



Department of the Air Force
HQ AEDC (AFMC)
Arnold AFB, TN 37389

Safety, Health, and Environmental Standard

Title: MASTER WORK PERMIT

Standard No.: B1

Effective Date: 09/30/2015

Releasability: There are no releasability restrictions on this document.

The provisions and requirements of this standard are mandatory for use by all personnel engaged in work tasks necessary to fulfill the AEDC mission. Please contact your safety, industrial health and/or environmental representative for clarification or questions regarding this standard.

Approved:



Contractor /ATA Director
Safety, Health and Environmental



Air Force Functional Chief

SHE Standard B1 Master Work Permit

Record of Review/Revision

(Current revisions are highlighted in yellow and marked with a vertical line in the right margin.)

Date/POC	Description
09/01/2015 R. Tate	Revised to incorporate requirements that must be documented in support of the Environmental Impact Analysis Process. Changes “Digging Permit” to “Work Clearance Permit” throughout.
08/09/2013 Tate/Rollins MWP Issuing Official Review Team	Out of cycle review: Clarified definition of Digging Permit Coordinator. Added Requester in Definitions. Paragraph 4.1.2.3 added “This includes but is not limited to Design/Systems/Test Engineering/Technical Personnel” to ensure positive contact is made before personnel enter industrial/test areas, etc. Paragraph 4.1.2.4 added “All personnel escorting potential test customers and/or off base visitors (i.e. ad hoc or no-notice tours) into industrial and construction areas shall coordinate with the Issuing Official for entry and log in and out of the area” to ensure positive personnel responsible for ad hoc or no-notice tours. Paragraph 4.2.2.2 changed point of contact for maintenance of MWP Issuing Official list from Operations Center to Base Operating Contractor Safety. Paragraph 4.2.3 added “Requester” for clarification; eliminated duplication of Digging Permit Coordinator in 4.2.3.2 by adding reference to Paragraphs 4.2.5.1 through 4.2.5.7. Added Section 4.8 to provide responsibilities of Base Operating Contractor Safety. Clarified training responsibilities in Paragraph 5.1. 7.0 REFERENCES added USAF, AFPAM 32-1125V1, “Working In The Operations Management Field.” Revised the annex (GC-1732 instructional example): Added JSR to page 1; revised page 2 for consistency with eMatrix. [Minor grammatical and formatting changes throughout are not marked.]
03/11/2013	Added NFAC Supplement; no other change.
09/09/2011 Rollins/ MWP Issuing Official Review Team	Two year review: Updated format, added Excavation/Digging Coordinator, Lockout/Tagout Complex I, II and Simple Lockout/Tagout to definitions. Definition of Work Performance Log: changed retention period to 12 months from 30 days. Reworded/combined Paragraphs 4.1.1.1 and 4.1.1.4. Paragraph 4.1.2.2 Clarified the paragraph and removed wording for “verbal”; added “will coordinate with MWP IO and sign in/out in Work Performance Log.” Paragraph 4.1.2.3 removed wording for “verbal” added “will at a minimum coordinate with the Issuing Official and sign-in and out on the Work Performance Log.” Paragraph 4.2.1.2 deleted minimum wording requirements. Paragraph 4.2.3.1 added “Complete Section I of the GC-1732 prior to requesting approval from the Issuing Official.” Paragraph 4.2.3.2.2 removed “coordinates any outage.” Paragraph 4.2.3.3 added Excavation/Digging Coordinator and eMatrix® data requirement. Paragraph 4.2.2.6 added “to be maintained for 12 months.” Paragraph 4.2.4.14 added “accessible by alternate(s) IOs.” Paragraph 4.2.4.15 added the word “original” copy for record retention. Paragraph 4.2.5.7 added “(hard copy or electronic).” Paragraph 5.3 added requiring retraining for MWP Issuing Officials who show lack of proficiency.
08/20/09 Wheeler	Annual review; minor administrative changes: Clarified requirement to complete an MWP when work has potential to disrupt activities as defined in Section II of the MWP; Annex – clarified Section V to read “equipment/system” and eliminate requirement for the MWP Issuing Official to verify equipment system is safe to return to operation (the worker already signs that it is acceptable for operation).
06/08/08 R. Wheeler/ C. Bidmead; B1 Working Group	Revised several paragraphs and definitions to more accurately reflect process; deleted definitions which were obsolete or no longer used in the standard; added definition of <i>Section IV Coordinator</i> (Note: Section IV is used to fulfill the requirements of the AF Form 103 Base Civil Engineering Work Clearance.) Modified the MWP. Deleted obsolete flow chart.
02/26/07 R. Wheeler	Minor revision: Revised to include alerting work crews to the appropriate emergency work procedures for the area in which work is to be performed.
11/15/06 R. Wheeler	Minor revision: Added the option of using Matrix for electronic coordination of Section IV, Block 6 on the GC-1732, Master Work Permit.
05/04/06 R Wheeler	Major Revision to incorporate recommendations of the Outage Process Improvement Team, including Form GC-1732 – Read entire standard.
10/27/05 R. Wheeler	Annual review; no change required.
03/21/05 EMSC Review	Clarified revisions to include addition or <i>working foremen</i> in the definition of <i>craft supervisor</i> and incorporation of a sample format for MWP Issuing Official Log (see definitions)

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Date/POC	Description
01/25/05 Eichel/ MWP Review Committee	General revision throughout the standard: Defined responsibilities, implemented requirement for mandatory log by Issuing Official, further clarified when MWP is required, mandatory requirement for all personnel to check in with issuing before performing any work, provided flow chart, and deleted notes page from permit.
10/30/03	Total review and revision as directed by the OGM; formerly "Work Clearances"; renamed "Master Work Permit"; specified use of Form GC-1732 as the Master Work Permit.
08/31/02	Revised Standard to COI format, minor changes throughout standard text, updated annexes.



Safety, Health, and Environmental Standard

MASTER WORK PERMIT

1.0 INTRODUCTION/SCOPE/APPLICABILITY

1.1 Introduction – The Master Work Permit (MWP) is not merely a document, but also a concept where an agreement is made between the Issuing Official and the Party Performing the Work. There are responsibilities on both sides to ensure that both personnel conducting the work and personnel in the general area are protected from hazards.

1.2 Scope – The work performer must clearly communicate the type of work, as well as its duration and impact to systems, equipment and the physical area, and therefore must always make contact with the Issuing Official.

1.3 Applicability – This standard applies to all AEDC personnel and operations, including Air Force, Navy, Army Corps of Engineers and Contractors (including Subcontractors) at the Tennessee location and operations conducted by AEDC personnel outside the confines of Arnold AFB. Training requirements (to include use and inspection) for Subcontractor personnel training requirements are established and provided by their management.

2.0 BASIC HAZARDS/HUMAN FACTORS

The MWP provides a key piece of communication and coordination that aids in identification of hazards associated with all work. By not following the MWP, personnel and equipment may be exposed to harm and/or damage.

3.0 DEFINITIONS

Advisor – The person who provides advice or assistance to the Issuing Official on whether a specific requirement for protection of personnel/equipment is required. Anyone with intimate knowledge of a system or operation can act as an advisor.

Alternate – The person, designated by the responsible management, who performs the duties of the Issuing Official in the absence of the Issuing Official.

Assignee – The person, designated by the responsible management, to perform the duties of the craft supervisor in the absence of the supervisor.

Base Operating Contractor(s) – The long-term contractor(s) directly accountable to the Air Force for the AEDC mission.

Craft Supervisor – The supervisor (or assignee to include working foremen) of the work crew(s) entering or performing work in an area that is the responsibility of an Issuing Official.

Complex Type I Lockout/Tagout (LOTO) – Process where a single lockbox is used to hang locks from individual authorized employees to ensure the safety of workers.

Complex Type II Lockout/Tagout – Process used where operations involve multiple companies/organizations and/or is to be conducted over more than one shift. LOTO is placed on energy sources and keys placed in one or more lockboxes by authorized employee or authorized lead, then secured by the primary authorized employee. The energy isolation devices cannot be unlocked until after the primary authorized employee, each authorized lead and each authorized employee have removed their personal locks from the lockbox. Used where multiple crafts and/or companies are involved in subsystem LOTO to ensure safety of entire system until last subsystem is safe.

Emergency Work – Any work in response to imminent risk to personnel, on-going test, and/or facilities. This includes, but is not limited to potential loss of life, personnel injury, environmental related events, catastrophic and/or serious damage to equipment and/or facilities, etc.

Functional Manager – Management personnel, above craft supervisor level, responsible for a given area and/or resource.

Industrial Areas – Shops, labs, test areas, plant areas, utility areas, warehouses, storage areas, and build-up areas.

Issuing Official – A person who is knowledgeable of all work in a given area and who is designated and authorized by management to issue the MWP.

Master Work Permit (currently Form GC-1732) – A document which, when properly completed and signed by both the Issuing Official and the Party Performing the Work/Craft Supervisor/Assignee, documents that work has been coordinated, authorizes performance of work as specified on the MWP, and ensures protection for concerned personnel and equipment in accordance with AEDC Safety, Health, and Environmental Standard B2 Lockout/Tagout (LOTO). A deviation to the work described on the MWP requires coordination with the Issuing Official. (See attached Annex for instructions on completing the MWP.) Copies of the completed MWP must be retained in accordance with Section 4.2.4 of this standard.

Non-industrial Areas – Office areas, restrooms, break rooms, control rooms, parking lots, public roadways, cafeterias, and similar areas within the fenced area. Non-industrial areas outside the fenced area include Arnold Village, Arnold Lakeside Club, Fam Camp, Gossick Leadership Center, Crockett Cove, roadsides, and similar areas.

Outside Contractor/Subcontractor – An organization employed by a contractor or the Air Force to do construction, maintenance, repair or other work at AEDC. There is no employment relationship, control or supervision of the subcontractor's employees by AEDC contractors. Also referred to as the construction contractor.

Outage – Any action that will affect an asset's ability to perform its intended mission in terms of its advertised capability.

NOTE: An outage **is not equivalent to nor does it replace** an MWP; it may be required *in addition to* an MWP.

Party Performing Work/Work Performer – A work crew under the supervision of a craft supervisor or manager, an outside contractor performing project work for the client or other party at AEDC, an outside contractor performing work directly for the Base Operating Contractor.

Project Manager/Construction Monitor (PM/CM) – An individual responsible for monitoring an outside contractor to ensure adherence to specifications, drawings, environmental, and safety requirements as identified in the contract. Also known as contract monitor.

Requester – The individual requesting the Master Work Permit from the Issuing Official. The requester could be part of the Party Performing Work/Work Performer but has the responsibility to obtain the MWP from the Issuing Official and is also responsible for returning the MWP to the Issuing Official once the job/task is completed.

Scheduler – The role of preparing schedules for work crews by matching available resources to planned and prioritized work orders.

Simple LOTO – Process in which each authorized employee places three or less personal locks on energy isolating devices to protect the authorized employee(s). The keys for these locks are maintained by each authorized employee.

Test Engineer/Coordinator – The individual responsible for overall test operations in a given test unit or facility.

Work – For the purposes of this standard, work is any job activity performed by all personnel. This includes, but is not limited to construction, renovation, demolition, assembly, disassembly, modification, troubleshooting, and repair of facilities and equipment. This does not include mail carriers and storekeepers making deliveries to designated drop points, personnel engaged in office work, or personnel responding to an emergency.

Work Crew – One or more persons assigned to do work.

Work Clearance Coordinator – The person responsible for coordinating all activities that fulfill the requirements of the AF Form 103 Base Civil Engineering Work Clearance (Section IV of the Master Work Permit. The Work Clearance Coordinator will also ensure all necessary information is entered into Matrix for the appropriate coordination and approvals and will provide required electronic drawings. (Formerly known as the Digging Permit Coordinator)

Work Performance Log – A written or computer-generated document containing, as a minimum, the following information: Work Performance Log for Facility (Number and Name), Date In, Time In, Job Description and Location, Name, Org Code, Telephone, Date Out, Time Out. The log identifies all work performed by personnel not normally assigned to the area under the Issuing Official's responsibility and is retained for a minimum of 12 months from the date work is completed.

4.0 REQUIREMENTS/RESPONSIBILITIES/TRAINING/INSPECTIONS

PM/CMs, and others interfacing with test customers and outside contractors shall ensure such personnel are aware of the requirements of this standard to include the need for an MWP and for coordination with the Issuing Official.

This is an uncontrolled document when printed.

4.1 Requirements

4.1.1 Master Work Permit Requirements

The MWP is required for each condition identified in Paragraphs 4.1.1.1 – 4.1.1.6. Additional documents may be required prior to requesting an MWP. These may include USAF Hot Work Permit (AF Form 592) Confined Space Permit (currently Form GC-77), Electrical Hold Order (currently Form GC-631), **AEDC Environmental Work Permit (see SHE Standard A8, Annex B)**, etc. **In all cases where personnel are not under the control of the Issuing Official, the Issuing Official shall be contacted prior to entering the area and/or performing work in any area.**

4.1.1.1 An MWP is required when **any of the following types of work are involved:**

a. Maintenance and/or investment work on a system or equipment requiring other permits

b. Penetration of the subsurface

c. Potential generation of hazardous wastes

d. Potential impact to the environment

e. Complex Type I or II Lockout/Tagout of hazardous energy

f. Simple Lockout/Tagout when the work is to be performed outside of the worker(s) normal assigned area.

***Example:** An MWP is required if a permit-required confined space is being entered as part of the maintenance activity or investment work.*

4.1.1.2 An MWP shall be required when the area where the work is to be performed, is **NOT** under the control of the Party Performing the Work. (For exceptions, see Paragraph 4.1.2.)

4.1.1.3 An MWP is required when maintenance or investment work requires any form of remote system checkout through distributed control systems.

4.1.1.4 When two or more work crews are working in the same area or on the same equipment, each crew shall obtain a separate MWP.

4.1.1.5 When either the Issuing Official, requester, work crew, or scheduler chooses to use the MWP to achieve additional safety, an MWP shall be required even though work may fall under the exceptions addressed in Section 4.1.2.

4.1.1.6 When unplanned/unscheduled work occurs outside normal working hours, the Operations Center shall provide coordination for the MWP using the following process:

4.1.1.6.1 The requestor contacts the Operations Center who identifies the Issuing Official for that area.

4.1.1.6.2 The Operations Center notifies the Issuing Official of the request to execute the work.

4.1.1.6.3 The performing organization (Work Crew) contacts the Issuing Official for the area briefing, instructions, and obtains the MWP.

4.1.1.6.4 Work shall not begin until all hazards have been communicated and necessary protective controls are in place.

4.1.2 Master Work Permit, Exceptions

An MWP may not be required when **all** of the following conditions are met:

a. The area where the work is to be performed is in the area controlled by the Work Performer,

b. Work being performed has no effect on other work,

c. Workers from other areas are not exposed to hazards created during this work,

d. Work will not impact the environment, and

e. Work will not result in generation of hazardous waste.

This shall include the situations identified in Paragraphs 4.1.2.1 – 4.1.2.7. **However, in all cases the Issuing Official shall be contacted and work logged prior to performing work in any industrial area or any work which has the potential to disrupt other activities as defined in Section II of the MWP. All workers in industrial areas conducting activities in an Issuing Official's area of responsibility must log in and out daily as long as work is in progress. This shall not apply to personnel normally assigned to the area or if an outage is required. When an outage is required, Section IV must be coordinated and an MWP issued.**

- 4.1.2.1 Work Performers engaged in such activities as:
 - 4.1.2.1.1 Groundskeepers performing lawn care, including outside an explosive clear zone or evacuated area.
 - 4.1.2.1.2 Workers performing incidental maintenance associated with utility operator/maintainer crews.
 - 4.1.2.1.3 Maintenance craft personnel permanently assigned to test areas who have qualified for this exception at the approval of the Issuing Official because their work is closely coordinated with daily operations.
- 4.1.2.2 Workers performing minor routine maintenance or tasks (such as but not limited to work on office machines, audio/visual equipment, copy machines, PCs printers, phones, etc.) in non-industrial or industrial areas may not require a MWP. However, when entering into industrial areas outside of their normal assigned work area to perform minor routine maintenance, all personnel will at a minimum coordinate with the Issuing Official and sign-in and out on the Work Performance Log.
- 4.1.2.3 Personnel/visitors who request access to the area to gather data, take measurements and/or review drawings will at a minimum coordinate with the Issuing Official and/or sign-in and out on the Work Performance Log to ensure positive contact has been made, and will inform the Issuing Official of the scope of the work they intend to accomplish. This includes but is not limited to Design/Systems/Test Engineering/Technical Personnel.

EXCEPTION: Personnel responding to an emergency; mail carriers, storekeepers, and vendors making deliveries to designated drop points; personnel engaged in office work, or individuals attending meetings, training, luncheons, or ceremonies are not required to sign the log.

- 4.1.2.4 Public Affairs or other official requests to gain access to an area for the purpose of conducting tours, ***providing the Issuing Official has verbally agreed to such activity at the specified time and location.*** The tour group leader for Public Affairs-led tours provides the Issuing Official with the number of personnel in the tour and is responsible for maintaining the list of names of personnel in the tour group. The Issuing Official logs the number of people in the tour and identifies the tour group leader on the log. All personnel escorting potential test customers and/or off base visitors (i.e., ad hoc or no-notice tours) into industrial and construction areas shall coordinate with the Issuing Official for entry and log in and out of the area.
- 4.1.2.5 Uniformed emergency service personnel (fire, police, rescue, emergency management) responding to an “emergency call.” The auxiliary support personnel requested by and under the direction of the uniformed emergency service personnel do not need an MWP during the execution of an emergency call.
- 4.1.2.6 Personnel responding to work defined as “emergency work.” (See definition in Section 3.0 above.) Follow-on work, beyond eliminating the emergency, may require an MWP; however, ***the Issuing Official must, as a minimum, verbally agree to such activity at the specified time and location.***
- 4.1.2.7 Personnel approved by management to conduct unannounced monitoring of work activities. This may include personnel assigned to safety, industrial hygiene, environmental, quality or any Air Force-directed audits. Personnel monitoring work activities must be trained in the hazards of the specific industrial area and ***provide verbal notification to the Issuing Official prior to beginning the inspection.***

4.2 Responsibilities

4.2.1 Management Shall

- 4.2.1.1 Ensure Issuing Officials and PM/CMs for all facilities/projects are appointed. Prior to appointing an Issuing Official, ensure that the individual has been trained as an MWP Issuing Official.
- 4.2.1.2 Ensure signs are posted outside the office, cubical or work location of each Issuing Official and alternate.

4.2.2 Functional Managers Shall

- 4.2.2.1 Appoint sufficient number(s) of qualified Issuing Officials and PM/CMs to adequately cover all facilities/project sites for which they have responsibility.
- 4.2.2.2 Ensure a current contact list and designated location of Issuing Officials and alternates is provided to Base Operating Contractor Safety at initial assignment and whenever there are changes. The contact list shall provide at minimum the Issuing Official and one alternate for each facility/project site.
- 4.2.2.3 Ensure Issuing Officials, alternates, PM/CMs and their future replacements are adequately trained on their duties and responsibilities as an MWP Issuing Official.

- 4.2.2.4 Ensure Issuing Officials, alternates and PM/CMs are provided the necessary tools and time to complete their assigned duties.
- 4.2.2.5 Ensure Issuing Official(s) or alternate is available whenever work is performed to coordinate and issue MWP as required by this standard.
- 4.2.2.6 Ensure that the Issuing Official/alternate establishes a written tracking mechanism to be maintained in accordance with Paragraphs 4.2.4.14 and 4.2.4.15 for issued MWPs and personnel who are working in their areas. (See definitions for minimum requirements.)
- 4.2.2.7 Ensure that the Craft Supervisor or work crew contacts the Issuing Official and that the work is not started until hazards have been communicated and protective controls are in place where necessary.

4.2.3 Requesting Individual (i.e. Requester, Supervisor or Assignee) Shall

- 4.2.3.1 Complete Section I of the MWP prior to requesting approval from the Issuing Official and ensure that Section IV of the MWP is coordinated if work may disrupt aircraft or vehicular traffic flow (road closure), base utility services, digging, excavation, trenching, concrete cutting, wall cutting, demolition, base security compromise, base communications compromise, railroad, base impact to electrical distribution, base fire protection interruption, base environmental impact, base services impact, high pressure air, construction, building or grounds, drainage system, or interruption of building services. For outages, coordination must be accomplished prior to the required outage.
- 4.2.3.2 Ensure MWP Section IV is initiated by the individual requesting or overseeing the work (i.e., PM/CMs, engineer, or supervisor), and complete Blocks 1 through 3 of Section IV.
NOTE: The initial Section IV is for coordination only; it is not permission to work. **Section IV must be completed before Section III can be completed.** Section IV is used to fulfill the requirements of the AF Form 103 Base Civil Engineering Work Clearance. (See 4.2.5 for additional information.)
- 4.2.3.3 Ensure the **Work Clearance** Coordinator has coordinated and approved MWP Section IV; this person will ensure all necessary coordination information is entered into Matrix for the appropriate approvals.
- 4.2.3.4 Clearly communicate the exact type of work, its duration and impact to systems, equipment and the physical area.
- 4.2.3.5 Ensure personnel performing the work and personnel in the general area are protected from hazards.
- 4.2.3.6 Ensure any deviations from the scope of the original MWP are clearly communicated and coordinated with the Issuing Official.**
- 4.2.3.7 Sign the MWP in Section V when required. (See Annex for instructions for completing the MWP.)
- 4.2.3.8 Transfer the MWP to another individual if original requestor will not be available to sign off when the work has been completed. The transfer section is located at the bottom of Section V of the MWP.
- 4.2.3.9 Ensure the original approved MWP is returned to the Issuing Official after work is completed, an inspection had been made, the area has been cleaned up, and the equipment is ready for operation

4.2.4 Issuing Official Shall

- 4.2.4.1 Coordinate the work with the requestor and clearly communicate the hazards associated with the area. This includes making contact with crews already working when circumstances/conditions change and alerting work crews to the appropriate emergency work procedures for the area in which work is to be performed.
- 4.2.4.2 Ensure that personnel conducting the work *and* personnel in the general area are protected from area hazards and hazards created by the work performed.
- 4.2.4.3 Ensure protective measures and controls (to include lockout/tagout) are in place to prevent unintentional startup or shutdown of systems and equipment if applicable.
- 4.2.4.4 Be familiar with the operations and maintenance within the designated area of responsibility.
- 4.2.4.5 Complete mandatory initial MWP training prior to being assigned as an Issuing Official and every three years thereafter.
- 4.2.4.6 Know the area subject matter experts and who else is available for assistance or as advisors.
- 4.2.4.7 Inform the Craft Supervisor of the hazards that may be encountered by the Party(s) Performing Work.

- 4.2.4.8 Coordinate with Test Engineers/Coordinators responsible for areas that may impact test/plant operations.
- 4.2.4.9 Ensure the organization responsible for operation of equipment that may be taken out of service has been contacted and approval has been granted.
- 4.2.4.10 If unsure of the impact of removing the equipment or system from service for an outage, contact the responsible system engineer.
- 4.2.4.11 Issue the MWP for the area under his or her responsibility.
- 4.2.4.12 Sign the MWP when issuing the MWP and in Section V when the work is completed, an inspection has been made, protection has been removed if applied by the work performer, the area has been cleaned up, and the equipment is acceptable for operation.
- 4.2.4.13 Establish and maintain a Work Performance Log for personnel working in industrial areas under their responsibility. This can be a log book or computer data base. (See definitions for minimum requirements.)
- 4.2.4.14 Establish a written tracking mechanism (log book or computer data base) for issued MWPs and personnel who are working in their areas. This should include as a minimum the date issued, time in, due date, job description, name of requester, phone number of requester, date out, and time out. This log must be made accessible by alternate(s) Issuing Officials.
- 4.2.4.15 Retain an electronic file (scanned copy) of the completed original approved MWP for 12 months from the date work or project is complete.

4.2.5 Work Clearance Coordinator Shall

- 4.2.5.1 Ensure that Section IV Blocks 4 through 5 is coordinated and completed.
- 4.2.5.2 Process the request with each organization listed in Section IV, Block 5 as applicable.
- 4.2.5.3 Ensure that coordination is accomplished using Matrix.
- 4.2.5.4 Verify any special conditions such as underground utilities are specifically annotated in Section IV.
- 4.2.5.5 Ensure that appropriately marked electronic maps are provided to the Requesting Individual.
- 4.2.5.6 Notify the individual requesting Section IV that the form is ready for pickup when all clearance reviews are complete.
- 4.2.5.7 Sign Section IV coordination either hard copy or electronic. This signature documents that all coordination has been completed.

4.2.6 Personnel (Workers/Work Performing Organization) Shall

- 4.2.6.1 Before requesting an MWP, complete the Job Safety Analysis/Review (JSA/JSR) for the work to be performed.
- 4.2.6.2 Perform no work, as defined in this standard, until contact has been made with the Issuing Official, and the Issuing Official has either issued an MWP or logged work.
- 4.2.6.3 Follow requirements spelled out in the MWP.
- 4.2.6.4 Review the MWP, paying special attention to any notes in Sections III and IV before beginning work. Make any revisions to the JSA/JSR that may be necessary to comply with the conditions of the MWP.
- 4.2.6.5 Ensure any deviations from the scope of the original MWP are clearly communicated and coordinated through the re-issuance of a modified MWP.
- 4.2.6.6 Notify the Issuing Official when job is complete, a suspension of work is required, or when there are significant changes in scope or schedule.
- 4.2.6.7 Return the *signed off* MWP to the Issuing Official when the job is complete.
- 4.2.6.8 Complete initial MWP training and refresher training every three years thereafter.

4.2.7 Project Managers/Construction Monitors Shall:

- 4.2.7.1 Assist in obtaining proper MWP and other associated permits in accordance with this standard and other AEDC SHE Standards.
- 4.2.7.2 Ensure outside contractors have received the required AEDC safety orientation.

NOTE: Outside contractors will have badges to indicate they have received the safety orientation.

- 4.2.7.3 Brief outside contractors on the requirements of Standard B1 and access to industrial areas.
- 4.2.7.4 Ensure that any deviations from the scope of the original MWP are clearly communicated with the Issuing Official and coordinated through the re-issuance of a modified MWP.
- 4.2.7.5 Sign the MWP in Section V when/where required. (See Annex for instructions.)
- 4.2.7.6 Complete initial MWP training and refresher training every three years thereafter.

4.2.8 Base Operating Contractor Safety Shall:

- 4.2.8.1 Maintain a current listing of Issuing Officials, alternates, and their designated areas of responsibility based upon information provided by functional managers. (See Paragraph 4.2.2.2.)
- 4.2.8.2 Ensure availability of MWP training in accordance with Section 5 of this standard.

5.0 Training

- 5.1 Base Operating Contractor Safety in conjunction with the Base Operating Contractor Training Office shall provide MWP Issuing Official training for primary and alternate Issuing Officials to ensure they can perform their duties. Training shall be required initially before an employee is assigned duties as an Issuing Official and every three years thereafter. This will be accomplished via classroom training conducted by designated Base Operating Contractor personnel.
- 5.2 MWP training for all AEDC personnel who work in, or could potentially work in, industrial areas, including craft, project managers, engineers, and technical professionals, shall be conducted annually via computer-based training. Outside contractors shall be briefed on the MWP process during their initial AEDC safety briefing prior to starting any work.
- 5.3 MWP Issuing Officials who demonstrate a lack of proficiency shall be removed from the authorized MWP Issuing Official List until they satisfactorily complete retraining.

6.0 Inspections/Audits

MWP audits shall be conducted by designated officials (Safety, Quality, Operations, etc.) separately or in conjunction with lockout/tagout (LOTO) audits, safety observations, and other similar activities.

7.0 REFERENCES

USAF

AFPAM 32-1125V1, Working in the Operations Management Field

AEDC Safety, Health and Environmental Standards

- A6 User and Subcontractor Safety
- A10 Job Safety Analysis (JSA)
- B2 Lockout/Tagout
- B3 Control of Hazardous Areas
- B5 Confined Spaces
- C5 Welding and Cutting

8.0 ANNEX

Instructions for Completing the Master Work Permit

9.0 SUPPLEMENT

NFAC A321-0801-XSP B1 Master Work Permit

ANNEX

Instructions for Completing the Master Work Permit

MASTER WORK PERMIT DETAILED INSTRUCTIONS FOR COMPLETING THIS FORM ARE IN SAFETY STANDARD B1, MASTER WORK PERMIT.

SECTION I – III (TO BE APPROVED BY ISSUING OFFICIAL)

REQUESTER <i>THE SUPERVISOR OR HIS DESIGNEE (THIS SHOULD BE THE SUPERVISOR IF POSSIBLE)</i>	ORGANIZATION/COMPANY	PHONE
WORK REQUESTED <i>DESCRIBE THE WORK TO BE DONE.</i>	WORK LOCATION <i>DESCRIBE THE LOCATION OF THE WORK TO BE DONE. SPECIFY THE AREA AND BOUNDARY OF THE WORK LOCATION</i>	
PERSON AND/OR CREW PERFORMING WORK <i>IDENTIFY THE WORKERS/CREW PERFORMING THE WORK.</i>	ORGANIZATION/COMPANY	PHONE
CRAFT SUPERVISOR <i>INITIAL OR SIGN IF NOTED AS REQUESTER</i>	ORGANIZATION/COMPANY	PHONE

SECTION II – GO TO SECTION IV IF ANY BOXES CHECKED, OTHERWISE GO TO SECTION III IF SECTION IV IS REQUIRED, COMPLETE SECTION III AFTER COMPLETING SECTION IV.

<input type="checkbox"/> ELECTRICAL DISTRIBUTION	<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> INTERRUPTION OF BLDG. SERVICES	<input type="checkbox"/> BASE ENVIRONMENTAL IMPACT
<input type="checkbox"/> UTILITIES IMPACT (PHONE, WATER, GAS)	<input type="checkbox"/> DEMOLITION	<input type="checkbox"/> PAVEMENTS/GROUNDS	<input type="checkbox"/> AIRFIELD
<input type="checkbox"/> DIGGING/EXCAVATION	<input type="checkbox"/> BASE SERVICES IMPACT	<input type="checkbox"/> DRAINAGE SYSTEM	<input type="checkbox"/> RAILROAD
<input type="checkbox"/> SECURITY COMPROMISE/IMPACT	<input type="checkbox"/> ROAD CLOSURE/TRAFFIC FLOW	<input type="checkbox"/> STEAM SYSTEM	<input type="checkbox"/> WALL/FLOOR/CONCRETE CUTTING
<input type="checkbox"/> BASE FIRE PROTECTION INTERRUPTION	<input type="checkbox"/> BASE COMMUNICATIONS	<input type="checkbox"/> TRENCHING	<input type="checkbox"/> OTHER _____

SECTION III

SUPPORTING DOCUMENTATION REQUIRED

OUTAGE, OUTAGE NUMBER _____ - NOTE: IF WORK INVOLVES IMPACT TO TEST OR FACILITY OPERATIONS, OR UTILITY INTERRUPTION, AN OUTAGE WILL BE REQUIRED.

ELECTRICAL HOLD ORDER (ABOVE 600 VOLTS) HOLD ORDER NUMBER _____

CONFINED SPACE ENTRY: PROCEDURE NUMBER _____

FIRE PROTECTION SERVICES (EXT 5648) CONTACTED FOR LOCAL FIRE PROTECTION INTERRUPTION: PERSON CONTACTED: _____ *CALL 5648*

PROTECTION REQUIRED: (IF ADDITIONAL SPACE IS NEEDED, ATTACH ADDITIONAL SHEETS)

MECHANICAL _____ *HOW IS THE STORED MECHANICAL ENERGY (ACCUMULATOR, SPRING, COILS, VALVES, ETC.) TO BE MADE SAFE?*

ELECTRICAL _____ *HOW IS THE ELECTRICAL ENERGY TO BE MADE SAFE?*

HYDRAULIC _____ *HOW IS THE HYDRAULIC ENERGY TO BE MADE SAFE?*

CHEMICAL _____ *HOW IS THE CHEMICAL ENERGY OR POTENTIAL HAZARDS OF CHEMICALS TO BE MADE SAFE? ARE THERE SPECIAL PPE REQUIREMENTS?*

PNEUMATIC (HIGH/LOW PRESSURE) _____ *HOW WILL THE PNEUMATIC (TYPICALLY HIGH- OR LOW-PRESSURE AIR) ENERGY BE MADE SAFE?*

GASEOUS _____ *HOW IS THE GASEOUS ENERGY TO BE MADE SAFE?*

THERMAL _____ *HOW ARE THERMAL HAZARDS TO BE CONTROLLED? ARE HEAT-RESISTANT GLOVES REQUIRED? IS VENTILATION REQUIRED TO PREVENT HEAT INJURY?*

HAZARDOUS MATERIALS _____ *WHAT HAZARDOUS MATERIALS ARE BEING USED? WHAT PROTECTION IS REQUIRED? IS AN SDS AVAILABLE FOR THE MATERIAL?*

ENVIRONMENTAL _____ *WHAT ENVIRONMENTAL IMPACTS ARE THERE TO THE WORK AND PROTECTION REQUIRED? IDENTIFY ANY SPILL EQUIPMENT AND REPORTING REQUIREMENTS.*

FLAMMABLES (i.e., FUEL, GAS) _____ *CONSIDER SPARK SOURCE AND PROTECTION. WHAT PROTECTION IS REQUIRED TO PREVENT FIRE OR EXPLOSION?*

EXPLOSIVES _____ *IS THE AREA APPROVED FOR EXPLOSIVES USE? WHAT SPECIAL PRECAUTIONS ARE IN PLACE OR NEEDED TO PREVENT MISHAP?*

FALL HAZARD _____ *IS FALL PROTECTION REQUIRED? AVAILABLE? CAN RAILS OR OTHER FORMS OF FALL PREVENTION BE INSTALLED?*

OUTSIDE CONTRACTORS _____ *ARE SPECIAL CONSIDERATIONS NECESSARY FOR PROTECTING OUTSIDE CONTRACTORS AND/OR AEDC PERSONNEL?*

OTHER _____ *LIST ANY OTHER HAZARDS WHICH REQUIRE PROTECTIVE MEASURES AND/OR CONTROL MEASURES*

LOTO: SIMPLE COMPLEX I OR COMPLEX II *CHECK WHICH TYPE OF LOCKOUT/TAGOUT WILL BE REQUIRED. SEE SAFETY STANDARD B2.*

PROCEDURE ATTACHED OR DESCRIBE HERE (NOT REQUIRED FOR SIMPLE LOTO) _____

PPE REQUIRED (SPECIFY) _____ *LIST PERSONAL PROTECTIVE EQUIPMENT REQUIRED*

INDUSTRIAL HYGIENE MONITORING _____ *WILL INDUSTRIAL HYGIENE PERSONNEL AND/OR EQUIPMENT BE NEEDED? LIST WHAT EQUIPMENT AND PERSON TO CONTACT.*

CONTROL OF HAZARDOUS AREA (SIGNS, ROPES, BARRICADES) _____ *DESCRIBE WHERE ROPE/BARRICADE GOES. ENSURE SIGN IS PROPERLY PUT ON ROPE BARRICADE.*

CONTROL OF CHEMICALS (TO INCLUDE WASTE GENERATED) _____ *DESCRIBE METHODS TO CONTROL CHEMICALS AND ANY WASTE GENERATED.*

SECURITY _____ *DESCRIBE SECURITY ISSUES AND CONTROL MEASURES.*

SAFETY OFFICE _____ *WILL SAFETY OFFICE SUPPORT BE REQUIRED?*

WELDING OR GRINDING (AF FORM 592) _____ *CALL 5648. NOTE: BRIEF REQUESTER TO RETURN FOR A WELDING PERMIT IF CONDITIONS CHANGE AND WELDING IS REQUIRED.*

ENSURE ALL PROTECTIVE CONTROLS ARE IN PLACE LOTO CONFINED SPACE BARRICADES FALL PROTECTION OTHER _____

ENSURE ORGANIZATIONAL COORDINATION HAS BEEN COMPLETED AS NECESSARY _____ *COMMUNICATE WITH TEST ENGINEERING, SUPERVISION, ETC., FOR WORK TO BE DONE.*

BRIEF WORKER(S) ON WORKPLACE HAZARDS, REQUIRED CONTROLS, AND REVIEW JSA/JSR

DATE/TIME ARRIVED AT JOB SITE _____ *TO BE COMPLETED BY ISSUING OFFICIAL*

MASTER WORK PERMIT DURATION AUTHORIZED NOTE: ENSURE SECTION IV IS COMPLETE (IF APPLICABLE) BEFORE SIGNING BELOW.			
<input type="checkbox"/> AM <input type="checkbox"/> PM	TO	<input type="checkbox"/> AM <input type="checkbox"/> PM	
_____ TIME	_____ DATE	_____ TIME	_____ DATE

AEDC MASTER WORK PERMIT EXTENSION	
PERMIT EXTENDED TO _____	<input type="checkbox"/> AM <input type="checkbox"/> PM _____ DATE
APPROVED _____	ISSUING OFFICIAL

AUTHORIZING SIGNATURES

<i>AUTHORIZED EMPLOYEE SIGNS WHEN LOTO REQ'D (SEE SHE STD B2)</i>		<i>REQUESTER/SUPERVISOR SIGNS AFTER COMPLETION OF FORM</i>	
1. SYSTEM/EQUIPMENT LOTO VERIFIED BY	DATE:	2. WORK REQUESTER/CRAFT OR SUBCONTRACTOR SUPERVISOR	DATE:
3. PROJECT MANAGER/CONSTRUCTION MONITOR <i>PM/CM SIGNS WHEN OUTSIDE CONTRACTOR PERFORMS WORK</i>	DATE:	4. ISSUING OFFICIAL <i>ISSUING OFFICIAL SIGNS AFTER ALL OTHER APPROVALS ARE IN PLACE</i>	DATE:

A321-0801-XSP B1 Master Work Permit Supplement

This supplement has been approved for the NFAC Site.

Review: This supplement will be reviewed and updated using the same cycle as the AEDC Safety, Health, and Environmental (SHE) Standard B1 Master Work Permit.

References: AEDC SHE Standard B1 Master Work Permit

Scope:

This supplement is provided as a guide to aid in the communication and coordination of the identification of hazards associated with all work taking place at the NFAC. The primary intent of this supplement is to offer guidance to mitigate exposure to harm and/or damage of personnel and equipment.

This applies to all NFAC Staff, customers, and vendors.

NFAC Worksite Application:

In keeping with the intent of the AEDC Master Work Permit process, NFAC personnel will utilize the AEDC Safety Standard B1 as a foundational reference guide, however it is planned that existing documentation prepared by NASA and NFAC personnel will be utilized for overarching guidance for similar NFAC operations as those at AEDC requiring the use of the Master Work Permit.

The primary documents used for controlling work flow activities at the NFAC are listed below. The table of contents for each of these documents is divided into chapters by specific topic for easy and concise extraction of information.

- NASA Ames Procedural Requirements APR 1700.1 – Ames Health and Safety Manual
- NASA Ames Procedural Requirements APR 8715.1 – Ames Health and Safety Manual (update revision)
- NASA Ames Procedural Requirements APR 8800.3 – Ames Environmental Handbook
- ATOM Health, Safety and Environmental (HSE) Procedure – Safe Plan of Action (HSEP 2.16)

The Safe Plan of Action (SPA) is a core element of the NFAC Safety program and defines the approach and tools used to accomplish pre-task planning. Pre-task planning shall be performed for any activity or task that could reasonably present a risk of injury, illness, environmental, or property damage to all personnel working at the NFAC Site. The SPA shall be used prior to starting field or shop work tasks and higher risk, non-routine activities in the office or prior to operating equipment, including motor vehicles.

The SPA procedure applies to all activities performed by NFAC employees, subcontractors, or other contractors performing work at the NFAC Site. If subcontractors are involved, it is permissible that the subcontracting organization may utilize internal documentation similar to the SPA in order for their work crews to have consistent and familiar documentation during the execution of their tasks. Subcontractor versions of the SPA will be coordinated with and approved by the NFAC Safety Engineer prior to work proceeding. NFAC employees will also utilize the NFAC SPA form A321-0801-XSF-01 or A321-0801-XSF-02 to outline the work steps to be performed, the responsible parties and hazard mitigation.

A321-0801-XSP B1 Master Work Permit Supplement

Requirements/Responsibilities:

- I. NFAC Management shall
 1. Ensure that all work rules are followed in accordance with this supplement.
 2. Ensure that necessary resources are available for effectively implementing pre-task planning and SPA development.
- II. NFAC Supervisors and Project Managers shall
 1. Lead the development, implementation and review of the SPA for work activities to be accomplished in their given area of control.
 2. Ensure that an approved Hazard Assessment be provided to the ATOM Procurements Office when a Purchase Request is required to obtain "On Site" work.
- III. NFAC Safety Engineer/Management Designee shall
 1. Assess all SPAs generated at NFAC.
 2. Facilitate implementation, monitoring, and training associated with pre-task planning, and work with NFAC management to ensure that the appropriate focus is placed on identifying hazards/risk potential and actions necessary to improve pre-task planning.
 3. Based on NFAC Management discretion, perform a Hazard Analysis and provide results of analysis to the NFAC Management and Project Managers.
- IV. NFAC Staff shall:
 1. Participate in pre-task planning at the appropriate level for all tasks requiring the SPA.
 2. Periodically review work activities to ensure that all hazards are identified and mitigated within the SPA.