BY ORDER OF THE SECRETARY OF THE AIR FORCE

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Civil Engineering

PLANNING AND PROGRAMMING FIRE SAFETY DEFICIENCY CORRECTION PROJECTS

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This publication implements Air Force policy directive (AFPD) 32-10, *Installations and Facilities*; Department of Labor, Occupational Safety and Health Administration (OSHA) standards; the Code of Federal Regulations (CFR); applicable Unified Facilities Criteria (UFC); National Fire Protection Association (NFPA) regulations; and other national consensus standards cited herein. It establishes a program to identify, manage, and correct fire safety deficiencies (FSD) as defined within this instruction. It provides objective criteria for determining proper classification of FSDs and the process for correcting, deferring, and reporting FSDs. It supports processes implemented by AFPD 32-20, *Fire Emergency Services*, and Department of Defense Instruction (DODI) 6055.6, *DoD Fire and Emergency Services (F&ES) Program*, for delivery of fire prevention services. This instruction applies to US Air Force (USAF) active and reserve component installations and activities in the United States. It also applies to USAF enduring locations outside the United States. It does not apply to contingency locations. This instruction applies to all USAF, Air Force Reserve (USAFR), and Air National Guard of the United States (ANGUS) military and civilian personnel. This publication may be supplemented at any level, but all direct supplements must be routed to the office of primary responsibility (OPR) of this publication for coordination prior to certification and approval. The authorities to waive wing/unit level requirement in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or, alternately, to the publication OPR for non-tiered compliance items. Refer recommended changes and questions about this publication to the OPR using AF Form 847,

Recommendation for Change of Publication; route AF Forms 847 from the field through the appropriate functional chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF CHANGES

This revision clarifies the intent of the fire safety deficiency program to mirror other requirement prioritization processes. This revision prevents small, high-priority fire safety deficiencies from exercising a disproportionate impact on the requirements prioritization process, and reduces the base-level management burden when installation resources have been allocated to correct a deficiency. Civil engineering program management terminology is updated to reflect the evolving asset management processes.

1. Overview. 2
2. Roles and Responsibilities. 3
3. Fire Safety Deficiency (FSD). 5
4. Processing and Managing FSDs. 7
5. Authority Having Jurisdiction (AHJ). 10

Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION 12

Attachment 2—FIRE SAFETY DEFICIENCY CODE DECISION MATRIX 18

Attachment 3—FIRE PROTECTION ENGINEERING ANALYSIS/REVIEW MATRIX 20

1. Overview.

1.1. **Purpose.** This instruction defines roles and responsibilities and is designed to help effectively identify, plan, program, and advocate for the resources required to fix existing fire safety deficiencies (FSD) and avoid them during new construction.

1.2. **Scope.** This instruction implements the fire protection engineering policies established for the Air Force in Unified Facilities Criteria (UFC) 3-600-01, *Fire Protection Engineering for Facilities*. **(T-1)**

1.3. **Background.** The procedures in this instruction are designed to effectively identify, plan, program, and advocate for the resources required to correct existing FSDs and avoid them in new construction. This policy guidance supersedes *Fire Protection Policy Guidance, Determining Fire Safety Deficiency (FSD) Codes*, dated 17 March 2006. This guidance addresses the findings and the recommendations made by the Air Force Inspector General's FSD Eagle Look Inspection Report published in August 2006. These new objective

procedures are a complete departure from the FSD procedures previously included in AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program*, to address the findings and incorporate the recommendations made by the FSD Eagle Look Inspection Report. This guidance supersedes the procedures in AFI 91-301, Instructions for Deriving RACs for Fire Safety Deficiencies.

2. Roles and Responsibilities.

2.1. **Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure (SAF/IEE).** SAF/IEE establishes and provides oversight of policies relating to real property, real property systems and components, and engineering services, and grants waivers to those policies in appropriate circumstances. SAF/IEE is the approval authority for facility projects exceeding a certain cost or of a certain type.

2.2. **Director of Civil Engineers (HQ USAF/A4C).** HQ USAF/A4C provides programming guidance, oversight, and policy as required. HQ USAF/A4C reviews, validates, and approves operation and maintenance (O&M) funded projects classified as repair, unspecified minor military construction, or for operational requirements exceeding the Active Air Force MAJCOM commander's delegated approval authority. HQ USAF/A4C, through the Installation Support Panel, makes recommendations to the Assistant Secretary of the Air Force for Financial Management and Comptroller (SAF/FM), and the Air Force Group, Board, and Council on requirements for, and appropriate allocation of, resources.

2.3. **Reserve Component (RC) Headquarters and MAJCOMs**. RC headquarters and MAJCOMs provide oversight to ensure compliance with the law and Department of Defense and Air Force policies. MAJCOMs are responsible for establishing quality standards; providing MAJCOM-unique guidance to supplement Air Force policies, procedures, and instructions; validating requirements identified by their installations; developing and advocating for sustainment, restoration and modernization (S/R&M) projects; promoting timely obligation of funds; project approval within delegated approval authorities; and execution of projects. The ANG Civil Engineer and AFRC Civil Engineer perform these MAJCOM functions for their installations. The ANG Civil Engineer and AFRC Civil Engineer will process packages for SAF/IEE approval for O&M-funded (repair or unspecified minor military construction) projects exceeding approval authority of their MAJCOMs. For ANG or AFRC installations the responsibilities described within this instruction must be prescribed by the ANG Civil Engineer and AFRC Civil Engineer if the organizational structure at the installation does include the following roles. **(T-1)**

2.4. **Installation Commander.** The installation commander’s responsibilities include the following:

2.4.1. Provide workplaces for all Air Force employees that are free from fire safety deficiencies to the extent possible and require unit commanders, tenant commanders, functional managers, and supervisors to enforce AFOSH program requirements within their areas of responsibility. If fire safety deficiencies exist, eliminate or control them through engineering, substitution, isolation, administrative controls, revised procedures, special training, or personal protective clothing and equipment (PPE). **(T-1)**

2.4.2. Ensure qualified personnel evaluate and assign FSDs.

2.4.3. Review FSD-abatement projects and establish priorities.

2.5. **Base Leadership.**

2.5.1. **Facility Board (FB).** Reference AFI 32-10142, *Facilities Board*. **(T-1)**

2.5.2. **Functional Manager.** The organizational commander responsible for the care, custody, and protection of assigned real property will initiate the process to correct existing FSDs and assist in preventing the creation of new FSDs. **(T-1)** Responsibilities include the following:

2.5.2.1. Ensure compliance with fire prevention requirements in their areas of responsibility. **(T-1)**

2.5.2.2. Provide workplaces that are free from fire safety deficiencies and conduct self-inspections for fire safety hazards and deficiencies **(T-1)**

2.5.2.3. Establish and implement hazard reporting and abatement programs. **(T-1)**

2.5.2.4. Establish procedures for employees to follow in situations of imminent danger. **(T-1)**

2.5.2.5. Enforce compliance with OSHA guidelines. **(T-1)**

2.5.3. **Facility Manager (Building Manager).** The facility/building manager works for the functional manager and is ultimately responsible for, *submitting the work request*, or calling in the work order to correct an FSD. The installation fire prevention office is available to assist the facility manager in completing the work request by identifying necessary corrective actions and the applicable design standard. **(T-2)**

2.6. **Civil Engineering.**

2.6.1. **Base Civil Engineer (BCE) / Installation Fire Marshal.**

2.6.1.1. The BCE approves FSD Code assignments that impact priority facilities mission continuity or generate a loss potential in excess of $5 million. **(T-2)**

2.6.1.2. The BCE semi-annually briefs the Environment, Safety and Occupational Health Council (ESOHC) on any FSDs I and II remaining open or completed since the last briefing and annually briefs the ESOHC on the total number of FSD IIIs corrected during the past year. **(T-3)**

2.6.2. **CE Engineering Flight (CEN).** The chief of the engineering flight is responsible for ensuring that projects meet the requirements in UFC 3-600-01. **(T-0)** The engineering flight chief also ensures that the fire protection engineering analysis using operational risk assessment processes is performed in accordance with paragraph 4.6 of this instruction. **(T-3)** Programmers are responsible for developing the documentation for the project (e.g., DD Form 1391, *FY__ Military Construction Project Data*) in accordance with AFI 32-1032, *Planning and Programming Appropriated Funded Maintenance, Repair, and Construction Projects*. **(T-1)** Programmers ensure the complete solution set to an FSD is addressed as well as ensure the FSD is correctly annotated in the Civil Engineering Project Management database. Engineers/designers need to ensure new FSDs are not created **(T-2)**

2.7. **Fire Emergency Services Flight.** The fire emergency services flight is normally responsible for identifying FSDs. Once identified, the fire emergency services flight shall be

involved in the work order review boards, facility working group meetings, and/or design review meetings. The fire emergency services flight will also attend pre-construction meetings and final facility inspections to ensure that fire safety policies and practices are being followed and that the FSD is properly corrected. Responsibilities include the following:

2.7.1. Conduct fire protection inspections and assessments. **(T-1)**

2.7.2. Evaluate fire hazard reports and coordinate actions with installation ground safety personnel as required. **(T-1)**

2.7.3. Assign risk assessment codes (RAC) to fire-related hazards IAW AFI 91-202 and/or FSD rating to FSDs IAW this instruction and coordinate them with safety officials as required. **(T-2)**

2.7.4. Maintain copies of OSHA standards, AFOSH related instructions/guidance and other fire prevention guidelines. **(T-2)**

2.7.5. Maintain a file of approved permanent exemptions or alternative/equivalency exemptions related to fire protection standards and requirements.**(T-1)**

2.7.6. Maintain a file of approved mitigation/corrective action plans developed under this guidance to fire-related standards. **(T-2)**

3. Fire Safety Deficiency (FSD).

3.1. **Existing Facilities.** Existing facilities on which no work is planned or underway are assumed to have been correctly constructed in accordance with the codes and standards in effect at the time of design/construction. Those standards in effect at the time the original construction project reached the 35 percent design complete stage are normally considered to be the design basis for the fire protection features of the facility. **(T-1)**

3.1.1. An FSD exists when it can be clearly demonstrated that some feature within the facility specifically did not meet the minimum construction standards in effect at the time of design or construction. **(T-1)**

3.1.2. An FSD exists when it can be shown the facility was modified or renovated and it can be clearly demonstrated that the modified or renovated feature specifically did not meet the minimum construction standards in effect at the time of design, modification, or construction. **(T-1)**

3.1.3. An FSD exists when it can be shown the facility occupancy (classification) changed and the building features did not meet the minimum construction standards in effect at the time of the occupancy change. **(T-1)**

3.1.4. An FSD exists when there is a current code or standard that specifically requires a retroactive level of installed fire protection or life safety features which are not met in an existing facility. FSDs are not created simply because current or future criteria require additional or different fire protection features than those currently installed in an existing facility unless there is a specific retroactive requirement. **(T-1)** Generally, NFPA 101, *Life Safety Code®*, establishes the specific minimum fire protection feature requirements for existing buildings; however, there are a few other standards which address specific occupancies and these could also cause an FSD. To apply to all buildings immediately, a

new requirement must have specific guidance that the technical requirement is mandatory in all current existing buildings (much like NFPA 101 has specific chapters establishing the standards for existing occupancies). Failure to comply with Life Safety Code may, in fact, be a hazard and therefore qualify for a RAC. Consult with the safety office for this determination.

3.1.5. An FSD exists when the current installed fire protection features (e.g., construction elements, separation elements, fire detection/alarm systems, fire suppression systems) are not adequate for the current conditions (e.g., assets, materials, mission) in the facility. **(T-2)** These conditions may result from changes in commodity configurations and/or materials, changes in function operations (such as open storage to rack storage), change in process from a manual operation to an automatic or electronic operation, change from routine administrative operations to 24/7 command and control, and change from a test platform to an operational mission platform.

3.1.6. An FSD exists when it can be shown the facility operations or mission changed and the building features did not meet the minimum construction standards in effect at the time of the change. FSDs are not created simply because current or future criteria require additional or different fire protection features than those currently installed in an existing facility; an FSD only exists if there is a protection deficiency, unless there is a specific change in risk exposure.

3.1.7. An FSD identified during a fire inspection that is not corrected during the inspection visit will require the fire inspector to prepare an AF Form 1487, *Fire Prevention Visit Report.* This in turn may require the fire inspector to assist the facility manager with filling out and turning in a job order (minor work) or work request to correct the deficiency. **(T-2)**

3.2. **New Facilities.** New facilities shall include all the fire protection features required by applicable codes and standards. Any failure to meet any fire protection feature will create an FSD. **(T-1)** The fire chief or his/her designated representative provides consultation and design recommendations regarding firefighting operational requirements. The fire chief is not responsible for fire protection or life safety system designs. The fire chief coordinates on design drawings to signify for the fire department that firefighting operational recommendations have been incorporated. This coordination does not indicate acceptance or approval of the fire protection engineering design. **(T-2)**

3.3. **Conflicting Criteria.** If conflicts exist among criteria, UFC 3-600-01 takes precedence. **(T-0)** (Note: "Use the most stringent requirement" does not apply). In cases where conflicts among criteria are not resolved by the technical guidance in UFC 3-600-01, request clarification from AFCEC/COS through the MAJCOM. **(T-1)** For overseas installations, where UFC and host nation fire protection engineering criteria conflict, the UFC criteria will apply unless an applicable international agreement requires use of host nation criteria. Conflicts in the technical features standards and approvals used to comply with the protection requirements will apply the host nation equipment standards and approvals. Request specific clarification from AFCEC/COS for unique correlation of US and Host Nation codes and criteria. **(T-1)**

3.4. **Fire Safety Deficiency (FSD) Codes.**

3.4.1. **FSD I.** FSD I includes missing fire protection systems or missing NFPA 101 features in any building or process. Any facility FSD which results from a failure to comply with the following is considered an FSD I: **(T-1)**

3.4.1.1. **New Facilities.** New facilities must meet the requirements specified in UFC 3-600-01, paragraph 1-3.2.1. **(T-0)** Such facilities shall not be considered as a complete and usable facility until such time as the deficiency is corrected. **(T-2)**

3.4.1.2. **Modernized, Renovated, Repaired, Restored, Upgraded and Change-of-Occupancy Facilities.** These facilities must meet the requirements of UFC 3-600-01, paragraphs 1-3.2.2 thru 1-3.2.4. **(T-0)**

3.4.1.3. **Existing Facilities.** Existing facilities must meet the minimum requirements of NFPA 101 for existing occupancies (UFC 3-600-01, paragraph 1-3.1). **(T-0)**

3.4.1.4. **Impairments.** Impairments of fire safety features required for existing occupancies in accordance with NFPA 101 which are not corrected within 72 hours. **(T-1)**

3.4.1.5. **Other Deficiencies.** Deficiencies in mission-priority facilities which impact mission continuity or generate a loss potential in excess of $5 million and have been evaluated and approved by the installation fire marshal. **(T-2)**

3.4.2. **FSD II.** FSD II includes deficiencies in existing fire protection systems or features in any building or process not covered by paragraph 3.4.1 of this instruction. Any existing fire protection system/feature identified in UFC 3-600-02, *O&M: Inspection, Testing, and Maintenance of Fire Protection Systems,* which is out of service or impaired so as to prevent automatic or manual (manual is applicable only if the system/feature is operated by manual activation) response to a fire event for more than 72 hours shall be considered an FSD II. **(T-2)**

3.4.3. **FSD III.** All other FSDs not covered by paragraphs 3.4.1 and 3.4.2 of this instuction are classified FSD IIIs. **(T-2)**

3.4.4. **FSD Code Decision Matrix.** Attachment 2 is a decision matrix to correctly classify FSDs for various situations.

4. Processing and Managing FSDs. These processes are not an alternative to the risk management (RM) analysis; rather, ORM is an integral part of the risk quantification necessary to processing and managing FSDs. ORM documentation should be part of the supporting information with any mitigation/corrective action plan or alternative/equivalency/exemption approval request. **(T-2)**

4.1. **FSD I.** FSD I indicates a deficiency with the greatest risk to life and mission continuity. Facilities with an identified FSD I not being corrected through paragraph 4.4, “In-House Work,” should not be occupied except in accordance with an approved corrective action plan which includes interim control measures. **(T-2)**

4.1.1. **Corrective Action Plan.** For an existing facility, a mitigation/corrective action plan shall be prepared by the facility user with the support of the fire emergency service flight, the engineering flight, the operations flight (as appropriate), and wing safety. **(T-2)**

The plan shall specifically identify the level of occupancy and operations permitted pending the correction of the FSD I. **(T-2)** The wing commander shall approve the plan before forwarding it to the MAJCOM/A7 for informational purposes. **(T-2)**

4.1.2. **Alternatives/Equivalencies.** Requests for approval of alternative or equivalent methods to meet the intent of a criteria requirement must be submitted through the MAJCOM to AFCEC/COS (see UFC 3-600-01) by the appropriate commander. **(T-1)** Alternative equivalency requests should be submitted following the staff study process and format in Air Force Handbook (AFH) 33-337, *Tongue and Quill*. **(T-2)** Emphasis should be placed on explaining how the selected technical solution/process achieves the intent of the criteria requirement. **(T-2)**

4.1.3. **Exemptions.** Requests for permanent exemption to criteria must be submitted through the MAJCOM to AFCEC/COS (see UFC 3-600-01) by the appropriate commander. **(T-1)** Exemptions should be submitted following the staff study process and format in AFH 33-337. Emphasis should be placed on explaining how the increased mission continuity risk can be tolerated/assumed by the Air Force.

4.2. **FSD II.** FSD II indicates a significant risk to mission continuity and/or existing property capability. Facilities with an identified FSD II not being corrected through paragraph 4.4, "In-House Work," should not be occupied unless interim control measures are in place. **(T-2)**

4.2.1. **Corrective Action Plan.** For an existing facility, a mitigation/corrective action plan shall be prepared by the facility user with the support of the fire emergency service flight, the engineering flight, the operations flight (as appropriate), and wing safety. **(T-2)** The plan shall specifically identify the level of occupancy and operations permitted pending the correction of the FSD II. **(T-2)** The wing commander (or other appropriate commander) shall approve the plan before forwarding it to the MAJCOM/A7 for information. **(T-2)**

4.2.2. **Repair or Correction of Fire Protection System Impairments/Feature Performance.**

4.2.2.1. Impairments affecting the performance of installed fire protection features shall be corrected immediately after identification using the highest priority in the appropriate repair work identification and management system. **(T-1)**

4.2.2.2. When the impairment will exist for more than 72 hours, an FSD II is established and the installation authorities for fire system/feature maintenance and fire emergency services shall collaborate with the facility/area user to jointly develop written control/mitigation measures. **(T-2)** These measures, to the maximum degree possible, shall ensure personnel safety as well as mission continuity (and, as appropriate, high-value asset protection) until the impairment is corrected. The jointly developed package must also identify the remaining mission risk exposure. In the absence of interim control measures, the facility shall be evacuated or operations stopped. Implementation of interim control measures are not considered a permanent fix and shall not reduce the priority required to correct the impairment. **(T-2)**

4.2.2.3. The maintenance activity must inform the installation and/or operational commanders of new impairments not corrected within 72 hours, the jointly developed interim control measures being recommended, and the remaining mission risk exposure. **(T-2)**

4.2.2.4. The maintenance activity must regularly inform the installation and/or operational commanders, not less than annually, on the status of system impairments, in-place compensatory measures, projected corrective actions, and corrective actions completed since the last report. **(T-2)**

4.2.3. **Alternatives/Equivalences.** Requests for approval of alternative or equivalent methods to meet the intent of a criteria requirement must be submitted through the MAJCOM to HQ AFCEC/COS by the appropriate commander. **(T-1)** Alternative/equivalency requests should be submitted following the staff study process and format in AFH 33-337. **(T-2)** Emphasis should be placed on explaining how the selected technical solution/process achieves the intent of the criteria requirement. **(T-2)**

4.2.4. **Exemptions.** Requests for permanent exemption to criteria must be submitted through the MAJCOM to HQ AFCEC/COS by the appropriate commander. **(T-1)** Exemptions should be submitted following the staff study process and format in AFH 33-337. **(T-2)** Emphasis should be placed on explaining how the increased mission continuity risk can be tolerated/assumed by the Air Force. **(T-2)**

4.3. **FSD III.** FSD III indicates a deficiency with the least risk to life, mission continuity and/or existing property capability. Facilities with an identified FSD III may be routinely occupied. FSD IIIs are typically identified, tracked, and corrected during scheduled facility renovation or remodeling projects. **(T-2)**

4.4. **In-House Work.** Deficiencies identified during the fire prevention inspection process (AFI 322001) or the reoccurring maintenance and repair process (UFC 3-601-02) are initially considered for correction through the in-service work program. **(T-1)** If CEO approves the work to be accomplished in-house, then the CE shops will accomplish the work and fill out the appropriate Civil Engineering Operations database automated records.

4.4.1. **Corrective Action Plans for In-Service Work.** The approved/funded job order/work order represents the installation's commitment of resources to the corrective action and will be considered the corrective action plan required under paragraph 4.1.1 or 4.2.1 of this instruction. **(T-1)** No additional approval is required outside the in-service work plan process. **(T-1)**

4.4.2. **Rating FSD and Other Work Requirements Combined in a Single Work Package.** Deficiency corrective actions are often combined with other maintenance and repair tasks in a single in-service work package. **(T-2)** Such combined work packages will be coded as an FSD correction package only if more than 50 percent of the combined package cost is directly related to the FSD correction work. **(T-2)**

4.5. **New Project.** Regardless of funding source, when a new project, is required to correct an identified FSD, the information will be transferred to the Engineering Flight and the documentation that was entered into the Civil Engineering Operations database must be reentered into the Civil Engineering Project Management database. **(T-2) Note:** For accurate tracking and FSD management, the FSD fields must also be reentered into the Civil

Engineering Project Management database. From this point forward, the project is managed like any other design project.

4.5.1. **Rating FSD and Other Work Requirements Combined in a Single Project.** Projects that include a scope of work greater than required for correction of identified FSDs will not classify the entire project as an FSD correction project unless at least 50 percent of the programmed funding is specifically intended to address correction of the FSDs. **(T-2)** For example, a building renovation project programmed for $100K that includes one FSD correction requirement for $2K would not include an overall FSD code rating in the project scoring process.

4.5.2. **Rating Multiple FSD Requirements in a Single Project.** Projects that include correction of multiple FSDs representing at least 50 percent of the programmed funding will reflect the least severe code found in those multiple FSDs.**(T-2)** For example, a project that combines one FSD I (10 percent of the programmed funding), four FSD IIs (30 percent), two FSD IIIs (15 percent), and some non-FSD work (45 percent) would be rated as an overall FSD III project in the project scoring process. If any single FSD code accounts for at least 50% of the total programmed costs the project will reflect the code regardless of the severity of other requirements.**(T-2)** For example, a project that combines one FSD I (10 percent of the programmed funding), four FSD IIs (60 percent), two FSD IIIs (15 percent), and some non-FSD work (15 percent) would be rated as an overall FSD II project in the project scoring process.

4.6. **Fire Protection Engineering Analysis.** UFC 3-600-01, paragraph 1-4, requires every design to receive a fire protection design analysis; paragraph 1-5 requires this analysis be conducted by a qualified fire protection engineer for major projects. **(T-0)** In some cases the results of the analysis is —no analysis is required. Attachment 3 provides a matrix describing when an analysis is required and what type of analysis is required.

4.6.1. Phased projects will be considered cumulatively when determining whether or not the project requires an analysis in accordance with UFC 3-600-01, paragraph 1-4 or 1-5. **(T-1)**

4.6.2. Phased projects will be considered cumulatively when determining the percentage of the facility involved and the cost of the work versus the replacement cost of the facility. **(T-1)**

4.6.3. The initial analysis of phased projects will evaluate all phases together and a comprehensive documentation package will be developed and follow all phases through the design, construction, maintenance, or repair process. **(T-1)**

5. Authority Having Jurisdiction (AHJ). The office responsible to approve exemptions and plans and interpret technical criteria issues varies depending on the issue and its technical complexity. **(T-1)**

5.1. **Military Child Care Facilities.** United States Code (USC) Title 10, Section 1794, *Child Abuse Prevention and Safety at Facilities*, requires immediate correction of life threatening fire safety deficiencies at each child development and youth program facility. Correct life threatening fire safety deficiencies at each child development and youth program facility immediately. Correct non-life threatening fire safety violations at a child development or youth program facility within 90-days or close the facility until the violation

is corrected. An exemption to correct a non-life threatening deficiency may be available to authorize the facility to remain open in a case in which the violation cannot reasonably be remedied within that 90-day period or in which major facility reconstruction is required. **Note:** Exemptions as used in Title 10 include both permanent and expiring**. (T-0)**

JUDITH A. FEDDER, Lieutenant General, USAF
DCS/Installations, Logistics & Mission Support

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

10 USC Sec. 1794, *Child Abuse Prevention and Safety at Facilities,* 15 October 2014

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DODI 6055.06, *DoD Fire and Emergency Services (F&ES) Program*, 21 December 2006

OPM General Schedule Qualification Standards, Fire Protection Engineering Series, 0804

AWWA Manual 14, *Recommended Practice for Backflow Prevention and Cross-Connection Control*, 2004

AWWA Manual 31, *Distribution System Requirements for Fire Protection*, Fourth Edition, 2008

NFPA 101: *Life Safety Code®*, 2012

Adopted Forms

AF IMT 332, *Base Civil Engineer Work Request*

AF Form 1487, *Fire Prevention Visit Report*

DD Form 1391, *Military Construction Project Data*

Abbreviations and Acronyms

24/7—24 hours a day, seven days a week

A4—Deputy Chief of Staff, Installations, Logistics & Mission Support

ACES—PM—Automated Civil Engineer System – Program Management

A-E—Architect and Engineer

AF/A1—Deputy Chief of Staff, Manpower, Personnel and Services

AFCEC—Air Force Civil Engineer Center

AFCEC/COS—Air Force Civil Engineer Center, Engineer Division

ACGIH—American Conference of Governmental Industrial Hygienists

AFDPO—Air Force Departmental Publishing Office

AFH—Air Force Handbook

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFOSH—Air Force Occupational Safety and Health

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AHJ—Authority Having Jurisdiction

ANG—Air National Guard

ANSI—American National Standards Institute

AO—Action Officer

AWWA—American Water Works Association

BCE—Base Civil Engineer

C^3—Command, Communication, and Control

CE—Civil Engineering

CEO—Civil Engineering, Operations Flight

CEN—Civil Engineering, Engineering Flight

CFR—Code of Federal Regulations

CGA—Compressed Gas Association

CO—AFCEC Operations Directorate

DOD—Department of Defense

DODI—Department of Defense Instruction

DRU—Direct Reporting Unit

ESOHC—Environmental, Safety and Occupational Health Council

eSSS—Electronic Staff Summary Sheet

ETL—Engineering Technical Letter

FB—Facility Board

FM—GLOBAL—Factory Mutual - Global

FOA—Field Operating Agency

FPE—Fire Protection Engineer

FSD—Fire Safety Deficiencies

HQ USAF/A4C—The Air Force Civil Engineer

IAW—In Accordance With

IBC—International Building Code

IWIMS—Integrated Work Information Management System

MAJCOM/A1—Major Command Directorate of Manpower and Personnel

MAJCOM/A7—Major Command Directorate of Installations and Mission Support

MAJCOM—Major Command

MCP—Military Construction Program

MIC—Microbial Induced Corrosion

N/A—Not Applicable

NATO—North Atlantic Treaty Organization

NFPA—National Fire Protection Association

NGB—National Guard Bureau

NIOSH—National Institute for Occupational Safety and Health

O&M—Operations and Maintenance

OPM—Office of Personnel Management

OPR—Office of Primary Responsibility

RM—Risk Management

OSHA—Occupational Safety and Health Administration

PPE—Personal Protective Equipment

RAC—Risk Assessment Code

RC—Reserve Component

RDS—Records Disposition Schedule

S/R&M—Sustainment/Restoration and Modernization

SABER—Simplified Acquisition of Base Engineer Requirements

SAF/FM—Assistant Secretary of the Air Force for Financial Management and Comptroller

SAF/IEE—Deputy Assistant Secretary of the Air Force (Installations)

SAF/IE—Secretary of the Air Force for Installations, Environment and Logistics

SOW—Statement of Work

UFC—Unified Facilities Criteria

UFGS—Unified Facilities Guide Specification

USC—United States Code

Terms

Authority Having Jurisdiction (AHJ)—An organization or office responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

Exemption—An approved permanent change to a procedure, criterion, or rule prescribed in standards which provide an equivalent degree of protection to personnel.

Facility Manager (Building Manager)—The unit commander designates, in writing, an officer, senior noncommissioned officer, or civilian of equal rank as primary and alternate building manager for each facility assigned to the organization. The building manager is the representative and official contact whenever the building needs base civil engineering (BCE) work.

Fire Hazards—A condition which can cause a fire to occur, or, if left unchecked, cause a fire to grow.

Fire Prevention—The office in the fire emergency services flight that deals with preventing the outbreak of fire by eliminating fire hazards through such activities as inspection, code enforcement, education, and investigation programs.

Fire Protection—Methods used to control or extinguish a fire, which includes actions taken to limit the adverse environmental, social, political, economic, and life-threatening effects of fire.

Fire Safety Deficiency (FSD)—A condition which reduces fire safety below an acceptable level, including noncompliance with standards, but by itself cannot cause a fire to occur. See *Occupational Deficiency*.

Functional Manager—The senior operating official at all levels exercising managerial control of an activity or operation. This individual usually can acquire and commit resources for the abatement of occupational safety and health hazards. Functional managers are designated by the MAJCOM or installation commanders.

Hazard Abatement Program—A systematic, priority program to manage, assess, and monitor abatement actions.

Host Nation—A nation which receives the forces and/or supplies of allied nations and/or NATO organizations to be located on, to operate in, or to transit through its territory."

Imminent Danger—Conditions or practices in a workplace which could reasonably be expected to cause death or severe physical harm immediately or before such dangers can be eliminated through normal abatement procedures.

Impairment—Conditions which cause a fire safety feature to not perform as designed or intended by code or standard. Impairments include a much broader number of features than just detection or suppression systems.

Interim Control Measures—Temporary actions taken to reduce the degree of risk associated with a hazard or deficiency pending completion of an abatement project. Interim control measures may not provide complete compliance with the required code or standard.

Mitigation Measures—Actions taken by the installation to reduce risk, enhance life safety, and/or ensure mission continuity and continue critical operations when fire and life safety features are degraded or don't meet minimum standards. These measures are locally developed and may include, but are not limited to, fire watches, increased fire prevention and/or safety inspections, user/operator special procedures or operating conditions, limiting/prohibiting specific or unique operations, one-time approval for certain operations, additional manual fire suppression devices, additional user supervision of specific operations, and fire department first-response or major crash apparatus standby for specific unique operations. The key mitigation measures should address how the facility user is going to exercise increased fire safety vigilance during the period the mitigation measures are to be used. Mitigation measures may be part of interim mitigation controls used while a fire safety feature is impaired or part of a long-term mitigation/corrective action plan.

Mitigation/Corrective Action Plan—Normally, an electronic staff package prepared and routed in accordance with Part VI of AFH 33-337, or an approved/funded in-service job order/work order prepared and routed in accordance with AFI 32-1032. The package should include, but is not limited to, a statement about the deficiency, an analysis of the problem, the recommended mitigation and interim control measures, and a plan that ultimately corrects the deficiency. The risk management process is one process which may be used to develop and test the mitigation/corrective actions; however, the RM process may not be used to waive or avoid correcting the deficiency. Another process which can be used to develop the mitigation/corrective action plan is the Staff Study Report outlined in Part VI of AFH 33-337.

National Consensus Standards—Standards published by recognized standards organizations such as the American National Standards Institute (ANSI), National Fire Protection Association (NFPA), American Conference of Governmental Industrial Hygienists (ACGIH), Compressed Gas Association (CGA), and National Institute for Occupational Safety and Health (NIOSH). National consensus standards adopted by Occupational Safety and Health Administration (OSHA) are part of OSHA standards.

Occupational Deficiency— Conditions, procedures and practices not compliant with OSHA or AFOSH requirements, but do not, in themselves, create a potential for producing an occupational injury or illness mishap. Deficiencies may, however, create a potential for secondary injuries or illnesses or may contribute to the severity of an injury or illness that has already occurred. Examples include, but are not limited to, Fire Safety Deficiencies, program management items or the absence of an eyewash station. A clear distinction between hazards and deficiencies may not always be possible; therefore, the judgment and experience of qualified safety, fire protection and health personnel must be relied upon.

Occupational Hazard—Conditions, procedures, and practices directly related to the workplace that can create a potential for producing occupational injuries, property or equipment damage,

mission degradation, damage to the environment, or illnesses. These hazards are normally assigned Risk Assessment Code (RAC) 1, RAC 2, or RAC 3.

Overseas—A geographic area outside the jurisdiction of the United States (e.g., a foreign country)

Risk Assessment Code (RAC)—An expression of the degree of risk associated with an occupational hazard that combines hazard severity and mishap probability into a single numeric identifier. RAC 1 hazards are classified as imminent danger.

United States—The several States, District of Columbia, Commonwealths of Puerto Rico and Northern Mariana Islands, American Samoa, Guam, Midway and Wake Islands, United States Virgin Islands, any other territory or possession of the United States, and associated navigable waters, contiguous zones, and ocean waters of which the natural resources are under the exclusive management authority of the United States.

Attachment 2

FIRE SAFETY DEFICIENCY CODE DECISION MATRIX

Table A2.1. Fire Safety Deficiency Code Decision Matrix.

Rule	If the deficiency is a result of	then the FSD code is
1	failure to meet the minimum NFPA 101 requirements for an **existing** building occupancy	1
2	failure to meet a fire or life safety requirement of a UFC or other document for an **existing** building and not covered under Rule 1	2
3	any deficiency in fire safety features resulting from new construction which does not meet the minimum construction requirements of UFC 3-600-01, paragraph 1-3.2.1.	1
4	any deficiency in fire safety features which results from a modernization, renovation, repair, restoration, upgrade, or change of occupancy project which does not meet the minimum construction requirements of UFC 3-600-01, paragraphs 1-3.2.2 through 1-3.2.4.	1
5	any out-of-service or impaired means of egress feature required by NFPA 101 for an **existing** occupancy not corrected within 24 hours	1
6	any out-of-service or impaired means of egress feature and not covered under Rule 5	2
7	an out-of-service or impaired fire alarm and notification system required by NFPA 101 for an **existing** occupancy	1
8	a facility fire alarm system which does not report fire alarm signals to the fire alarm receiving center or other constantly attended location operated by trained personnel and protecting any facility used for sleeping or command, communications and control (C^3) facility (excludes battery-operated smoke detectors and similar alarms that are not part of the facility central fire alarm system)	1
9	an out-of-service fire alarm and notification system and not covered under Rules 7 and 8	2
10	a facility fire alarm which does not report fire alarm signals to the fire alarm receiving center or other 24/7 attended location operated by trained personnel and not covered under Rule 7	2
11	an out-of-service or impaired fire detection system required by NFPA 101 for an **existing** occupancy	1
12	an out-of-service or impaired fire detection system and not covered under Rule 11	2
13	an out-of-service or impaired fire suppression system required by NFPA 101 or UFC 3-600-01 for an **existing** occupancy	1
14	an out-of-service or impaired fire suppression system and not covered under Rule 13	2
15	any impairment which would prevent a fire suppression system, fire detection system or fire alarm/notification system from automatically responding to a fire event not covered by Rules 3, 7, 11, or 13	2
16	an air compressor or supplementary air supply either out of service or out of automatic service serving any type of dry-pipe or pre-action sprinkler system	1
17	two (2) or more fire pumps either out of service or out of automatic service in a fire protection water pump system/facility required by NFPA 101 for an **existing** occupancy	1
18	a fire pump either out of service or out of automatic service and not covered under Rule 17	2
19	one (1) or more pressure booster fire pumps is either out of service or out of automatic service providing supplementary pressure to fire suppression systems required by NFPA 101 for an **existing** occupancy	2
20	a fire protection system pressure maintenance (jockey) pump out of service, out of automatic-service, or constantly running	2
21	all other FSDs	3

NOTE: Failure to meet NFPA requirements may qualify for RAC vs FSD if the non-compliance is classified as a hazard. Examples include lack of emergency lighting or missing smoke detectors in sleeping quarters. Contact the safety office if questions arise.

Attachment 3

FIRE PROTECTION ENGINEERING ANALYSIS/REVIEW MATRIX

Table A3.1. Fire Protection Engineering Analysis/Review Matrix.

Rule	If work involves	and	then the following is required	and
1	a sprinkler system	any of the following exist: (a) providing a new or relocated point of connection to the water distribution system for installed water-based fire suppression systems. Connections must comply with AWWA Manuals 14 and 31. (b) determining the applicable IBC requirements and NFPA standards to be applied, or, in the case where no such standard exists, the engineering study, judgments, and/or performance-based analysis and conclusions. (c) classifying room or area occupancy group. (d) establishing the design approach (this includes system type, densities, device temperature rating, and spacing for each separate hazard occupancy). (e) establishing the characteristics of water supply to be used, such as main size and location, whether it is dead-end or circulating; and if dead-end, the distance to the nearest circulating main, as well as its minimum duration and reliability for the most hydraulically demanding design area. (f) evaluating when private or public water supplies are used, the flow test data, including date and time of test, who conducted test or supplied information, test elevation, static gauge pressure at no flow, flow rate with residual gauge pressure, hydrant butt coefficient, and location of test in relation to the hydraulic point of service. (g) determining the valving and alarm requirements to minimize potential for impairments and unrecognized flow of water. (h) designing to prevent microbial induced corrosion (MIC). The engineer of record shall make reasonable efforts to identify water supplies that could lead to MIC. Such efforts may consist of discussions with the local water purveyor and/or fire official, familiarity with conditions in the local area, or laboratory testing of water supplies. When conditions are found that may result in MIC contamination of the fire protection piping, the engineer shall design corrective measures. (i) determining required backflow prevention and metering specifications and details to meet	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.

Rule	If work involves	and	then the following is required	and
		local water purveyor requirements, including maximum allowable pressure drop. (j) establishing the performance specifications of all yard and interior fire protection components.		
2	a sprinkler system	relocating, replacing, installing 10 or fewer sprinkler heads and Rule 1 does not apply	analysis not required	N/A
3	a sprinkler system	relocating, replacing, installing 11 or more sprinkler heads and Rule 1 does not apply	analysis IAW UFC 3-600-01, paragraph 1-4	documented with project file.
4	a sprinkler system	relocating, replacing, installing 50 or more sprinkler heads	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
5	a detection and alarm system device	relocating, replacing, installing 5 or fewer devices and/or appliances	analysis not required	N/A
6	a detection and alarm system	relocating, replacing, installing 6 to 24 devices and/or appliances	analysis IAW UFC 3-600-01, paragraph 1-4	documented with project file.
7	a detection and alarm system	relocating, replacing, installing 25 or more devices and/or appliances	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
8	a fire protection control panel	relocating	analysis not required	N/A
9	a fire protection control panel	replacing, or installing (and Rule 5 or 6 applies)	analysis IAW UFC 3-600-01, paragraph 1-4	documented with project file.
10	a fire protection control panel	replacing, or installing (and Rule 7 applies)	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
11	a special fire suppression system (gaseous agents, dry chemical agents, carbon dioxide, etc.)	relocating, replacing, installing	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
12	a wet chemical fire suppression system over cooking equipment	relocating, replacing, installing	analysis IAW UFC 3-600-01, paragraph 1-4	documented with project file.
13	changes to the interior building structure/layout	less than 5% of the gross floor area is involved and the project does not add or move existing walls or change doors/openings	analysis not required	N/A

Rule	If work involves	and	then the following is required	and
14	changes to the interior building structure/layout	more than 5% of the gross floor area is involved or the project moves existing walls, or adds new walls or changes doors/openings	analysis IAW UFC 3-600-01, paragraph 1-4	documented with project file.
15	changes to the interior building structure/layout	constructed through the S/R&M process	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
16	changes to the interior building structure/layout	constructed through the MCP process	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
17	an addition to an existing building	the original building and the adjacent building are not separated by a firewall meeting the requirements of the IBC or not all openings protected and the gross combined floor area is: a) < 15,000 square ft for Type I and II construction; or b) < 5,000 square ft for Type III, IV, and V construction	analysis IAW UFC 3-600-01, paragraph 1-4	documented with project file.
18	an addition to an existing building	the original building and the adjacent building are separated by a firewall meeting the requirements of the IBC with all openings protected and the gross combined floor area is: a) > 15,000 square ft for Type I and II construction; or b) > 5,000 square ft for Type III, IV, and V construction	analysis IAW UFC 3-600-01, paragraph 1-4	documented with project file; FPE review not required.
19	an addition to an existing building	the original building and the adjacent building are not separated by a firewall meeting the requirements of the IBC or not all openings protected and the gross combined floor area is: a) > 15,000 square ft for Type I and II construction; or b) > 5,000 square ft for Type III, IV, and V construction	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
20	an addition to an existing building	constructed through the MCP process	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
21	a new building	that is less than 3,000 square ft and does not involve any special occupancies listed in UFC 3-600-01, Chapter 6	analysis IAW UFC 3-600-01, paragraph 1-4	documented with project file.
22	a new building	that is 3,000 square ft or greater	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
23	a new building	is any special occupancies specifically addressed in UFC 3-600-01, Chapter 6	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.

Rule	If work involves	and	then the following is required	and
24	a new building	constructed through the MCP process	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
25	the potable water distribution system	repairing without upgrading, modernizing, or relocating	analysis not required	N/A
26	the potable water distribution system	repair including upgrading, modernizing, relocating, or replacing, or new installations	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
27	a non-potable water system	upgrading, modernizing, relocating, replacing, or installing and where the system does not support fire suppression systems nor fire hydrants	analysis not required	N/A
28	a non-potable fire protection water system	upgrading, modernizing, relocating, replacing, or installing	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
29	the electrical distribution system	upgrading, modernizing, relocating, replacing, or new installations; and transformers or substations are not located within 50 feet of any structure	analysis not required	N/A
30	the electrical distribution system	upgrading, modernizing, relocating, replacing, or new installations; and transformers or substations are located within 50 feet of any structure	analysis IAW UFC 3-600-01, paragraph 1-5	stamped / sealed / signed analysis and drawings.
31	a phased project	all phased projects will be considered cumulatively when determining the percentage of building involved and to determine if any other rule applies to the project	the initial analysis will evaluate all phases together	documented with project file through all phases of construction.