDUCE SHIFT LENGTH
REST BREAKS
WORK/REST CYCLE
WORKER PLACEMENT
WORKER ROTATION
ERGONOMICS, CORRECTIVE ACTIONS
ALTERNATE BETWEEN SITTING AND STANDING TASKS
ALTERNATE GRIPS FOR PEN TO HELP REDUCE GRIPPING FORCE
ANGLE TELEPHONE BASE SLIGHTLY
ANGLE THE WORKSURFACE TO BRING THE WORK CLOSER TO THE BODY AND THE EYE
ANGLE WORK SURFACE TO BRING WORK CLOSER TO THE BODY AND THE EYES
AVOID HIGH FORCE TASKS WHILE SEATED
CALL FOR ASSISTANCE
CENTER NUMERIC PAD OR CALCULATOR IN FRONT OF BODY / MONITOR
CHANGE A PINCH GRIP TO A POWER GRIP
CHANGE LIFTING/CARRYING TASK INTO A ROLLING OR SLIDING TASK
CHANGE POSTURE FREQUENTLY
CLEAN SCREEN REGULARLY
CLOSE BLINDS OR CURTAINS

CLOSE DOORS WHEN POSSIBLE TO REDUCE NOISE
COVER OR TURN OFF UNDER CABINET LIGHTING
DECREASE LIGHT LEVELS
DIRECT COLD AIR AWAY FROM THE HANDS
DISTRIBUTE INTENSIVE ACTIVITIES THROUGHOUT THE PROCESS
ELIMINATE EXPOSURE TO HARD EDGES
ELIMINATE NEED TO CONSTANTLY HOLD TRIGGER
ELIMINATE UNNECESSARY TASKS
ELIMINATE/REDUCE LOUD RADIOS, PA ANNOUNCEMENTS, AND PHONE SIGNALS (RINGERS)
ENCOURAGE APPROPRIATE SEASONAL CLOTHING
ENCOURAGE ERGONOMIC WORK TECHNIQUES
ENCOURAGE PERSON TO HAVE VISUAL DISORDERS CORRECTED
GROUP FREQUENTLY USED ITEMS TOGETHER FOR CONVENIENT RETRIEVAL
HEAT METAL/MATERIAL TO MAKE MORE PLIABLE
IMPROVE CHARACTER SIZE AND STYLE ON DOCUMENT AND MONITOR
IMPROVE CLEAT DESIGN
IMPROVE FLOOR CONDITION
IMPROVE VISUAL ACCESS TO WORK
IMPROVE WHEEL CONDITION
INCORPORATE HEALTH COMFORT STRATEGIES: ALTERNATE TASKS, STRETCH, TAKE REST PAUSES
INCORPORATE REST PAUSES
INCREASE HANDLE LENGTH TO IMPROVE LEVERAGE
INCREASE LIGHT LEVELS
INCREASE ROOM TEMPERATURE
INCREASE TASK VARIETY
INCREASE WEIGHT OF WORK PIECE

INSTALL ALTERNATIVE MOUSE / CALCULATOR / KEYBOARD
INSTALL ANTI-GLARE SCREEN
INSTALL PALM SUPPORT ENTIRE LENGTH OF DRAFTING TABLE
INSTALL PARABOLIC LOUVERS TO DIRECT LIGHT DOWN ON THE SURFACE
INSTALL PRINTER COVERS TO ISOLATE NOISE
INSTALL PUSH BUTTON PHONE
INSTALL SEPARATE AIR CONDITIONING UNITS WHEN POSSIBLE
INSTALL WALL / ACOUSTICAL PANELS
KNEEL TO ACCESS LOW LEVEL SHELVES
KNEEL TO ACCESS LOWER LEVEL OF PHOTOCOPIER
LOCATE FREQUENTLY RETRIEVED ITEMS BETWEEN SHOULDER AND WAIST LEVEL
LOCATE HEAVY ITEMS BETWEEN KNEE AND WAIST LEVEL
LOCATE SORTING PILES NEAR WORK SURFACE EDGE
LOWER KEYBOARD TRAY / WORK PIECE / WORK SURFACE
LOWER THE CHAIR
LOWER THE HANDLE
LOWER THE MONITOR/SCREEN
LOWER THE PERSON
LOWER THE WORK PIECE/WORK SURFACE
MAINTAIN BOLTS AND SCREWS
MAINTAIN HAND TOOL/POWER TOOLS
MAINTAIN TRACKS, ROLLERS, AND MOVEMENT MECHANISMS
MINIMIZE CLUTTER ON DESK/WORKSURFACE
MINIMIZE MATERIAL WHICH MUST BE REMOVED MANUALLY
MODIFY FACILITIES TO DECREASE HANDLING
MODIFY FOOT PEDAL
MOVE CHAIR CLOSER TO SURFACE EDGE
MOVE CLOSER TO THE WORK LOCATION

MOVE KEYBOARD / MOUSE / MICROSCOPE FORWARD SO FOREARMS REST EVENLY ON SURFACE
MOVE MONITOR / SCREEN CLOSER TO BODY
MOVE MONITOR / SCREEN FURTHER AWAY FROM BODY
MOVE MONITOR FROM UNDERNEATH SHELF/CABINET LIGHTING
MOVE STAPLER CLOSER TO WORK SURFACE EDGE
MOVE WORK PIECE CLOSER TO BODY
OBTAIN PATIENT'S ASSISTANCE
OPEN DOORS/WINDOWS WHEN POSSIBLE
ORIENT PAPER BY TURNING IT SO WORK AREA IS CLOSE TO THE BODY
OTHER
PERIODICALLY LOOK AWAY FROM MICROSCOPE / SCREEN TO CHANGE THE TASK DEMAND ON THE EYE, AND FOCUS ON AN OBJECT OF VARYING DISTANCE.
PLACE HAND ON WORK SURFACE OR LAP WHEN NOT DIALING.
PLACE KEYBOARD / CALCULATOR /MONITOR ONTO LARGER SURFACE
PLACE MONITOR ON ALTERNATIVE WORK SURFACE
PLACE MONITOR PERPENDICULAR TO WINDOW
PLACE THE TRIGGER/SWITCH TO ALLOW A COMFORTABLE HAND/ARM POSITION
POSITION DOCUMENT AT A COMFORTABLE VIEWING DISTANCE FOR LARGER BLUE PRINTS BY FOLDING OR LOOSELY ROLLING DOCUMENT
POSITION DOCUMENT AT SAME HEIGHT AND ANGLE AS MONITOR, ON SIDE OF DOMINANT EYE. IF DOCUMENT IS HANDLED, FLIPPED, OR WRITTEN ON, SLIGHTLY INCLINE.
POSITION MONITOR 18 - 30 INCHES (45.7-76.2 CM.) FROM EYES

POSITION MONITOR APPROPRIATELY. FOR BIFOCAL USER, SO THAT THE NECK IS UPRIGHT, NOT TILTED, PLACE ON MONITOR BLOCKS, STAND, OR OTHER ELEVATED SURFACE.

POSITION MONITOR APPROPRIATELY. FOR DRAWING WORK, SO THAT EYE LEVEL IS AT MID-SCREEN.

POSITION MONITOR APPROPRIATELY. FOR NON-DRAWING TASKS, THE PRIMARY WORK AREA ON THE SCREEN SHOULD BE JUST BELOW EYE LEVEL.

POSITION MONITOR SO EYES ARE MID LEVEL ON SCREEN

POSITION MONITOR/SCREEN IN FRONT OF THE BODY

POSITION MOUSE/ INPUT DEVICE NEXT TO KEYBOARD

POSITION THE MONITOR/SCREEN IN FRONT OF THE BODY

PROGRAM MACRO KEYS TO REDUCE KEYING

PROVIDE A BALL-BEARING ROTATION TABLE

PROVIDE A CART

PROVIDE A CONTAINER FOR CARRYING TOOLS/SUPPLIES

PROVIDE A FLAT / LEVEL KEYBOARD

PROVIDE A FOOT PEDAL WHICH REQUIRES THE CORRECT AMOUNT OF FORCE TO USE

PROVIDE A FOOT PUMP

PROVIDE A FOOTRAIL OR FOOTREST

PROVIDE A FULL-SIZED INPUT DEVICE

PROVIDE A HIGH FRICTION GRIPPING SURFACE

PROVIDE A HOOK-TYPE TOOL TO PULL ITEMS

PROVIDE A KEYBOARD THAT DOES NOT REQUIRE EXCESSIVE FORCES

PROVIDE A KEYBOARD WHICH DOES NOT REQUIRE EXCESSIVE KEYING FORCES

PROVIDE A LARGER WORKSURFACE

PROVIDE A LIGHTER WEIGHT DOOR

PROVIDE A MACHINE/AUTOMATE SYSTEM

PROVIDE A MAGNIFYING GLASS

PROVIDE A MECHANICAL LIFT DEVICE

PROVIDE A MULTI-FINGER TRIGGER

PROVIDE A PADDED, COMPRESSIBLE SURFACE TO LAY ON

PROVIDE A PADDED, COMPRESSIBLE SURFACE TO SIT ON

PROVIDE A PALM REST

PROVIDE A POWER TOOL

PROVIDE A POWERED CART

PROVIDE A SHORTER HANDLE TO REDUCE ARM MOVEMENT

PROVIDE A SMALLER CONTAINER

PROVIDE A SPRING RELEASE MECHANISM ON PLIERS-TYPE TOOLS

PROVIDE A STORAGE BAG WHICH IS EASY TO PACK/UNPACK

PROVIDE A SWIVEL CONNECTION FOR AIR HOSE

PROVIDE A TELEPHONE HEAD SET

PROVIDE A TOOL THAT CAN BE USED WITH BOTH HANDS

PROVIDE A TOOL WHICH MINIMIZES EXPOSURE TO VIBRATION/IMPACT/ TORQUE

PROVIDE A TOOL WHICH REQUIRES MINIMAL FORCE TO USE

PROVIDE A TOOL WITH AN APPROPRIATE HANDLE ANGLE

PROVIDE A WHEEL BARROW

PROVIDE A WORK SURFACE THAT IS HEIGHT ADJUSTABLE

PROVIDE ADDITIONAL STAFF

PROVIDE ADEQUATE LEG CLEARANCE

PROVIDE ADEQUATE STORAGE

PROVIDE ADEQUATE TOE CLEARANCE

PROVIDE ADEQUATE WORK SPACE

PROVIDE ALTERNATIVE WORK SURFACE LAYOUT

PROVIDE AN ADJUSTABLE HEIGHT LIFT TABLE

PROVIDE AN ADJUSTABLE MIRROR

PROVIDE AN ALTERNATE CONTAINER

PROVIDE AN ALTERNATIVE KEYBOARD/MOUSE

PROVIDE AN APPROPRIATE ANTI-FATIGUE MAT

PROVIDE AN APPROPRIATE CHAIR / STOOL

PROVIDE AN APPROPRIATE HANDLE DIAMETER

PROVIDE AN APPROPRIATE HANDLE GRIP SPAN ON PLIERS-TYPE TOOLS

PROVIDE AN AUXILIARY TABLE

PROVIDE ANTI-VIBRATION MATERIALS

PROVIDE APPROPRIATE ABRASIVE MATERIAL

PROVIDE APPROPRIATE ANTI-FATIGUE MAT

PROVIDE APPROPRIATE CART

PROVIDE APPROPRIATE EQUIPMENT

PROVIDE APPROPRIATE GLOVES

PROVIDE APPROPRIATE HANDLES

PROVIDE APPROPRIATE KNEE PROTECTION

PROVIDE APPROPRIATE SHOE INSERTS

PROVIDE APPROPRIATE SOLVENT SOLUTION

PROVIDE AUTOMATIC OR SEMI-AUTOMATIC FEED FOR FASTENERS

PROVIDE BOLT AND SCREW HEAD DESIGNS THAT ARE DURABLE

PROVIDE CONTROLS WHICH DO NOT REQUIRE EXCESSIVE FORCES

PROVIDE DISPLAYS WHICH ARE READABLE AND EASY TO UNDERSTAND

PROVIDE EXTENSIONS FOR TOOLS

PROVIDE HANDLES WITH INSULATING MATERIAL

PROVIDE PORTABLE FAN(S)

PROVIDE PORTABLE HEATER(S)

PROVIDE POWERED ASSISTANCE FOR A MANUAL ACTIVITY

PROVIDE POWERED OR MECHANICAL ASSISTANCE FOR DOOR

PROVIDE PROTECTION FROM GLARE FROM NATURAL LIGHT

PROVIDE PROTECTION FROM GLARE FROM OVERHEAD LIGHTS / TASK LIGHTS

PROVIDE SCREEN HOOD/VISOR

PROVIDE SHIELDS OR BARRIERS FROM WIND

PROVIDE STANDING WORKSTATION

PROVIDE STAPLER WITH LONGER LEVER ARM

PROVIDE SUPPORT FOR REFERENCE DOCUMENTS

PROVIDE SUPPORT FOR THE ARMS

PROVIDE SUPPORT FOR THE CABLE OR HOSE

PROVIDE SUPPORT FOR THE HEAD

PROVIDE SUPPORT FOR THE LOWER BACK

PROVIDE SUPPORT FOR THE TOOL

PROVIDE SUPPORT FOR THE UPPER BODY

PROVIDE SUPPORT FOR THE WORK PIECES

PROVIDE TASK LIGHT

PROVIDE TELEPHONE HEAD SET

PROVIDE WHEELS

RAISE ARM REST(S)

RAISE KEYBOARD / WORK SURFACE / WORK PIECE

RAISE THE CHAIR

RAISE THE HANDLE

RAISE THE MONITOR/SCREEN

RAISE THE PERSON

RAISE THE WORK PIECE/WORK SURFACE

REARRANGE DESK/WORKSURFACE

REARRANGE WORK AREA TO AVOID FACE-TO-FACE WORK STATIONS

RECESS CONTAINER INTO WORK SURFACE

RE-DESIGN JOB

RE-DESIGN THE WORK SPACE

REDIRECT AIR CONDITIONING UNITS AND/OR FANS

REDUCE CARRY DISTANCE

REDUCE DEPTH OF STORAGE CONTAINER

REDUCE FORCE REQUIRED TO INSTALL OR REMOVE THE COMPONENT

REDUCE NUMBER OF FASTENERS USED
REDUCE THE ANGLE A PERSON HAS TO TURN TO TRANSFER AN ITEM
REDUCE THE WEIGHT OF THE LOAD ON THE CART
REDUCE WEIGHT OF WORK PIECE
RELOCATE THE WORK
REMOVE OBSTRUCTIONS
REMOVE OR LOWER ARMRESTS
REPLACE ABRASIVE OR CUTTING MATERIAL FREQUENTLY
REPLACE STANDING FOOT PEDALS WITH ALTERNATIVE CONTROLS
REPOSITION FOOT PEDAL
ROTATE THE WORK PIECE
SHARPEN BLADES FREQUENTLY
STAND TO PERFORM TASK
STAND UP AND REACH FOR ITEMS POSITIONED ABOVE DESK OR IN REFERENCE ZONE
STORE MATERIALS IN THE SAME ORIENTATION IN WHICH THEY ARE USED
SUGGEST COMPUTER GLASSES
TILT MONITOR DOWN SO IT IS PARALLEL TO THE FLOOR
TRAIN PROPER BODY MECHANICS/POSTURE
TRAIN PROPER CHAIR ADJUSTMENT
TRAIN PROPER FOOTREST USE
TRAIN PROPER KEYING STYLE
TRAIN PROPER MICROSCOPE TECHNIQUE
TRAIN PROPER TYPING/MOUSING STYLE
USE A DESK-BASED TAPE DISPENSER INSTEAD OF A HAND-HELD DISPENSER
USE A FLAT STAPLE REMOVER WITH A POWER GRIP RATHER THAN A PINCH GRIP
USE AIR CONDITIONING WHEN PROVIDED
USE ALTERNATIVE FASTENERS
USE AUTOMATIC STAPLER

USE AVAILABLE ALTERNATIVE WORK SURFACE
USE AVAILABLE CHAIR WITH ADJUSTABLE ARMREST(S) FOR FOREARM SUPPORT
USE CART TO MOVE BOXES AND FILES
USE HEAVY EXCAVATION EQUIPMENT (E.G., BACKHOE)
USE HEIGHT ADJUSTABLE ARMRESTS TO SUPPORT THE FOREARM
USE LARGER STAPLER WITH LONGER LEVER ARMS
USE STEP STOOL TO ACCESS HIGH LEVEL SHELVES
USE TWO OR MORE PERSONS TO PERFORM THE LIFT/TRANSFER
USE WELL-FITTING "GRIPPER" GLOVES TO PULL FILES
VENT PORTABLE AIR CONDITIONERS AND OTHER HEAT PRODUCING EQUIPMENT TO OUTDOORS WHEN POSSIBLE
WEAR APPROPRIATE SHOES
IONIZING RADIATION
ACCESS LIMITED TO AUTHORIZED PERSONNEL
ACTIVATION KEY CONTROLLED
DISTANCE
DOSIMETERS WORN PROPERLY
OTHER
REMOVAL OF PERSONNEL, DOSE LIMITATION
STANDARD OPERATING PROCEDURES
TIME
WARNING LABELS
WARNING SIGN ALERTING FEMALES TO NOTIFY TECHNICIAN IF PREGNANT
WARNING SIGN IDENTIFYING EMERGENCY KILL SWITCHES
WARNING SIGN ON ENTRANCE TO KNOCK BEFORE ENTERING ROOM
WARNING SIGNS

LASER - ANSI CLASS 1
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER
WARNING AREA SIGN POSTED (OPERATED WITHOUT PROTECTIVE HOUSING, MPE EXCEEDED)
WARNING/IDENTIFICATION/APERTURE LABELS
LASER - ANSI CLASS 2
ALIGNMENT PROCEDURES
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER
WARNING AREA SIGN POSTED (OPERATED WITHOUT PROTECTIVE HOUSING, MPE EXCEEDED)
WARNING SIGNS
WARNING/IDENTIFICATION/APERTURE LABELS
LASER - ANSI CLASS 3A
ALIGNMENT PROCEDURES
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER
OUTPUT EMISSION LIMITATIONS
WARNING SIGNS
WARNING/IDENTIFICATION/APERTURE LABELS
LASER - ANSI CLASS 3B
ACCESS LIMITED TO AUTHORIZED PERSONNEL
ALIGNMENT PROCEDURES
LIMITATIONS ON SPECTATORS
MAINTENANCE AND SERVICE ONLY BY TRAINED PERSONNEL
MANUFACTURER'S OPERATING, MAINTENANCE AND SERVICING PROCEDURES
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER

OUTPUT EMISSION LIMITATIONS
STANDARD OPERATING PROCEDURES
WARNING SIGNS
WARNING/IDENTIFICATION/APERTURE LABELS
LASER - ANSI CLASS 4
ACCESS LIMITED TO AUTHORIZED PERSONNEL
ALIGNMENT PROCEDURES
LIMITATIONS ON SPECTATORS
MAINTENANCE AND SERVICE ONLY BY TRAINED PERSONNEL
MANUFACTURER'S OPERATING, MAINTENANCE AND SERVICING PROCEDURES
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER
OUTPUT EMISSION LIMITATIONS
STANDARD OPERATING PROCEDURES
WARNING SIGNS
WARNING/IDENTIFICATION/APERTURE LABELS
LASER - OFCS
CONTROLLED AREA DURING SERVICE AND INSTALLATION
INSTALLATION AND SERVICE ONLY BY AUTHORIZED PERSONNEL
OTHER
UNAUTHORIZED PERSONNEL EXCLUDED FROM THE NHZ OF SG3B OR SG4 OFCS DURING INSTALLATION/SERVICE
WARNING LABELS
WARNING SIGNS
LASER-ANSI CLASS 1M
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER
WARNING AREA SIGN POSTED (OPERATED WITHOUT PROTECTIVE HOUSING, MPE EXCEEDED)
WARNING/IDENTIFICATION/APERTURE LABELS

LASER-ANSI CLASS 2M
ALIGNMENT PROCEDURES
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER
WARNING AREA SIGN POSTED (OPERATED WITHOUT PROTECTIVE HOUSING, MPE EXCEEDED)
WARNING SIGNS
WARNING/IDENTIFICATION/APERTURE LABELS
LASER-ANSI CLASS 3R
ALIGNMENT PROCEDURES
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER
OUTPUT EMISSION LIMITATIONS
WARNING SIGNS
WARNING/IDENTIFICATION/APERTURE LABELS
LASER-FDA CLASS I
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER
WARNING AREA SIGN POSTED (OPERATED WITHOUT PROTECTIVE HOUSING, MPE EXCEEDED)
WARNING/IDENTIFICATION/APERTURE LABELS
LASER-FDA CLASS II
ALIGNMENT PROCEDURES
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER
WARNING AREA SIGN POSTED (OPERATED WITHOUT PROTECTIVE HOUSING, MPE EXCEEDED)
WARNING SIGNS
WARNING/IDENTIFICATION/APERTURE LABELS
LASER-FDA CLASS IIA
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL

OTHER
WARNING AREA SIGN POSTED (OPERATED WITHOUT PROTECTIVE HOUSING, MPE EXCEEDED)
WARNING/IDENTIFICATION/APERTURE LABELS
LASER-FDA CLASS IIIA
ALIGNMENT PROCEDURES
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER
OUTPUT EMISSION LIMITATIONS
WARNING SIGNS
WARNING/IDENTIFICATION/APERTURE LABELS
LASER-FDA CLASS IIIB
ACCESS LIMITED TO AUTHORIZED PERSONNEL
ALIGNMENT PROCEDURES
LIMITATIONS ON SPECTATORS
MAINTENANCE AND SERVICE ONLY BY TRAINED PERSONNEL
MANUFACTURERS OPERATING, MAINTENANCE AND SERVICING PROCEDURES
OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER
OUTPUT EMISSION LIMITATIONS
STANDARD OPERATING PROCEDURES
WARNING SIGNS
WARNING/IDENTIFICATION/APERTURE LABELS
LASER-FDA CLASS IV
ACCESS LIMITED TO AUTHORIZED PERSONNEL
ALIGNMENT PROCEDURES
LIMITATIONS ON SPECTATORS
MAINTENANCE AND SERVICE ONLY BY TRAINED PERSONNEL
MANUFACTURERS OPERATING, MAINTENANCE AND SERVICING PROCEDURES

OPERATED BY QUALIFIED AND AUTHORIZED PERSONNEL
OTHER
OUTPUT EMISSION LIMITATIONS
STANDARD OPERATING PROCEDURES
WARNING SIGNS
WARNING/IDENTIFICATION/APERTURE LABELS
MEDICAL REMOVAL
BENZENE
CADMIUM
LEAD
OTHER
PREGNANCY
MISCELLANEOUS
ADJUST WORK SCHEDULE
CHANGE WORK CLOTHES
CHEMICAL HYGIENE PLAN
HOUSEKEEPING AND MAINTENANCE
JOB ROTATION
OTHER
PERSONAL HYGIENE
PROPER HYDRATION
REGULATED AREA
REST BREAKS
SMOKING, DRINKING, EATING NOT ALLOWED
STANDARD OPERATING PROCEDURES
TIME LIMITS
UNIVERSAL PRECAUTIONS
WORK/REST CYCLES
WORKER ISOLATION
WORKER ROTATION
PERSONAL MONITORING DEVICE
ELECTROGONIOMETER
OTHER
PERSONAL GAS MONITOR
PERSONAL RF MONITOR
POCKET DOSIMETER
THERMOLUMINESCENT DOSIMETER
PROCESS BASED
WET METHOD

RFR
CONES
CONSTANT OBSERVATION
OTHER
PRIOR COORDINATION
STANDARD OPERATING PROCEDURES
WARNING SIGNS
SIGNS/DISTANCE
AUDIBLE ALARMS
OTHER
PAINTED LINES
WARNING FLASHERS
WARNING SIGNS
TRAINING
1,2-DIBROMO-3-CHLOROPROPANE
1,3-BUTADIENE
2-ACETYLAMINOFLUORENE
3,3'-DICHLOROBENZIDINE (AND ITS SALTS)
4,4'-METHYLENEDIANILINE
4-AMINODIPHENYL
4-DIMETHYLAMINOAZOBENZENE
4-NITROBIPHENYL
ACRYLONITRILE (VINYL CYANIDE)
ALPHA-NAPHTHYLAMINE
ARC WELDING AND CUTTING
ASBESTOS, AWARENESS
ASBESTOS, WORKER
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