

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

This instruction modifies the guidance provided by the 32 series of Air Force publications that concern the Air National Guard (ANG). This instruction formulates specific operational and procedural policy guidance to implement execution of installation and facility programs of NGB/CF under the authority of AFPD 32-10, *Installations and Facilities*. This instruction and referenced documents prescribe the procedures and reports necessary in assisting the ANG Base Civil Engineers (BCE) and civil engineering personnel in the management of Facility Maintenance (FM), Military Construction Projects (MCP), Minor Construction and Real Property Maintenance (RPM) projects.

Chapter 1

POLICIES AND PROCEDURES

1.1. General Information. This Air National Guard Instruction (ANGI) provides the directive requirements for the operations management of civil engineering FM, Military Construction Projects (MCP), Minor Construction and RPM projects. Although the principal focus is operations, this publication applies to all ANG civil engineering personnel.

1.2. Purpose. This instruction provides direction to the Air National Guard Civil Engineer Directorate (ANG/CE), State Military Departments, Base Civil Engineers (BCE), and design and construction agents concerned with the facility maintenance and construction of ANG facilities. Policies, procedures and criteria outlined in this instruction apply to all ANG projects, whether entirely or partially Federally funded. It also applies to the construction of replacement facilities for the ANG that is totally funded by outside parties.

1.3. Applicability of Criteria and Standards. These criteria apply to all new construction, reconstruction, rehabilitation, alteration, modification, maintenance and repair of existing facilities constructed with Military Construction Program (MCP), RPM funds, Base Relocation and Closure funding and other sources of funds. The criteria will not be used solely as a basis for advancing standards of existing facilities, except where necessary to achieve a minimal acceptable level of safety, quality and performance.

Chapter 2

OBJECTIVES

2.1. Defining. Ensuring that ANG installations can support the mission, maintain real property facilities, and implement programs to accomplish these goals in a cost-effective manner.

2.2. Listing. The BCE and staff are to perform the following functions:

- 2.2.1. Utilize ANG/CE approved computer software to manage all directed scheduled, emergency, planned, recurring, and self-help work. Whenever practical, paper forms mentioned in this instruction should be stored electronically as an attachment to the appropriate record within the electronic program.
- 2.2.2. Operate, maintain, repair, and construct ANG real property and real property installed equipment (RPIE) to accomplish the mission most economically, considering both the total life cycle costs and the impact of facilities on the quality of life.
- 2.2.3. Maintain capability to correct most emergency conditions 24-hours a day.
- 2.2.4. Conduct all activities in compliance with applicable US Air Force, Federal, State and local requirements, i.e. (safety, health, fire, environmental, security, accessibility, etc.).
- 2.2.5. Provide reliable utilities to meet readiness requirements, maintain quality of life, and satisfy installation needs.
- 2.2.6. Provide base support services (i.e., pest control, grounds maintenance, snow removal, etc.).
- 2.2.7. Accomplish work requirements quickly and establish standards to address quality, customers' needs, and mission requirements.
- 2.2.8. Establish a system to provide a means for customers to accomplish work requirements using their own resources such as labor, materials, equipment, or funds. (See ANGPAM 32-1002, *Self Help*)
- 2.2.9. Provide customers with the costs of work performed or services provided to their facilities when requested.
- 2.2.10. Develop and annually update a Facility Management Plan for major work requirements (i.e., roofing, pavements, protective coating, etc.). This requirement should address work for the next 3-5 years.
- 2.2.11. Allocate resources effectively, including people, facilities, and equipment to meet mission and customer needs.
- 2.2.12. Compare hours periodically used to accomplish the work with estimated hours to improve estimate accuracy and maximize performance.
- 2.2.13. Track all associated work order costs and labor hours within the ANG approved computer based program.
- 2.2.14. Establish a process to measure and continuously improve their support of base missions and customers, i.e. through a customer service program.
- 2.2.15. Establish and maintain holding areas for special ordered materials.
- 2.2.16. Maintain procedures for acquiring emergency materials/parts (i.e., snowplow blades, aircraft arresting system parts, etc.).
- 2.2.17. Establish a system to minimize the accumulation and to maximize the use of residual material.
- 2.2.18. Provide trained Prime BEEF / RED HORSE engineering personnel to support ANG operations worldwide. Typically, ANG engineering teams are not assigned to a maintenance role within a civil engineer unit, but some projects are set aside for special training to enhance the skill level of the teams. (See AFI 10-210; AFI 10-211).
- 2.2.19. Establish and enforce good housekeeping rules in compliance with AFOSH/OSHA requirements for all facilities base wide.
- 2.2.20. Establish and maintain an effective recurring work program (RWP) that includes an effective preventive maintenance program to prolong the life of all RPIE.
- 2.2.21. Provide and establish an effective Building Managers program through the real property section within the CE unit.
- 2.2.22. Establish and maintain an effective Vehicle Control Program for all authorized vehicles assigned to the unit, to include maintenance and control of the vehicles. Commander/BCE should assign a senior NCO and officer as the vehicle control NCO and VCO for the unit.

- 2.2.23. Establish and maintain facility folders for each facility to develop historical records.
- 2.2.24. Establish and maintain an effective facility survey program, documenting and recording surveys at the rate of 33% of facilities per year, completing the survey cycle every three years.
- 2.2.25. Establish and maintain an effective and secure base facility key program. Keys shall be kept in a secured cabinet. Keys shall be tracked and issued to facility users, using an effective control program.
- 2.2.26. Establish and maintain an effective warranty / guaranty program for RPIE installed equipment, to prevent RPIE items from having the warranty voided.
- 2.2.27. Provide cost data and status information on hazardous or deficiency abatement actions associated with real property facilities and real property installed equipment. (Refer to AFI 91-301, para 2.11.)
- 2.2.28. Include hazardous abatement information in project submittals intended to abate hazardous conditions.
- 2.2.29. Obtain review and coordination on new construction, facility modification projects or work request documents from ground safety, fire protection, and bioenvironmental, and environmental officials.
- 2.2.30. Ensure that designs for new construction, equipment, or modifications to existing facilities or equipment meet OSHA requirements.
- 2.2.31. Ensure that Risk Assessment Codes (RAC) are incorporated into the Project by Contract Management System for corrective actions.

Chapter 3

WORK REQUIREMENTS

- 3.1. Computer Support.** Use a computer based tracking system to improve the ability of Civil Engineering to process data and access information concerning civil engineering operations and facility management. ANG/CE will provide support of ANG and AF approved computer systems.
- 3.2. Customer Requests/Work Classification.** Customer requests can be electronic, verbal or written. Civil engineering personnel will ensure that a work order is created for all work requests, and that the appropriate type of work (Direct Scheduled Work, Planned Work, or identified Hazard / Emergencies) is assigned. Work orders should have written signatures from requestors.
- 3.2.1 Direct Scheduled Work. Work that generally does not require detailed planning; previously referred to as job orders.
- 3.2.2. Emergency. Work required to correct a condition that is detrimental to the mission or reduces operational effectiveness and completed within 24 hours of notification. Temporary repairs may be made to correct the situation and change the status from Emergency to Urgent or Routine.
- 3.2.3. Urgent. Work that is not any emergency, but must be responded to and completed within 5 workdays of receipt or within 5 workdays after receipt of materials.
- 3.2.4. Routine. Work that does not qualify as Emergency or Urgent Work, but must be accomplished within 30 calendar days after identifying the requirement of receipt of material. When practical, group routine requirements into work packages and accomplish as a single undertaking.
- 3.2.5. Planned Work. Work that requires detailed planning or capitalization of the real property records. Planner determines the scope, method, quantity and type of resources, estimating determines the quantity of resources. Engineered Performance Standards may be utilized to produce reliable standard-hour and cost estimates.

3.3. Work Request Coordination Requirements. The requester must coordinate with Safety, Fire Department, and BioEnvironmental prior to submitting an AF Form 332, **Base Civil Engineer Work Request**, to Civil Engineering. This will ensure that no hazards are created and that any identified hazards are eliminated. Local civil engineers (CE) may opt to perform this coordination. CE personnel should also coordinate with local utility owners if necessary. All required coordination blocks on AF Form 332 should be initialed by the appropriate organization.

3.3.1. Coordinate fire hazards through the fire protection flight, or agency having jurisdiction, for assignment of a Fire Safety Deficiency Code. Fire protection must coordinate on all requested work when either life or safety of personnel is involved. This includes rating of materials, fire protection access to an area or facility, or fire protection criteria affected by the proposed work such as personnel emergency egress, fire alarms or suppression systems.

3.3.2. Coordinate worker health concerns through the base BioEnvironmental Engineering Technician (usually assigned to the base medical unit or host medical unit for tenant units) for evaluation of a RAC. Refer to AFI 91-301.

3.3.3. Coordinate safety hazards through the base safety office for RAC assignment. Refer to AFI 91-301.

3.3.4. Coordinate environmental issues, e.g. air emissions from new sources, changes in the water drainage systems, etc. to the unit Environmental Manager for appropriate action.

3.3.5. If the requested work involves environmental impacts that must be evaluated, the request for this evaluation is done on an AF Form 813, **Request for Environmental Impact Analysis**. This environmental impact evaluation needs to be provided to the environmental management office along with the AF Form 332 or DD Form 1391, **Military Construction Project Data**. The Environmental Manager will determine if the action qualifies for a categorical exclusion or requires further analysis such as an environmental assessment.

3.3.6. Coordinate with Base Communications to assess impact of facility renovations and major repairs.

3.3.7. Coordinate with appropriate building managers and/or command structure to ensure that requests meets mission requirements and local unit needs.

3.4. Approval of Base Civil Engineer Work Request. The decision to approve or disapprove a work request should be promptly made. Review and process the request only to the extent necessary to support the decision. The approval authority assigns the applicable priority. Approval authority should be delegated to the lowest level possible. A delegation letter shall be placed in each individual's file, delegating the approval amount for each level of approval. The original letter shall be kept on file in the appropriate area and a copy in the real property office. When the work is likely to exceed the approval authority of the individual who originally approved the work requirement, the work order must be routed to the appropriate level for approval. All 332s that are approved should have a written signature for approval. This should be kept in the work order jacket. Refer to AFI 32-1032, *Planning and Programming Real Property Maintenance Projects Using Appropriated Funds*, and AFI 32-1022, *Planning and Programming of NAF Facility Construction Projects*, for guidance only on work classification and project approval authority levels. AF Form 332 is not required if an electronic system or tracking program is used as long as work order approvals are annotated in the database work orders file.

3.5. Priorities. The following priorities are used for all planned work orders.

3.5.1. Priority 1 - Mission. Work in direct support of the overall base mission that, if not done, would reduce operational objectiveness.

3.5.2. Priority 2 - Safeguard Life and Property. Work needed to give adequate security to areas subject to compromise; to eliminate health, fire, or safety hazards; or to protect valuable property or equipment.

3.5.3. Priority 3 - Support. Work that supports the mission or prevents a breakdown of essential operating or housekeeping functions.

3.5.4. Priority 4 - Necessary. Not qualifying for higher priority.

3.6. Capitalization. Forward all completed work orders to real property personnel for capitalization criteria review. For further guidance see AFI 32-9005, *Real Property Accountability and Reporting*. The planner clearly documents the identity of changes to real and installed property. For self-help work that requires capitalization, the planner provides the total cost of doing the work; estimated hours will be multiplied by either the civil engineering average rate or by the predominant shop rate for the labor cost.

3.7. Cancellation.

3.7.1. Cancel work orders only by the same level of authority, or higher, that approved the original document.

3.7.2. Canceled minor construction work orders must be forwarded through real property for adjustment to the construction-in-progress account.

3.8 Disapproved Work Requests. Disapproved work requests shall be returned to the requestor with full justification as to why the request was disapproved. Copies will be sent to all coordinated parties, see paragraph 3.3.

3.9. Drawings Update. Forward all completed work orders that change facility layout to engineering section to update as-built drawings.

Chapter 4

Management Concepts, Controls, and Forms

4.1. General. Use ANG/CE approved information management systems to manage, control, plan, schedule, and program work requirements in the most efficient means. ANG/CE is working closely with USAF/CE and AFCEA to bring all civil engineers under one program called Automated Civil Engineer System (ACES), in order to share, report and have continuity with all civil engineering units.

4.2. Accounting Procedures. Use time accounting to record hours and costs to work orders and account codes. The electronic software incorporates the necessary account codes, and other data to assist with managing time accounting. The hours charged against work types are used for analysis. Perform periodic reviews to eliminate or minimize potential performance problems.

4.3. Collection of Work Order Numbers. Establish these numbers to accumulate hours and financial data for repetitious type work. See Attachment 2 for reserved Collection of Work Order Numbers (CWON).

4.4. Loss of Automated Operation Management System. Installations that lose their automated system due to power failure, equipment failure, etc. are still required to manage, control, plan, schedule, and program work requirements in the most efficient means.

4.5. Operation Management Forms. Bases may use approved forms or commercially available software/forms to control work requirements. Currently ANG/CE units use an automated tracking system with all the necessary forms. With data automation becoming the more preferred and or directed management system, some forms are no longer being published. Any existing approved ANG/CE automated forms may be used to track work orders, time accounting, materials, CWONs, recurring work and other required data, such as scheduling, emergency work, and all other data as it applies to real property. AF Form 332 is the preferred method to request and approve work. **NOTE:** In a contingency environment, Operation Management is still required to track work orders / service calls, materials, labor and other required data for either host unit or home unit. During a deployment your unit may not have access to a LAN system or to an approved automated tracking system and may have to rely on a paper based system. This is authorized and the data may be placed onto a disk, for reports and for the host unit to track against the work order.

Chapter 5

SPECIAL CONSIDERATIONS

5.1. Precautionary Measures. Use AF Form 103, **Base Civil Engineering Work Clearance Request**, or locally developed equivalent form, for any work that may disrupt aircraft or vehicular traffic flow, base utility services, protection provided by fire or intrusion alarm systems, or routine activities of the installation. Process the AF Form 103 prior to the start of the work. If delays are encountered or the conditions at the job site change, the form must be revalidated and reapproved.

5.2. Real Property Similar Equipment. Real property similar equipment (RPSE) is non-RPIE structures and equipment deployed or permanently assigned to an installation as facility substitutes that support major command mission. RPSE is not considered real property, as accountability will be strictly in the control of the user. Examples are (but not limited to): hush houses, leased trailers, portable offices, portable shelters, mobile/movable mezzanines, storage containers, government-owned appliances, Survivable Collective Protective System (SCPS-2 & SCPS-M), un-interruptible power supply, KMU-450 Chemical Protective System, Tactical Shelter System, and Chemically Hardened Air Transportable Hospitals. Civil engineering support for RPSE should be according to a memorandum of understanding with the owning organization, *reimbursable*, and subject to *labor-hour* availability. Emergency repair of unit owned RPSE may be accomplished by Civil Engineering at the discretion of the BCE, providing the unit provides all costs for materials and contract labor that owns the RPSE. Recurring requirements should be addressed and negotiated for contractual support, by the owning organization. Typically, the utilities that supply RPSE, i.e., water, gas or electrical are real property and should be maintained by CE. CE is only responsible up to the electrical panel, gas or water meter, etc.

5.3. Recurring Maintenance Program. Recurring work applies to real property, RPIE, or systems and other equipment maintained by BCE. Recurring work consists of operations, recurring maintenance, service work, and other recurring work for which the scope and level of effort is known without an earlier visit to the job site each time the work is scheduled. It includes all recurring work needed to prevent breakdown of critical facilities, equipment, or utilities. The RWP encompasses work of a normally recurring nature except utility operations, contracted services, and preventative maintenance deemed not cost-effective. It is managed within an approved automated tracking system to ensure that recurring work is accomplished by reserving hours before other routine requirements are scheduled. The Facility Manager is responsible for the overall development and annual assessment of the RWP. First-line supervisors/leaders monitor daily completion of recurring maintenance.

5.4. Appliances.

5.4.1. Appliances are not considered RPIE unless installed in Military Family Housing (MFH), in such case, the BCE shall ensure that an effective appliance program is developed in operations management. ANG currently has no MFH.

5.4.2. Management of appliances is the responsibility of the owning organization. Government-owned appliances include commercial food service equipment in appropriated funded facilities, such as, dining facilities and flight kitchens. Budgeting and funding to replace commercial food service equipment in appropriated funded facilities is the responsibility of the using organization. The using organization is responsible to calibrate their equipment annually.

5.4.3. Emergency repair of unit owned appliances may be accomplished by Civil Engineering at the discretion of the BCE, providing the unit that owns the appliance provides all costs for materials and contract labor.

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Attachments
1. Glossary of References and Supporting
Information
2. Reserved Collection Work Order Numbers

Attachment 1

GLOSSARY of REFERENCES and SUPPORTING INFORMATION

References

- OSHA 29 CFR 1910, Title 29 – Labor, *Occupational Safety and Health Administration, Department of Labor*
- AFPD 32-10, Installations and Facilities
- AFI 10-201, *Prime Base Engineer Emergency Force (BEEF) Program*
- AFI 10-211, *Civil Engineering Contingency Response Planning*
- AFI 32-1001, *Operations Management*
- AFI 32-1022, *Planning and Programming Real Property of NAF Facility Construction Projects*
- AFI 32-1032, *Planning and Programming Real Property Maintenance Projects Using Appropriated Funds*
- AFI 32-9005, *Real Property Accountability and Reporting*
- AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Prevention and Health (AFOSH)*
- ANGPAM 32-1002, *Self Help Guide*
- AFI 32-2001/ANGSUP1, *The Fire Protection Operations and Fire Prevention Program*
- AFI 91-301/ANG SUP1, *ANG Supplement to Air Force Occupational, and Environmental Safety, Fire Protection, and Health (AFOSH) Program*

Abbreviations and Acronyms

- ACES – Automated Civil Engineer System
- BCE – Base Civil Engineer
- CE – Civil Engineer
- CWON – Collection Work Order Number
- FM – Facility Maintenance
- MCP – Military Construction Project
- MCP – Military Construction Program
- MFH – Military Family Housing
- Prime (BEEF) – Prime (Base Engineer Emergency Force)
- RAC – Risk Assessment Code
- RED HORSE – Rapid Engineer Deployable Heavy Operation Repair Squadron Engineer
- RPIE – Real Property Installed Equipment
- RPM – Real Property Maintenance
- RPSE – Real Property Similar Equipment
- RWP – Recurring Work Program
- SCPS – Survivable Collective Protective Systems
- VCO – Vehicle Control Officer

Attachment 2

RESERVED COLLECTION WORK ORDER NUMBERS

Work Order FY00001. Bench or shop stock issues.

Work Order FY00002. Base service store issues.

Work Order FY00003. Bulk delivery items such as sand, gravel, and lumber by actual time accounting (ATA) work centers.

Work Order FY00004. Issues from base supply individual equipment unit.

Work Order FY00005. Mobility kits and other Prime Base Engineer Emergency Force (BEEF), Explosive Ordnance Disposal, RED HORSE, Fire Department and Disaster Preparedness (DP) supplies not charged to specific mobility deployment.

Work Order FY00006. Common-use tools maintained in a tool issue center.

Work Order FY00007. Tool kits obtained from base supply.

Work Order FY00008. Individual tools issued from base supply.

Work Order FY00009. Equipment authorization inventory data and shop equipment.

Work Order FY00010. Residual materials.

Work Orders FY00011 through 00040. Reserved for local use.