BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 32-1067

4 FEBRUARY 2015

EGLIN AIR FORCE BASE Supplement

6 APRIL 2016

Civil Engineering

WATER AND FUEL SYSTEMS

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available for downloading or ordering on the e-Publishing website at **www.e-Publishing.af.mil.**

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: AF/A4CS

Certified by: AF/A4CS (William F. Eng, GS-15)

Supersedes: AFI32-1067, 3 Apr 2013, AFI32-1066 , 17 Oct 2007, AFI32-7041, 10 Dec 2003 and AFI 32-1069, 31 Mar 1994

Pages: 56

(EGLINAFB)

OPR: 96 CEG/CEIEC

Certified by: 96 CEG/CC (Craig P. Johnson, Col, USAF)

Supersedes: AFI 32-7041, EGLINAFBSUP, 16 June 2010

Pages:14

This instruction implements Air Force Policy Directive (AFPD) 32-10, *Installations and Facilities*, and AFPD 32-70, *Environmental Quality*. It provides guidelines for managing water and wastewater systems at United States Air Force (USAF) bases. This publication applies to Air Force Reserve Command (AFRC) and Air National Guard (ANG) units. 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 approval. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T0, T-1, T-2, T-3") number following the compliance statement. See Air Force Instruction (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

nontiered 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 (IAW) Air Force manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS).

(EGLINAFB) This supplement applies to all units assigned or attached to Eglin Air Force Base, to include any associate/tenant organizations. It provides specific guidance to ensure compliance with applicable federal and Florida state environmental laws and regulations. Send recommended changes or comments for this publication to the OPR using the Air Force (AF) Form 847, *Recommendation for Change of Publication*. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System Records Disposition Schedule.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed. Major changes include the following: This revision consolidates four AFIs (AFI 32-1067, *Water Systems*; AFI 32-1066, *Backflow Prevention Program*; AFI 32-7041, *Water Quality Compliance*; AFI 32-1069, *Gas Supply and Distribution*) and updates natural gas/liquid fuels system program requirements; and identifies Tiered waiver authorities for unit level compliance items. There have been numerous changes to organizational roles and names throughout the Air Force due to organizational transformations and those changes are reflected in this AFI.

(EGLINAFB) This document clarifies and updates guidance on the Eglin Water Quality Program and must be completely reviewed.

Chapter 1

BACKGROUND/OVERVIEW

1.1. Purpose.

1.1.1. This instruction defines responsibilities and provides guidelines to help base civil engineers (CE) design, operate, and maintain Air Force-owned or -operated water, wastewater, storm water, liquid fuels, and natural gas systems at installations and other enduring locations. This instruction provides references for design/construction, regulatory compliance, and operation and maintenance (O&M) of these systems. This instruction focuses on both operational and environmental issues IAW all applicable Federal, state, and local laws and/or country-specific Final Governing Standards (FGS) or, if no FGS exists, Department of Defense (DoD) Guide 4715.05-G, *Overseas Environmental Baseline Guidance Document* (OEBGD). For specific technical guidance, consult the Air Force Civil Engineer Center, Environmental Center of Excellence (AFCEC/CZ), on environmental issues and the Air Force Civil Engineer Center, Operations Directorate (AFCEC/CO), on design/construction and operations and maintenance (O&M) issues.

1.1.2. Military installations located in the United States (U.S.) must comply with applicable Federal, state, and local water, natural gas, and liquid fuel regulations. **(T-0)** Installations are subject to the following requirements in this instruction. The requirements of this AFI do not apply to water or gas systems on Air Force installations not owned or operated by the Air Force (i.e., privatized systems) unless as specifically provided in the contractual terms of the privatization agreements. When a base is placed on the Base Realignment and Closure list, water systems will be transferred as quickly as possible. All requirements of this AFI will terminate after the transfer has occurred. For closed bases, the organizations responsible for losing units will maintain the water systems until final closure of all active operations. **(T-1)**

1.1.3. Installations located outside the U.S. are subject to these requirements only to the extent the requirements do not conflict with applicable international agreements, country-specific FGS, and, where no FGS exist, the OEBGD.

1.1.4. This instruction does not apply to Air Force-owned or -operated water systems at contingency or other deployed operations locations outside the U.S.

1.2. Objectives. The objectives of this instruction are to efficiently and effectively design, construct, operate, and maintain water systems, domestic and industrial wastewater systems, storm water systems, liquid fuel systems, and natural gas systems while protecting public health and the environment IAW applicable Federal, state, and local regulations. Systems located in the U.S. must comply with all environmental laws, acts and regulations (and amendments), to include but not limited to: **(T-0)**

1.2.1. Safe Drinking Water Act (SDWA), 42 U.S.C. §§ 300f -300j-26

1.2.2. Clean Water Act (CWA), 33 U.S.C. §§ 1251-1387

1.2.3. Clean Air Act (CAA), 42 U.S.C. 7401-7671q

1.2.4. Resource Conservation and Recovery Act (RCRA) (USTs) 42 U.S.C. § 6991-6991m

1.2.5. Title 49, Code of Federal Regulations, Part 192 (49 CFR 192), *Transportation of Natural and Other Gas by Pipeline, Minimum Federal Safety Standards with Amendments*

1.2.6. Natural Gas Pipeline Safety Act, 49 U.S.C. §§ 60101-60301

1.2.7. 29 CFR 1910, Occupational Safety and Health Administration (OSHA)

1.2.8. 33 CFR Part 154, Facilities Transferring Oil or Hazardous Material in Bulk

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. Assistant Secretary (Installations, Environment and Energy) (SAF/IE). Formulates and oversees policy implementation for environmental health and infrastructure to include the planning, programming, implementation, operations, management and interagency-intergovernmental coordination for all Air Force programs.

2.2. The Air Force Surgeon General (AF/SG):

2.2.1. Provides environmental health oversight of Air Force owned drinking water (DW) systems. Will ensure Air Force owned DW systems are properly surveyed, sampled, analyzed and monitored to provide adequate supplies of safe DW to Air Force personnel at garrison and deployed locations.

2.2.2. Develops implementation instructions for DW surveillance and establishes Air Force DW requirements to protect the health of Air Force personnel as required in AFI 48-144.

2.2.3. Provides SDWA oversight for DW surveillance, including analysis of present and proposed federal legislation associated with SDWA surveillance, and analyzes open enforcement actions associated with SDWA surveillance for negative trends.

2.2.4. Coordinates for proposed revisions to FGS and OEBGD Chapter 3, "Drinking Water."

2.2.5. Establishes resources and implementation instructions for the DW surveillance program and regulatory compliance to protect public health.

2.2.6. Coordinates with AF/A7C on DW system matters.

2.3. Air Force Director of Civil Engineers (AF/A4C): Develops guidance for design, construction, and sustainment of water and fuel systems IAW applicable law and Air Force and DoD policies, guidance, and procedures.

2.4. Air Force Civil Engineer Center (AFCEC):

2.4.1. Provides environmental and operational technical support, guidance, contracting services, and training to address water quality (WQ) compliance. **(T-1)**

2.4.2. AFCEC/CO provides criteria, standards, guidance, and technical support for water, wastewater, storm water, natural gas and liquid fuel systems planning, design, construction, and O&M to the Air Staff, MAJCOMS, direct reporting units (DRU), and installations as requested. **(T-1)**

2.4.3. AFCEC/CZ provides environmental compliance assistance and technical support regarding regulatory matters involving the Clean Water Act (CWA) and Safe Drinking Water Act (SDWA) that impact installation operations. Also provides regulatory guidance, technical support and assistance to Air Staff, MAJCOMS and installations and monitors compliance performance and trends. In addition, on request, supports the Air Force Regional Environmental Regional Offices and/or DoD Regional Environmental Coordinators (DoD RECs), as needed, on state or national legislative or regulatory issues or initiatives to facilitate application of consistent environmental standards across regions, installations. **(T-1)**

2.5. United States Air Force School of Aerospace Medicine (USAFSAM):

2.5.1. Provides consultation regarding safe DW quality and provides a contracting mechanism to execute projects related to DW monitoring and compliance.

2.5.2. Contracts laboratory analytical services to installations for DW sampling.

2.6. MAJCOM Bioenvironmental Engineer (BEE):

2.6.1. Supports installations to ensure DW surveillance programs conform to AFI 48-144.

2.6.2. Conducts periodic audits of installation DW surveillance programs in accordance with appropriate authority while ensuring regulatory compliance and adequate resourcing. Periodicity of audits should be determined by the MAJCOM BEE, and should be based upon installation-specific performance, historic enforcement actions, inspection results, and execution of new DW requirements.

2.6.3. Fulfills the role of appropriate DOD medical authority for installations in foreign countries as specified in the OEBGD and/or country-specific FGS.

2.7. Base Civil Engineer (BCE):

2.7.1. Operates and maintains water, wastewater, storm water, natural gas, and liquid fuel systems, using the Operations Flight Playbooks as guides; performs sampling and conducts testing procedures necessary for day-to-day operation of the water, wastewater, storm water, natural gas, and liquid fuel systems; reviews monitoring, sampling, and testing reports; and implements necessary corrective actions for compliance with applicable permits, standards, laws, and regulations. **(T-0)**

2.7.2. Ensures system operations personnel are properly trained and have the required license or certification (e.g., applicable Federal, DoD, state, local, or host nation (HN) requirements) before assuming plant operations, maintenance, or repair responsibility for water, wastewater, storm water, gas, and liquid fuel systems**. (T-0)**

2.7.3. Ensures all plants have required regulatory permits and sufficient resources to operate in compliance. **(T-0)**

2.7.4. Develops local operating instructions (including operational monitoring for process control), sampling and testing procedures, emergency operations, maintenance, and regulatory compliance requirements. **(T-0)**

2.7.5. Conducts engineering and scientific studies using an asset management approach to support the planning and the efficient and effective operation of water, wastewater, storm water, natural gas and liquid fuel systems (e.g., hydraulic modeling; Operations, Maintenance, and Training Assistance Program [OMTAP]; leak-detection surveys; inflow/infiltration [I/I] investigations; closed-circuit television [CCTV] inspections; and supervisory control and data acquisition [SCADA]). **(T-1)**

2.7.6. Corrects system deficiencies identified through preparing responses, internal assessment, monitoring, or inspection by regulatory agencies, and keeps records of corrective actions. **(T-0)**

2.7.7. Maintains facility operating logs, records, drawings system distribution maps, and plant-specific O&M manuals. **(T-0)**

2.7.8. Maintains an accurate inventory of water, wastewater, storm water, natural gas and liquid fuel systems assets and represents them in both tabular and spatial formats, and provides analytic and diagnostic evaluation concerning the value, condition, and functionality of those assets. **(T-0)**

2.7.9. Maintains oversight where water, wastewater, storm water, natural gas and liquid fuel systems are provided through regional connections or a privatized system and provides the means and methods to accurately determine the total consumption from these services and their total cost. **(T-0)**

2.7.10. Encourages wastewater treatment plant effluent and storm water reuse for aquifer recharge and irrigation. Such applications must comply with applicable Federal, state, or FGS/OEBGD regulations. **(T-0)** Consider water rights implications before implementing water reuse of any kind.

2.7.11. Obtains permits required for construction, modification and operation of the water system as required by the primacy agency. **(T-0)**

2.7.12. In the event that the CES organizational does not align with the flight structure noted in this AFI, the BCE will ensure that appropriate personnel are assigned to accomplish the AFI tasks assigned to the CE Installation Management (CEI) and CE Operations (CEO) organizations. **(T-1)**

2.7.13. Appoints an appropriate engineer or supervisor as the Backflow Program Manager (BPM). **(T-1)**

2.7.14. The BCE at ANG installations assumes the responsibilities directed at specific Civil Engineer Flights within this publication if the ANG unit is not structured the same as active duty units for facility operations. The BCE may delegate the duties to the appropriate employee as necessary. **(T-1)**

2.8. Base Bioenvironmental Engineer (BE):

2.8.1. Provides general surveillance over potential environmental contamination of drinking water from Air Force facilities, and provides copies of monitoring and evaluation reports indicating an exceedance of a DW action level or upon request to the BCE. **(T-1)**

2.8.2. Monitors compliance of DW and water supplies with applicable standards (see AFI 48-144). BE provides reporting and public notification assistance as required, and submits monitoring results and suggestions for improving water quality to the BCE. **(T-1)**

2.8.3. Ensures sanitary surveys are performed to satisfy the requirements of applicable regulations and standards and recommends mitigation actions by appropriate CES or SG organizations to maintain the sanitary quality of the base DW system. **(T-1)**

2.8.4. Supports CES by conducting technical reviews of repairs, renovations, and modifications to DW systems to assess and avert potential health hazards. **(T-1)**

2.8.5. Supports the cross-connection control and backflow prevention program by providing technical assistance and assigning the correct hazard classification to each cross-connection, using the most recent *Uniform Plumbing Code* criteria. **(T-1)**

2.8.6. Ensures water vulnerability assessments are completed in accordance with AFI 10-246. **(T-1)**

2.9. Compliance with Statutory Requirements.

2.9.1. **Water System Requirements (Safe Drinking Water Act [SDWA])**

2.9.1.1. **Consumer Information.** The Bioenvironmental Engineer (BEE) is responsible for working with base public affairs to notify installation water consumers of drinking water (DW) violations through public notification procedures IAW AFI 48-144, *Drinking Water Surveillance Program*. **(T-1)** The CEI and CEO flights will provide coordinating support and assistance as needed.

2.9.1.2. **Regulatory Compliance.** The Civil Engineer Squadron (CES) and Bioenvironmental Engineering (BE) shall coordinate DW system evaluations and planning to ensure DW parameters meet current Federal, state, local, and AF standards. **(T-1)**

2.9.1.3. **Water Vulnerability Assessments**. DW system water vulnerability assessments (WVA) are conducted by BE with cooperation and input from CES and other appropriate base/local agencies.

2.9.2. Wastewater System Requirements (Clean Water Act [CWA]).

2.9.2.1. **Wastewater Discharged to Publicly Owned Treatment Works (POTW) or Sewage Collection Systems.** CES or other authorized personnel, IAW sampling, analysis, and monitoring procedures prescribed in the Air Force *Water Program Management Playbook*, will monitor, through sampling, wastewater discharged from the installation to ensure permit limit categorical standards and local standards developed by the POTW are achieved. **(T-1)** Wastewater sampling or monitoring may be delegated to another base agency or privatized contractor. CES may still be required to ensure delegated or contracted agencies meet applicable wastewater discharge standards IAW the contractual agreement.

2.9.2.2. **Direct Discharge of Domestic/Industrial Wastewater and Storm Water.** CES shall apply for and obtain National Pollutant Discharge Elimination System (NPDES) permits for all point source discharges into applicable waters of the U.S.. Federally owned treatment works (FOTW) shall be operated and maintained to ensure full compliance with the CWA and applicable NPDES permits (e.g., municipal separate storm sewer system permit, storm water multi-sector general permit, other water discharge permits). **(T-0)**

2.9.2.2.1. When first applying for or renewing a wastewater discharge permit, the Major Command (MAJCOM) (NGB or AFRC only) or Installation Support Team (IST) will review the draft permit requirements proposed by the regulatory agency to ensure they are reasonable and achievable. **(T-2)** If conditions in a draft permit could be amended to better suit Air Force needs, or are unacceptable or unachievable, negotiate these issues in close coordination between the installation Judge Advocate (JA) and CEI. All permit applications shall be signed IAW 40 CFR Part 122.22, *Signatories to permit applications and reports*, or applicable state or local regulation. **(T-0)** For military facilities, the authorized signatory authority is the senior executive officer; typically, this is the USAF installation commander having responsibility for the overall operations of the installation.

2.9.2.2.2. CEI shall:

2.9.2.2.2.1. Submit applicable Notice of Intent (NOI) to the appropriate permitting agency prior to implementing planned discharges. **(T-0)**

2.9.2.2.2.2. Ensure compliance in cooperation with other installation stakeholders with all water discharge permit conditions, including sampling, analysis, recordkeeping inspections, reporting, and training; submit discharge monitoring reports (DMR) on time to the regulatory authority by certified mail or regulatory agency-approved electronic methods; inputs and maintains all installation NPDES permit information in the Air Force network-approved application Water Enterprise Tracking (WET) system. **(T-1)**

2.9.2.2.2.3. Submit NPDES water discharge permit renewal application, by certified mail or Air Force and regulatory agency-approved electronic method, IAW regulatory timelines, typically 180 days prior to permit expiration. **(T-0)**

2.9.2.2.2.4. Submit a timely applicable Notice of Termination to the appropriate permitting agency for applicable NPDES permits. **(T-0)**

2.9.3. Gas and Fuel Systems (OSHA, Department of Transportation [DOT], Natural Gas Pipeline Safety Act, Clean Air Act).

2.9.3.1. Operate the system IAW any applicable environmental and safety operating permits. **(T-0)**

2.9.3.2. All liquid fuels and natural gas systems will be constructed and maintained, through the use of Unified Facilities Criteria (UFC), IAW 49 CFR Part 192; 49 CFR Part 193, *Liquefied Natural Gas Facilities: Federal Safety Standards*, 49 CFR Part 195, *Transportation of Hazardous Liquids by Pipeline*; 29 CFR Part 1910 and 1926, *Occupational Safety and Health Standards*; 33 CFR Part 154, *Facilities Transferring Oil or Hazardous Material in Bulk*; 40 CFR Part 60, *Standards of Performance for New Stationary Sources*; 40 CFR Part 112, *Oil Pollution Prevention*; 40 CFR Part 122, *EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (NPDES)*; 40 CFR Part 280, *Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST)*; and 40 CFR Part 281, *Approval of State Underground Storage Tank Programs*. **(T-0)**

2.9.3.3. Ensures operators of privatized natural gas and liquefied petroleum gas (LPG) systems meet the qualifications in DOT Pipeline and Hazardous Materials Safety Administration (PHMSA), *Guidance Manual for Operators of Small Natural Gas Systems*. **(T-0)**

2.10. Total Maximum Daily Load (TMDL) Regulations. TMDL waste load allocations with assigned target load reductions are established by regulatory authorities to attain and maintain WQ standards. Installations and appropriate stakeholders shall actively participate in the TMDL development process, CEI shall advise AFCEC/CZ and AFLOA/JACE-FSC of assigned waste load assignments prior to final allocations by regulatory authorities, and review proposed TMDL waste load allocations for potential impacts to the Air Force mission. Installations located in the U.S. shall:

2.10.1. Assess whether point and non-point source discharges are contributing to impairments in the water body and watershed. See *Department of Defense Installation Watershed Impact Assessment Protocol,* June 2005. **(T-0)**

2.10.2. Develop and implement a TMDL compliance program per NPDES permit requirements. See 40 CFR Part 130, *Water Quality Planning and Management*. **(T-0)**

2.11. Department of Defense/Federal Programs. (T-0)

2.11.1. **Acquisition and Sales of Utility Services.** AFI 32-1061, *Providing Utilities to U.S. Air Force Installations,* covers contracting and sales of utility services for reimbursement. The sale of DW to non-Federal agencies may impact the base's regulatory status under Federal and state regulations. The utilities privatization (UP) program office will coordinate with BE, CEI, and CEO prior to taking contract action. The Utility Field Support Center (AFLOA/JACL-ULFSC) will be consulted as part of contract proceedings. See the *Utilities Privatization Playbook* for more details concerning UP and consult with AFCEC/CNU. **(T-2)**

2.11.2. **Linear Segmentation/Asset Inventories.** The BCE develops and maintains accurate inventories of water, wastewater, storm water, natural gas, and liquid fuel assets. Asset inventories shall be maintained in both spatial (e.g., GeoBase) and tabulated (e.g., database) formats IAW AF-approved linear segmentation guidance (see *Linear Infrastructure Playbook*). **(T-1)** For safety purposes, fuels mapping has specific requirements listed in Chapter 6.

2.11.3. **Regulator Access to Facilities.** Agency representatives may inspect treatment facilities, examine facility operating records, and test as necessary to verify compliance with water quality standards. The BCE must permit authorized representatives of a regulatory authority access to treatment facilities without prior notice if the entry is consistent with security requirements and at a reasonable time.

2.12. Training and Certification.

2.12.1. **Operator Training.** New operators must receive classroom training and extensive, supervised, on-the-job training before being assigned to critical tasks. Experienced personnel must also receive technical refresher courses and upgrade training. The BCE ensures all training courses are compliant with applicable Federal, state, and local regulations/requirements. **(T-0)** Military personnel are not required to have specific operator training if the plant has the appropriate number of legally trained and certified operators overseeing operations.

2.12.2. **Operator Certification.** These standards require operating personnel to comply with state and local operator certification requirements for treatment plant operations. Job descriptions shall require state certification or that the certification is obtained and maintained, as appropriate. The operator cannot commence treatment system operations until fully certified. Proper certification must be a condition of employment for new civilians. **(T-0)**

2.13. Logs, Records, and Drawings.

2.13.1. **Operating Log Preparation and Procedures.**

2.13.1.1. CEO prepares daily operating logs and laboratory records in compliance with applicable regulations and requirements of Air Force-prescribed forms, including

required training records. Operating logs should record throughput (water/wastewater produced/treated), level of activity, and time. Operating data can be collected remotely or electronically and maintained in a database. If operating data is manually read and transcribed, it must be recorded in a bound, page-numbered journal in ink with any corrections or deletions lined out and initialed by the user. NPDES permits have regulatory-mandated record archive timelines. Keep records according to applicable permit requirements. **(T-0)**

2.13.1.2. Next-generation software and asset management requirements may dictate the collection of additional operating data. Maintain accurate data in Air Force network-approved, next-generation applications to foster effective and efficient water system O&M. **(T-1)**

2.13.1.3. The BCE may delegate final review and signature of operating logs to an appropriate engineer.

2.13.1.4. Dispose of operational records according to AFI 33-364, *Records Disposition–Procedures and Responsibilities*, unless state or Federal environmental laws require longer retention or when unusual circumstances such as litigation dictate other retention requirements. **(T-1)**

2.13.2. **Physical Facility Information.** Develop, maintain, and keep available at treatment facilities the information in paragraphs 1.7.2.1 through 1.7.2.3. **(T-0)**

2.13.2.1. **O&M Manuals:** Required plant-specific O&M manuals and applicable Air Force publications for each treatment system.

2.13.2.2. **Operating Instructions:** System operating instructions with single-line drawings; include operational and compliance monitoring procedures.

2.13.2.3. **Up-to-date System Drawings:** Plans should include elevation profiles (where applicable) and drawings of the entire collection and distribution system. Updated drawing information is added into the base Geographic Information System (GIS) as changes occur to the system. Retain shop drawings, catalogue cuts, and any other equipment information.

2.13.3. **Maintenance Records.** CEO shall develop and maintain effective maintenance plans, including:

2.13.3.1. A preventive maintenance schedule. **(T-1)**

2.13.3.2. A maintenance history for each major piece of equipment. **(T-1)**

2.13.3.3. An essential spare parts list. (Stock essential spare parts at the treatment facility or other accessible location.) **(T-1)**

2.13.3.4. A long-range maintenance and improvement plan. **(T-1)**

2.13.3.5. Service outage logs. Retain, at the minimum, time/date of incident, description of incident, location of incident, impact of incident, description of repairs, and time/date of restoration of service. **(T-1)**

2.13.4. **Environmental Operations Permits.** CEO retains records of all monitoring information, including all calibration and maintenance records and all original strip chart

recordings for continuous monitoring instrumentation, copies of all reports required by permit, and records of all data used to complete the application for the operation or discharge permit. Keep all records required by the permit for at least three years or longer if required by the issuing regulatory authority. **(T-0)**

2.14. Environmental, Safety, and Occupational Hazards. Supervisors must ensure all employees are familiar with safety instructions, as applicable, in UFC 3-230-02, *O&M: Water Supply Systems*; AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*; AFI 48-145, *Occupational and Environmental Health Program;* AFI 32-7001, *Environmental Management*; and AFI 32-7044, *Storage Tank Environmental Compliance*. Supervisors must maintain BE occupational health risk assessment reports and shall use the reports to train workers on occupational health hazards. Supervisors must make safety instructions readily available to all operating personnel; train facility personnel on safety procedures and equipment; and enforce their proper use at all times. Once trained, individual workers and the environment must be protected and workers are personally responsible for following safety procedures. **(T-0)**

Chapter 3

WATER SYSTEMS

3.1. Water Facility Design Requirements. DW systems shall be designed IAW UFC 3-230-01, *Water Storage, Distribution and Transmission*; UFC 3-230-03, *Water Treatment*; UFC 3-420-01, *Plumbing Systems*; UFC 4-020-01, *DoD Security Engineering Facilities Planning Manual*; UFC 4-020-02FA, *Security Engineering: Concept Design*; and UFC 4-020-03FA, *Security Engineering: Final Design*. **(T-0)**

3.2. Facility O&M.

3.2.1. **Water Treatment and Distribution Systems.** Installations must operate and maintain water treatment and distribution facilities according to this instruction, UFC 3-230-02, and applicable state and Federal laws. When appropriate, installations shall also use the manufacturer's O&M manuals or plant-specific OMTAP Volume II for specific treatment components. **(T-0)**

3.2.1.1. Installations that own or operate a potable water treatment facility serving 3,300 persons or more must provide optimally fluoridated water as required by DUSDE (IE) memo *Fluoridation at DoD Owned or Operated WTPs,* 18 Mar 2013 and UFC 3-230-03 *Water Treatment*. **(T-0)**

3.2.2. **Scale and Corrosion Control.** AFI 32-1054, *Corrosion Control*, outlines the corrosion control program. **(T-1)**

3.2.3. **Disinfection.** The disinfection process inactivates pathogenic organisms in water by chemical oxidants or equivalent agents. Specific disinfection procedures can be found in American Water Works Association (AWWA) Standard C651-05, *Disinfecting Water Mains*, AWWA Standard C652-02, *Disinfection of Water Storage Facilities*, and AWWA Standard C654-03, *Disinfection of Wells*.

3.2.3.1. Air Force-owned or -operated water production and treatment facilities will be operated with a detectable (measurable level) disinfection residual at all points of the distribution system and throughout the potable water storage tanks served by the treatment plant. This requirement varies from location to location, so the appropriate regulatory agency will need to be consulted to establish the correct level. **(T-0)** (Refer to AFI 48-144 for additional guidance regarding disinfectant surveillance.)

3.2.3.2. **Distribution System Inspection and Hydrant Flushing.** Distribution system components such as fire hydrants and blow-off hydrants shall be inspected, preventative maintenance performed, and checked for proper operation at least semi-annually IAW UFC 3-230-02, *O&M: Water Supply Systems,* and fire-flow testing/system flushing shall be conducted every five years IAW UFC 3-601-02, *Operation and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems*. The required frequency and method of flushing (routine or unidirectional) will be determined based on individual water system requirements and documented in an installation flushing plan; however in no case shall any section of water main go longer than five years between unidirectional flushings. The installation flushing plan will be coordinated with BE. **(T-0)** Due to

corrosion and tuberculation associated with cast iron pipes, cast iron pipes may require more frequent flushing.

3.2.4. **Water System Hydraulic Models (WSHM).** (Follow the latest edition of AWWA Manual M32, *Computer Modeling of Water Distribution Systems*) When the WSHM is used the BCE ensures installation WSHM are checked for accuracy by field flow testing. Hydrant and distribution system flow testing results shall be documented. Integrate the WSHM into the installation's GIS. For major water distribution system construction projects, the construction contract must require that the contractor update the WSHM and other associated utility management systems to reflect these construction changes or additions and help develop the most appropriate construction project design and execution. **(T-1)**

3.2.5. **Water Treatment Logs.** The Automated Civil Engineer System (ACES), electronic spreadsheets, commercial software, or other electronic formats that collect the same data as the forms in paragraphs 2.2.5.1 and 2.2.5.2 may be used in place of these Air Force forms. The use of EPA or state-mandated forms in place of these Air Force forms is authorized. **(T-0)**

3.2.5.1. **AF Form 1460 and AF Form 1461.** Operators at every installation must prepare AF Form 1461, *Water Utility Operating Log (General).* If the water requires more than minor treatment (more than chlorination), prepare AF Form 1460, *Water Utility Operating Log (Supplemental).* **(T-1)**

3.2.5.2. **Daily Well and Pumping Station Activity Records.** Maintaining daily operating records for wells and pumping stations is a necessary part of water supply systems O&M. The forms in paragraph 3.2.5.1 are available for use.

3.2.5.2.1. **AF Form 997*, Daily Well Activity Record.*** Use this form to record operational information about the well. This information helps when evaluating the performance of the well and pumping system. Records showing trends such as an increase in drawdown or decreased yield help to detect existing problems and prevent future ones.

3.2.5.2.2. **AF Form 998*, Daily Pumping Station Activity Record–Water.*** Use this form to record pertinent operational information such as pumping times and rates. Entries on this record are good performance indicators.

3.2.5.2.3. **DD Forms:** DD Form 2680, *Military Water Well Completion Summary Report*; DD Form 2679, *Piping and Casing Log*; and DD Form 2678, *Well Driller's Log*, are prescribed by AFMAN 32-1072_IP, *Water-Well Drilling Operations.*

3.2.5.2.3.1. Complete and keep a file for each well, beginning with initial construction. **(T-1)**

3.2.5.2.3.2. Update the information after completing a repair, redeveloping a well, or conducting a performance test. **(T-1)**

3.2.5.2.3.3. Properly licensed personnel may be needed to construct new wells or modify existing wells IAW state and local regulations. **(T-0)**

3.2.5.2.3.4. **Recordkeeping.** The BCE verifies all required documents, records, and monitoring and sampling data are retained and for the length of time required by applicable health services departments. Some records are required to be retained for three

years, others five years, and others ten years (e.g., chemical monitoring analysis, disinfection residuals if the system disinfects). Some information is kept permanently (e.g., well siting approval letters, pump test results, groundwater withdrawal permit). The WET application may be used to archive water system regulatory records. **(T0)**

3.3. Special Considerations.

3.3.1. **Water Rights.** The BCE will maintain permanent records on all water-related documents and data pertaining to water rights as part of asset management, specifically under the real property section (see Attachment 2). The base CES real property office will be the lead for water rights/water resources documentation. It is Air Force policy to retain water rights; if systems or services are privatized, the base shall ensure that Air Force interests in water rights/water resources are not jeopardized. **(T-1)** For further details concerning privatization, refer to the Air Force *Utilities Privatization Playbook* and consult with AFCEC/CNU.

3.3.2. **Water Vulnerability Assessments (WVA).** CES personnel shall assist BE to conduct WVAs IAW AFMAN 10-246, *Food and Water Protection Program*, and prepare water contingency response plans (WCRP) for deficiencies identified in the WVA, WVA updates, and other required sources. **(T-1)**

3.3.3. **Water System Lead Content.** All new installations or repairs to public DW systems require the use of lead-free flux and solder, pipes, and pipe fittings as defined by the SDWA. **(T0)**

3.3.4. **Air Force Backflow Prevention Program.** Bases under U.S. jurisdiction must use the Uniform Plumbing Code (UPC) (Section 603, "Cross-Connection Control") and UPC Illustrated Training Manual to inspect, test, install, repair, and replace backflow prevention devices. **(T-1)** (Fire protection systems are exempt from this requirement. See paragraph 3.3.4.6 for fire protection systems requirements.) When the backflow requirements of this AFI, the UPC, and the International Plumbing Code (IPC) conflict, comply first with this AFI, second with the UPC, and third with the IPC, all in accordance with state/local regulations. If no state or local training/certification is specified, certificated training from any state/local or Air Force approve certificated program is required at a minimum. Specific backflow requirements are as follows:

3.3.4.1. **Design of Equipment.** BCE personnel must first consider designing a solution to eliminate the potential for a cross-connection. **(T-0)**

3.3.4.2. **Device Accessibility.** New and existing backflow devices will be planned for and installed to be readily accessible within 1 to 5 feet (0.3 to 1.5 meters) above the floor or grade, at least 1 foot (0.3 meter) from the back wall and have at least 1 foot (0.3 meter) clearance above the device, and documented on AF Form 845, *Cross-Connection Information* or state mandated forms. Backflow devices must be installed with appropriate clearances and in accordance with the manufacturer's installation instructions. **(T-0)**

3.3.4.3. **Device Location Safety.** Locate devices outside of areas containing toxic, poisonous, or corrosive fumes. **(T-0)**

3.3.4.4. **Device Protection.** Enclosures should be installed to secure exterior backflow preventers serving critical or highrisk facilities. Backflow preventers serving only nonpotable uses (e.g., fire protection systems) are excluded. **(T-0)**

3.3.4.5. **Hose Bibb Devices.** At a minimum, specify atmospheric vacuum breakertype devices that meet American Society of Sanitary Engineering (ASSE) Standard 10112004, *Performance Requirements for Hose Connection Vacuum Breakers*. **(T-1)**

3.3.4.6. **Fire Suppression Systems.** Backflow protection on Air Force fire suppression systems shall be IAW AWWA Manual M14, Chapter 6 and UFC 3-601-02, in lieu of the UPC. Fire protection systems that use nonpotable water are exempt from backflow requirements. **(T-1)**

3.3.4.6.1. **New Fire Suppression Systems**. All new fire suppression systems using potable water shall have backflow prevention installed. Install a double check valve backflow preventer on new dry/wet fire suppression systems that use only water as a fire suppressant (with or without fire department [Siamese] connections). Use a reduced pressuretype backflow device only where antifreeze, foam, or other hazardous chemicals are added, or where local or state requirements require such devices and the waiver of sovereign immunity applies. **(T-0)**

3.3.4.6.2. **Existing Fire Suppression Systems**. Existing fire suppression systems using only water as a fire suppressant are exempted from the backflow requirements for new systems if they met the existing backflow requirements at the time they were installed**. (T-0)**

3.3.4.7. **Hydraulic Losses**. Pressure losses through a backflow prevention device will degrade the effectiveness of a fire protection system or other water system. Design and submittal acceptance by a registered Professional Engineer must be completed to ensure that the rated working flow rate of the selected valve meets the flow requirements of the system. **(T-0)**

3.3.4.8. **Water System Backflow Prevention/Cross-Connection Survey.** Every five years, under the supervision of the base BPM, BCE personnel, with the assistance of the BEE or qualified BE personnel and/or qualified contractors, shall survey all facilities and water-using equipment and systems, with results documented on an AF Form 848, *Inventory of Cross-Connection Control and Backflow Prevention Devices*, a computerized maintenance management system (CMMS), or state submittal forms. **(T-0)**

3.3.4.9. **Testing and Inspecting Backflow Preventers.** The BPM ensures that a schedule is developed and used by certified technicians to inspect and test backflow assemblies. At a minimum, testable devices shall be tested after installation, cleaning, repair or relocation, and at least annually, with results documented on an AF Form 843, *Backflow Prevention Device Inspection Data* and AF Form 845, state-mandated forms, the Automated Civil Engineer System Program Management module (ACESPM), or another CMMS system approved by the base BPM. **(T-0)**

Chapter 4

WASTEWATER SYSTEMS

4.1. Wastewater System Design. Wastewater systems shall be designed IAW UFC 3-240-01; UFC 3-240-02, *Domestic Wastewater Treatment*; UFC 3-240-13FN, *Industrial Water Treatment Operation and Maintenance*; and UFC 3-420-01. UFC 3-240-03N (Military Handbook [MIL-HDBK]-1138), *Wastewater Treatment System Operation and Maintenance Augmenting Handbook*, also has relevant O&M criteria. **(T-0)**

4.2. Wastewater Treatment Systems O&M. CEO operates and maintains water pollution control facilities within applicable permit limits according to base-specific OMTAP manuals or plant-specific O&M manuals; there is also relevant guidance in UFC 3-240-03N (MIL-HDBK-1138). Activities that require special attention include metal finishing and electroplating; vehicle and engine maintenance and vehicle and aircraft wash facilities; aircraft maintenance (paint stripping, nondestructive inspection, painting, and solvent cleaning); battery shops; photo labs; hospitals; aircraft deicing; base CE activities; and fire training. Proper O&M of oil/water separators (OWS), pretreatment systems, and lift stations must also be addressed. **(T-0)**

4.2.1. **Wastewater Treatment Logs.** Operators must prepare AF Form 1462, *Water Pollution Control Utility Operating Log (General).* The use of electronic databases or EPA and state-mandated forms in place of AF Form 1462 is authorized. **(T-0)**

4.2.1.1. Bases with wastewater treatment plants must have written instructions that govern the discharge of industrial and non-domestic waste to the sanitary system by generating activities. Instructions shall describe pretreatment requirements, discharge procedures, and limitations for industrial waste. The wing commander can impose these requirements. Within each generating organization, the activity commander is responsible for controlling industrial discharges. These organizations must use the pollution-control techniques specified in AFI 32-7001 to minimize pollutant discharges. Hazardous waste or other prohibited materials may not be discharged to the collection system. **(T-0)**

4.2.1.2. Disinfect effluents when necessary to comply with Federal, state, and local requirements for water pollution control. De-chlorination of the effluent may also be required at some locations. **(T-0)**

4.3. Special Considerations.

4.3.1. All Air Force installations and facilities located in the U.S. shall operate IAW applicable Federal, state, and local regulations, including requirements to obtain permits or applicable POTW regulations, permits, and contractual agreements, which include, but are not limited to, the following:

4.3.1.1. Develop pretreatment programs, if required, for wastewater discharges to satisfy pretreatment requirements. See 40 CFR Parts 403 through 471, *Effluent Guidelines and Standards*. **(T-0)**

4.3.1.2. Comply with applicable state or local regulations regarding septic systems. **(T-0)**

4.3.1.3. NPDES-permitted FOTWs must comply with 40 CFR Part 503, *Standards for the Use or Disposal of Sewage Sludge*, including requirements to obtain permits for land application, surface disposal, or incineration of sewage sludge. **(T-0)**

4.3.1.4. Air Force installations shall conduct cross-connections and illicit discharge inspections/elimination/construction/repair. **(T-1)**

4.3.1.5. Eliminate/minimize storm water inflow and groundwater infiltration to wastewater collection systems to prevent sewer system overflows (SSO) and non-compliance with permit requirements. **(T-0)**

4.3.1.6. **(Added-EGLINAFB)** Base units must consult with 96 CEG/CEIEC prior to discharging wastewater into the sanitary sewer system from any new or modified industrial process.

4.3.2. Collect and manage industrial wastewater (e.g., wastewater discharge from aircraft hangar accidental release of fire fighting foam solution) as a hazardous waste per AFI 32-7042, *Waste Management*, if regulations or permit limits prohibit discharging such wastewater into domestic or other non-industrial sewer systems. Pre-treat regulated industrial wastewater discharges to FOTWs or HN wastewater systems per applicable permit requirements. Discharge of domestic waste containing industrial waste that does not qualify under the RCRA domestic sewage exclusion (DSE) will not be discharged to cesspools, septic systems, or storm water retention ponds. **(T-0)**

4.3.2.1. Unless permitted, do not discharge substances to sanitary or storm systems that contain perfluorinated compounds (PFCs) like perfluorooctane sulfonic acid (PFOS), perfluorooctanoic acid (PFOA), perfluorononanoic acid (PFNA), perflourohexane sulfonic acid (PFHxS), perfluoroheptanoic acid (PFHpA), or perflurobutanesulfonic acid (PFBS). PFC-containing firefighting foams will not be discharged to a POTW or FOTW. Release of firefighting solutions that contain PFCs from fire systems test activation and fire vehicle chemical discharges will be captured, contained, and disposed of to meet applicable regulatory requirements or applicable policy directives. **(T-0)**

4.3.2.2. Firefighting solutions that do not contain PFCs may be discharged to the sanitary sewer after receiving approval from the receiving POTW or FOTW. **(T-0)**

4.3.3. **Lift Stations.** Lift stations must have audible and visual alarms at each pump station to alert maintenance staff of pump failures. Include equipment to transmit alarm signals to a central monitoring point, if possible. Provide major lift stations with equipment to collect alarm data during power failures. Alarm data collection at a central monitoring point as an alternative is acceptable. Backup batteries or other emergency power sources to retain alarm data during power failures are required for major lift stations. **(T-0)**

4.3.4. **Oil/Water Separators (OWS).** Do not install any new OWSs until all alternatives have been evaluated. Follow Army Environmental Center SFIM-AEC-EQ-CR-200010, *Multiservice Oil/Water Separator Guidance Manual*, to evaluate alternatives. **(T-2).**

4.3.4.1. Solvents, paints, cleaning compounds, corrosion-control facility waste, and other non-oily wastes shall not be discharged into OWSs. **(T-0)**

4.3.4.2. Obtain an appropriate NPDES or HN wastewater discharge permit if a discharge from an OWS to a wastewater treatment plant (WWTP) is not possible. **(T-0)**

4.3.5. **Large-Capacity Cesspools.** Federal regulations require the closure of existing large-capacity cesspools. Federal regulations also require the closure or permitting of Class V underground injection control wells that discharge motor vehicle maintenance operations wastewater. **(T-0)**

4.3.6. **Prohibition of Bypasses.** Federal and some FGS regulations prohibit piped connections, overflow devices and intentional bypasses that directly discharge untreated wastewater into waters of the U.S. or the HN, except under limited circumstances (see 40 CFR Part 122.41, *Conditions applicable to all permits*, (m)(4) and (m)(2)). Wastewater collection systems and pumping stations must not bypass nor allow overflow into storm sewers or waters of the U.S. Notify regulatory authorities of an unauthorized discharge event within 24 hours of discovery or IAW local, state, or other reporting requirements (see AFI 10-206, *Operational Reporting*, and AFI 32-7047, *Environmental Compliance, Release, and Inspection Reporting).* **(T-0)**

4.3.6.1. **(Added-EGLINAFB)** All releases of domestic wastewater, either treated or untreated, shall be reported to Florida Department of Environmental Protection (FDEP) by 96 CEG/CEIEC within 24 hours of being made aware of the release. In order to meet this 24-hour notification requirement, base personnel shall report known wastewater spills to 96 CEG/CEIEC within 2 hours of discovery. See Attachment 3 (Sewage Discharge Contingency Plan) for detailed response and reporting procedures.

4.3.7. **DMR Submissions. CEI e**nsures DMRs have been submitted to the permitting authority, as required, according to the schedule that the discharge permit specifies, by registered mail or Air Force/agency-approved electronic method to guarantee a record of on-time arrival. **(T-0)**

4.3.8. **NPDES Permits.** For installations located in the U.S., discharges of domestic wastewater require an NPDES permit from Federal or delegated state regulatory authorities. These permits will be coordinated by CEI with the MAJCOM (NGB or AFRC only) or IST to ensure that proposed requirements are reasonable and achievable. Input and maintain wastewater NPDES permits in the WET system. **(T-0)**

4.3.8.1. **Permit Applications.** All permit applications shall be signed IAW 40 CFR Part 122.22 or applicable state or local regulation. For military facilities, the authorized signatory authority is the senior executive officer; typically, this is the Air Force installation commander having responsibility for the overall operations of the installation. Reports required by permits and other information must be signed and/or certified by the installation commander except to the extent delegations are authorized under applicable Federal or state regulations. **(T-0)**

4.3.8.2. **Enforcement Action (EA) and HN Enforcement Action (HNEA) Process.** Refer to AFI 32-7047 for coordination, processing, and reporting EAs/HNEAs. **(T-1)**

4.3.8.3. **Pretreatment Requirements.** Installation BCEs shall develop pretreatment programs, if required, for wastewater discharges to satisfy pretreatment requirements. See 40 CFR Parts 403 through 471. **(T-0)**

4.3.8.4. **Discharges to POTW Treatment Facilities.** Installations that discharge to POTWs are considered as indirect dischargers and are regulated by the POTW authority.

Installations must comply with applicable POTW regulations, permits, and contractual agreements. **(T-0)**

4.3.8.5. **Discharges from FOTW.** Wastewater point source discharges into waters of the U.S. require NPDES permits. **(T-0)**

4.3.8.6. **Septic Systems.** The BCE ensures compliance with applicable state or local regulations regarding septic systems. Connect septic systems to POTWs or domestic wastewater systems to maintain compliance. Industrial wastewater shall not be discharged to septic systems. **(T-0)**

4.3.8.7. **(Added-EGLINAFB)** prior to placing a project to upgrade, modify, replace or build a new wastewater system (including a collection and transmission system) into operation, the system must first be approved by FDEP. The request for approval must be made on the appropriate FDEP form, signed and sealed by a Professional Engineer, and coordinated through 96 CEG/CEIEC.

4.3.9. Other Water Discharge Permits.

4.3.9.1. **Dredge or Fill Permits.** CWA Section 404 requires a permit from the U.S. Army Corps of Engineers (or authorized state) to discharge dredged or fill material into navigable waters (waters of the U.S., including jurisdictional wetlands that are waters of the U.S.). **(T-0)** Examples of such activities include depositing of dredged or fill material, site development fill, and construction activities.

4.3.9.2. **Pesticides.** The CWA general NPDES permit covers application of biological pesticides or chemical pesticides that leave a residue "on or near" waters of the U.S. Due to the permit differences from state to state, care must be taken to determine applicability. **(T-0)**

4.3.10. **(Added-EGLINAFB) Vehicle Rinsing and Washing Operations**

4.3.10.1. **(Added-EGLINAFB)** Rinsing of vehicles is allowed on the Eglin reservation. Rinsing shall be defined as the removal of dirt and/or solids by allowing water to flow over the surface of the vehicle without the use of soaps, detergents, or any other cleaning fluid. In areas where the wash rack is located near a surface water body and the wastewater is reasonably expected to be discharged into this water body, this rinsing operation can occur only if the waters discharged from the wash area are detained immediately after being discharged to allow for suspended solids, soil, debris, etc. to be removed from the wash water.

4.3.10.2. **(Added-EGLINAFB)** Vehicle washing is defined as using soaps, detergents and other additives and is only allowed at wash rack facilities connected to a wastewater treatment plant, wash racks connected to a closed-loop water recycling facility, or a specified location utilizing best management practices approved by 96 CEG/CEIEC. Unless proper permits are obtained, conducting vehicle wash operations at any other facility or location is in violation of the requirements of the Clean Water Act Amendments and is therefore prohibited.

4.3.10.3. **(Added-EGLINAFB)** Discharge to an on-site septic tank from a wash rack shall be allowed only if: The septic tank system serves the complete needs of the entire

facility (not just the associated wash rack); the septic tank was designed with a capacity of 5,000 gallons per day or less; and, initial data, such as samples and analysis, can be shown to prove pollutants are not passing through the septic tank and discharged into the drain field. These analysis results shall be forwarded to 96 CEG/CEIEC so as to be made part of the permanent record.

Chapter 5

STORM WATER SYSTEMS LOCATED IN THE U.S.

5.1. Storm Water System Design. The BCE designs surface drainage, underground drainage systems, storm water management facilities, and erosion and sediment control in accordance with UFC 3-201-01, 1 Jun 2013 and applicable requirements of the local regulatory agency with jurisdiction over the Installation; UFC 3-210-10; applicable LEED credits; and the criteria noted in this UFC; whichever is more stringent. **(T-0)**

5.2. Storm Water Systems O&M and Compliance. The BCE operates and maintains storm water facilities within applicable permit limits and according to relevant guidance in ETL 14-1 *Construction and Operations and Maintenance Standards for Storm Water Systems*. **(T-0)**

5.2.1. Storm Water NPDES Permit. Storm water discharges to the waters of the US must be covered under either a General or an Individual permit. When possible, installations should strive to operate under a General Storm Water permit. Industrial activities coverage under an NPDES permit is required for discharge of certain storm water categories associated with for example runway and aircraft deicing, landfill runoff, wash racks, etc. into waters of the U.S. Installations are automatically regulated as small MS4s (Municipal Separate Storm Sewer System) if they are located within an Urbanized Area (UA), designated by the Bureau of the Census. Input and maintain storm water NPDES permits in the WET system. **(T-0)**

5.2.2. For CONUS installations, NPDES storm water discharge permit holders must develop and implement a SWPPP meeting Federal and state regulatory requirements (40 CFR 122.26 and 123.25). For overseas installations, the FGS or OEBGD also require the development and implementation of a SWPPP. Develop and implement BMPs to eliminate/minimize pollutants. Pursue non-structural BMPs before considering structural BMPs. Ensure BMPs are achievable and cost effective. **(T-0)**

5.2.2.1. **(Added-EGLINAFB)** 96 CEG/CEIEC will ensure the annual Stormwater Pollution Prevention Plan (SWPPP) certification will be performed no later than the anniversary of the MSGP. A copy of the certification will be kept with the hard copy of the SWPPP located in the Storm Water Program Managers Office.

5.2.2.2. **(Added-EGLINAFB)** Visual monitoring of designated storm water outfalls shall be completed quarterly each year of the 5-year MSGP as described in the SWPPP. Analytical monitoring of selected representative storm water outfalls shall be completed quarterly during years 2 and 4 of the permit. If an outfall has no exceedances beyond permitted limits during year 2 sampling, analytical monitoring in year 4 is not required.

5.2.2.3. **(Added-EGLINAFB)** Qualified facility personnel shall inspect industrial areas of the facility on the prescribed frequency as designated in the SWPPP. All inspections shall be documented.

5.2.3. Municipal Separate Storm Sewer System (MS4). Installations are automatically regulated as small MS4s if they are located within an Urbanized Area (UA), designated by the Bureau of the Census. Installations should consult with JA to determine whether the installation is required to comply with MS4 requirements. Under some conditions, the

regulatory agency may designate installations not located in a UA for MS4 permit coverage. **(T-0)**.

5.3. Special Considerations

5.3.1. Regulated Construction Activities**.** Construction activities disturbing one (1) or more acres in aggregate require a site specific SWPPP and the timely submission of a Notice of Intent (NOI) to be sent to the appropriate permitting agency. The Installation Management Flight (IMF) will review proposed construction activities to determine whether exemptions to submitting an NOI are available. Attention should be given to permitting authority-specific requirements such as: parties submitting an NOI, signatory authority, preparing and keeping a copy of the SWPPP on-site, and statutory waiting period after submission of the NOI before construction can begin. For overseas installations, refer to water discharge permits issued by recognized HN governments or authorities. **(T-0)**

5.3.1.1. EISA 2007 Section 438 Compliance. Federal projects that construct facilities with a footprint greater than 5,000 gross square feet, or projects that expand the footprint of existing facilities by more than 5,000 gross square feet shall use planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow. DoD defines 'predevelopment hydrology' as the pre-project hydrologic conditions. Storm water systems shall be designed in accordance with Energy Independence Security Act (EISA) of 2007, Section 438. Although the performance requirements of EISA Section 438 apply only to the project footprint, the flexibility exists to utilize the entire federal property in implementing the storm water strategies for the project. EISA 438 compliance should be addressed at the watershed level wherever possible for multiple applicable projects, rather than separately for individual single construction projects. Any construction of the permanent retention or detention ponds is strongly discouraged. If retention/detention option is selected, written documentation for options considered and justification for the choice should be included in the design analysis. (See DUSD (I&E) 19 January 2010 policy memorandum, subject: DoD Implementation of Storm Water Requirements under Section 438 of the Energy Independence and Security Act). See also UFC 3-210-10, Low Impact Development, 15 November 2010 for DoD implementing guidance. For EISA 438 applicable projects (MILCON, O&M, NAF, etc.) CEN updates ACES-PM MAJCOM unique by selecting "EISA 438" and input in the value field 'Yes' or 'No' to indicate whether EISA 438 has been addressed for the project. Estimated design and construction costs for implementing EISA Section 438 shall be documented in the project cost estimate as a separate line item. **(T-0)**

5.3.1.2. **(Added-EGLINAFB)** During construction, the permittee, whether in-house or contract, shall comply with all terms and conditions of applicable National Pollutant Discharge Elimination System (NPDES) storm water permits, including weekly inspections by qualified personnel. Inspections and follow-up actions shall be documented. Under most circumstances when the construction is being performed by contract, the contractor shall be the permittee.

5.3.2. **(Added-EGLINAFB)** All proposed activities on Eglin AFB property that include construction, alteration, or removal of storm water management systems (for definition, see

Terms in Attachment 1) shall be evaluated to determine if the activity qualifies for an ERP according to Chapter 62-330, F.A.C. or can be exempted. Work that requires permitting shall not be started until permit is issued.

5.3.2.1. **(Added-EGLINAFB)** Before initiating work for activities that qualify for an individual ERP the permittee, with assistance from 96 CEG/CEIEC, must notify the appropriate regulatory agency (either FDEP or NWFWMD). The notice shall be on the proper form as designated in Chapter 62-330 F.A.C.

5.3.2.2. **(Added-EGLINAFB)** When projects with ERP permits are completed, the permittee shall submit an "As-Built Certification and Request for Conversion Operation Phase" within 30 days as designated in Chapter 62-330 F.A.C. The responsible operation and maintenance entity shall inspect the storm water management system as required by the ERP permit after conversion to the operation phase. All inspection reports shall be documented using "Operation and Maintenance Inspection Certification" form as designated in 62-330 F.A.C.

5.4. Storm Water Fees. Section 313(c) of the CWA was amended 4 January 2011 through Public Law 111-378 to require Federal entities to pay "reasonable service charges" for storm water discharge or runoff from Federal property or a Federal facility, to include reasonable nondiscriminatory fees, charges, or assessments. **(T-0)**

5.4.1. Installations that receive a storm water fee assessment shall coordinate with their local JA prior to any payments. The BCE seeks technical assistance from the IST as required and legal support from AFLOA/JACE. Payments are made after appropriate legal approvals. Input storm water fees paid pursuant to Public Law 111-378 in the WET system. **(T-0)**

5.5. Wastewater Discharges from Aircraft Hangars. Aircraft or vehicles shall not be washed or rinsed off in non- corrosion control facilities, corrosion control facilities or other aircraft hangars unless this specific effluent has been addressed within an NPDES permit application and approved by NPDES authority. Wastewater from aircraft hangars containing non-petroleum materials or products will not be discharged to pretreatment gravity OWSs. If wastewater characterization is hazardous follow hazardous waste disposal requirements per AFI 32-7042, *Waste Managemen.t* **(T-0)**

5.6. Accidental Releases of Fire Fighting Foam Solutions. Unless permitted, do not discharge substances that contain pentadecafluorooctanoic acid, perfluorooctanoic acid, perfluorocaprylic acid or perfluorooctanoate (PFOA) or perfluorooctanyl sulfonate, perfluoronoanoic acid (PFOS). Release of firefighting solutions from fire systems test activation and fire vehicle chemical discharges will be captured, contained and disposed to meet applicable regulatory requirements. Prior to discharge to the sanitary sewer; obtain approval of the receiving POTW or FOTW. If metered firefighting foam release to the sanitary sewer is not approved, then containerize and dispose following regulatory standards. Firefighting foam of all types will not be released to storm water conveyance structures. Overseas installations shall refer to water discharge permits issued by recognized HN governments or authorities. See AFI 32-7047 on release reporting requirements. **(T-0)**

5.7. Other Wastewater and Storm water discharges: Wastewater and storm water discharges associated with the industrial activities (such as aircraft birdbaths, aircraft deicing operations,

firefighting training operations, etc…) must be permitted as required by applicable NPDES regulations. **(T-0)**

Chapter 6

LIQUID FUELS SYSTEMS

6.1. Liquid Fuels System Design. Liquid fuel systems shall be designed IAW UFC 3-460-01, *Design: Petroleum Fuel Facilities*. **(T-0)**

6.2. Liquid Fuels System O&M. Operate and maintain liquid fuel system facilities IAW UFC 3-460-03, *Operation and Maintenance: Maintenance of Petroleum Systems*, and AFI 23-201, *Fuels Management.* **(T-0)**

6.3. Special Considerations. Storage tank environmental compliance is directed by AFI 32-7044, *Storage Tank Environmental Compliance.*

Chapter 7

NATURAL GAS SYSTEMS LOCATED IN THE U.S.

7.1. Natural Gas System Design. Natural gas and LPG systems shall be designed IAW DOT PHMSA; 49 CFR Part 192; UFC 3-430-09, *Exterior Mechanical Utility Distribution*; and Unified Facilities Guide Specification (UFGS) 33-51-15, *Natural Gas/Liquid Petroleum Distribution*. LPG distribution systems shall also comply with National Fire Protection Association (NFPA) 58, *Liquefied Petroleum Gas Code*, and natural gas distribution systems shall comply with NFPA 54, *National Fuel Gas Code*. **(T-0)**

7.1.1. All buried nonmetallic piping shall have an electrically conductive wire or tape buried within 12 inches (305 millimeters) above the pipe as a means for locating the pipe. High-density polyethylene (HDPE) pipe specifically manufactured for natural gas or LPG is the only acceptable nonmetallic material for buried systems. **(T-1)**

7.1.2. LPG containers shall comply with NFPA 58. All containers shall have pressure relief devices. Verify that LPG containers or pressure vessels meet the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* and American Petroleum Institute (API) minimum requirements, and are marked to show compliance with these requirements. Markings show designed working pressure and capacity. Identify container content according to Military Standard (MIL-STD)-101C, *Color Code for Pipelines and for Compressed Gas Cylinders*. Testing dates shall be shown on all LPG pressure vessels. **(T-0)**

7.1.3. **Design of LPG Propane-Air Mix Plants (PAMP).** Propane air mix is also known as synthetic natural gas. Design of PAMP shall comply with NFPA 58 and NFPA 59, *Utility LP-Gas Plant Code*. **(T-0)**

7.1.3.1. PAMPs supplied by LPG may be installed when economically justified or as standby for systems with interruptible natural gas supply contracts. Follow the original PAMP manufacturer's instructions for the operation, maintenance, and inspection of this equipment. **(T-1)**

CAUTION: <u>COMPRESSED NATURAL GAS (CNG) VEHICLE FUELING STATIONS MUST NOT BE CONNECTED TO DISTRIBUTION PIPING THAT COULD AT ANY TIME CONTAIN SUBSTANCES OTHER THAN NATURAL GAS. DOING SO COULD RESULT IN AN EXPLOSION.</u>

7.1.3.2. The LPG in the propane-air mix will separate from the air and liquefy when compressed by the CNG system, which operates at a much higher pressure than LPG systems. This may damage the CNG system as well as vehicles or equipment designed strictly to operate on CNG. Additionally, this creates a potential explosive safety hazard.

7.2. Gas Systems O&M. Operate fuel gas systems and perform maintenance on the systems to comply with the O&M plan developed using the DOT PHMSA. **(T-0)** Coordinate with engineering to prepare and update system maps. Maintain cathodic protection on metallic piping systems. Use DOT PHMSA for shop reference. **(T-0)**

7.2.1. Verify that system-critical (key) valves and other critical components have been maintained and operated as required in the O&M plan. Key valves must be checked at least once every year to ensure they are operable. **(T-0)**

7.2.2. Gas leak surveys shall be accomplished annually, using leak-detection equipment, not to exceed 15 months between surveys. **(T-0)** Gas leak surveys shall be documented on forms similar to those under Appendix B to DOT PHMSA. **(T-1)** The frequency of inspections may be lengthened to two years for systems where underground piping is entirely constructed of HDPE pipe and when no leaks were discovered in the test immediately prior to the current test cycle. Gas lines in highly populated areas of the base should be tested annually regardless of pipe materials used.

7.2.3. All gas on Air Force installations shall have a distinct odor to allow easy detection in the atmosphere at all gas concentrations from one-fifth of the lower explosive limit and above. **(T-0)** When such gases are not otherwise available, in-house technicians or the gas supplier will add the odorant.

7.3. Gas Distribution System Map. The BCE will prepare and maintain a general layout map of the base gas distribution system in the "G" series of the Base Comprehensive Plan. The BCE must distribute a complete map to the fire chief and all base activities involved in operating and maintaining the gas distribution system. Copies will be updated annually; show dates of revisions. **(T-1)** The map will be large enough to show (if applicable):

7.3.1. Regulator locations. **(T-1)**

7.3.2. Flow quantities and pressures. **(T-1)**

7.3.3. All connected loads. **(T-1)**

7.3.4. Size and material of all mains and services (include the manufacturer's name, numerical designation, American Society for Testing and Materials [ASTM] number, connectors, and any other available descriptive information).

7.3.5. Locations with respect to streets.

7.3.6. Any major structures related to or served by the system.

7.3.7. Valves and distribution-line regulators by number.

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

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AFI 32-7044, *Storage Tank Environmental Compliance*, 25 April 2012

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AFI 48-145, *Occupational and Environmental Health Program*, 22 July 2014

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AWWA Manual M32, *Computer Modeling of Water Distribution Systems,* 2012

AWWA Standard C651-05, *Disinfecting Water Mains*, 2005

AWWA Standard C652-02, *Disinfection of Water Storage Facilities*, 2011

AWWA Standard C654-03, *Standard for Disinfection of Wells*, 2013

29 CFR Part 1910, *Occupational Safety and Health Standards*

33 CFR Part 154, *Facilities Transferring Oil or Hazardous Material in Bulk*

40 CFR Part 60, *Standards of Performance for New Stationary Sources*

40 CFR Part 112, *Oil Pollution Prevention*

40 CFR Part 122, *EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (NPDES)*

40 CFR Part 122.2, *Definitions*

40 CFR Part 122.22, *Signatories to permit applications and reports*

40 CFR Part 122.26, *Storm water discharges*

40 CFR Part 122.41(m)(4) and (m)(2), *Conditions applicable to all permits*

40 CFR Part 123.25, *Requirements for permitting*

40 CFR Part 130, *Water Quality Planning and Management*

49 CFR Part 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*

40 CFR Part 280, *Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST)*

40 CFR Part 281, *Approval of State Underground Storage Tank Programs*

40 CFR Parts 403–471, *Effluent Guidelines and Standards*

40 CFR Part 403, *General Pretreatment Regulations for Existing and New Sources of Pollution*

40 CFR Part 403.3, *Definitions*

40 CFR Part 503, *Standards for the Use or Disposal of Sewage Sludge*

49 CFR Part 195, *Transportation of Hazardous Liquids by Pipeline*

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Utilities Privatization Playbook, **https://app.eis.af.mil/a7cportal/CEPlaybooks/ENG/PO/UtilitiesPrivatization/default.aspx**

Water Program Management Playbook, **https://app.eis.af.mil/a7cportal/CEPlaybooks/IM/ENV/WaterProgramManagement/default.aspx**

Prescribed Forms

AF Form 843, *Backflow Prevention Device Inspection Data*

AF Form 845, *Cross-Connection Information*

AF Form 848, *Inventory of Cross-Connection Control and Backflow Prevention Devices*

AF Form 997, *Daily Well Activity Record*

AF Form 998, *Daily Pumping Station Activity Record – Water*

AF Form 1460, *Water Utility Operating Log (Supplemental)*

AF Form 1461, *Water Utility Operating Log (General)*

AF Form 1462, *Water Pollution Control Utility Operating Log (General)*

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

DD Form 2678, *Well Driller's Log*

DD Form 2679, *Piping and Casing Log*

DD Form 2680, *Military Water Well Completion Summary Report*

Abbreviations and Acronyms

AF—Air Force (as used on forms)

AFCEC/CNU—Air Force Civil Engineer Center, Energy Directorate, Utilities Privatization Division

AFCEC/CO—Air Force Civil Engineer Center, Operations Directorate

AFCEC/CZ—Air Force Civil Engineer Center, Environmental Center of Excellence

AFCEC—Air Force Civil Engineer Center

AFI—Air Force instruction

AFLOA—Air Force Legal Operations Agency

AFMAN—Air Force manual

AFPD—Air Force policy directive

AFRC—Air Force Reserve Command

API—American Petroleum Institute

ASME—American Society of Mechanical Engineers

AWWA—American Water Works Association

BCE—Base Civil Engineer

BE—bioenvironmental engineering

BEE—Bioenvironmental Engineer

BMP—Best management practice

BPM—backflow program manager

CAA—Clean Air Act

CCTV—closed-circuit television

CE—civil engineer

CEI—civil engineer, installation management flight

CEN—civil engineer, engineering flight

CEO—civil engineer, operations flight

CES—civil engineer squadron

CFR—Code of Federal Regulations

CMMS—computerized maintenance management system

CNG—compressed natural gas

CONUS—continental United States

CWA—Clean Water Act

DD—Department of Defense (as used on forms)

DoD—Department of Defense

DOT PHMSA—Department of Transportation Pipeline and Hazardous Materials Safety Administration

DOT—Department of Transportation

DUSD(I&E)—Office of the Deputy Undersecretary of Defense, Installations and Environment

DW—drinking water

EISA—Energy Independence and Security Act

EPA—United States Environmental Protection Agency

EQ—environmental quality

FGS—Final Governing Standards

FOTW—Federally owned treatment works

GIS—Geographic Information System

HDPE—high-density polyethylene

HN—Host Nation

HNEA—Host Nation Enforcement Action

IPC—International Plumbing Code

IST—installation support team

JA—Judge Advocate

LPG—liquefied petroleum gas

MAJCOM—major command

MIL—STD—Military Standard

MS4—municipal separate storm sewer system

NFPA—National Fire Protection Association

NGB—National Guard Bureau

NOI—Notice of Intent

NPDES—National Pollution Discharge Elimination System

O&M—operations and maintenance

OEBGD—Overseas Environmental Baseline Guidance Document

OMTAP—Operations, Maintenance, and Training Assistance Program

OPR—office of primary responsibility

OSHA—Occupational Safety and Health Administration

OWS—oil/water separators

P.L.—Public Law

PAMP—propane-air mix plant

PFOA—pentadecafluorooctanoic acid, perfluorooctanoic acid, perfluorocaprylic acid, perfluorooctanoate

PFOS—perfluorooctanyl sulfonate, perfluoronoanoic acid

POC—point of contact

POTW—publicly owned treatment works

RCRA—Resource Conservation and Recovery Act

SDWA—Safe Drinking Water Act

SWPPP—storm water pollution prevention plan

TMDL—total maximum daily load

U.S.—United States

UFC—Unified Facilities Criteria

UFGS—Unified Facilities Guide Specification

ULFSC—Utility Law Field Support Center

UPC—Uniform Plumbing Code

UP—utilities privatization

WET—Water Enterprise Tracking

WQ—water quality

WSHM—water system hydraulic model

WVA—water vulnerability assessment

Terms

Best Management Practices (BMP)—Schedules of activities, prohibitions of practices, maintenance procedures, and adaptive management practices to prevent or reduce the discharge of pollutants to waters. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage, and the use of climate-appropriate landscaping (such as xeriscaping, rain gardens and low-impact development techniques) that help restore the natural hydrology of the land.

Class V Injection Well—A shallow well used to place a variety of fluids at shallow depths below the land surface, including a domestic onsite wastewater treatment system serving more than 20 people. EPA permits these wells to inject wastes below the ground surface, provided they meet certain requirements and do not endanger underground sources of drinking water.

Contingency Location— A non-enduring location outside of the United States that supports and sustains operations during named and unnamed contingencies or other operations as directed by appropriate authority and is categorized by mission life-cycle requirements as initial, temporary, or semi-permanent.

Discharge Monitoring Report (DMR)—The form used (including any subsequent additions, revisions, or modifications) to report self-monitoring results by an NPDES permit holder. DMRs must be used by approved states as well as by the EPA.

Domestic Sewer—A conveyance system for domestic or pretreated industrial wastewater collection.

Domestic Sewage Sludge—Sewage sludge is defined as solid, semi-solid, or liquid untreated residue generated during the treatment of domestic sewage in a treatment facility.

Domestic Wastewater—Wastewater that contains human wastes and wastewater from food preparation, laundry, bathing, and similar activities. Domestic wastewater typically includes wastewater from housing units and wastewater from commercial or industrial facilities that is similar to that from housing units. Domestic wastewater does not include industrial process wastewater.

Enduring Location—A location is enduring when DoD intends to maintain access and use of that location for the foreseeable future. The following types of sites are considered enduring for U.S. Government purposes: main operating base, forward operating site, and cooperative security location.

Energy Independence and Security Act (EISA) 2007 Section 438—EISA section that requires development or redevelopment projects that involve a Federal facility with a footprint that exceeds 5,000 square feet (465 square meters) to use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow.

Enforcement Action (EA)—A formal, written notification by the EPA or other authorized Federal, state, interstate, regional, or local environmental regulatory agency of violation of any applicable statutory or regulatory requirement.

Enforcement Action, Host Nation (HNEA)—A formal, written notification by the appropriate HN government authority (HNGA) to an installation located outside the U.S. indicating non-compliance with the environmental requirements of a treaty, international agreement, HN statute, or HN regulation.

Federally Owned Treatment Works (FOTW)—Wastewater treatment works that are Federally owned and addressed in the Federal Facility Compliance Act of 1992 (42 USC Section 6939e, *Federally owned treatment works*).

Final Governing Standards (FGS)—The primary definitive set of environmental criteria and standards applicable to DoD components located overseas at enduring installations and facilities. The FGS are developed by the lead environmental component for a specific country and incorporate provisions of minimum standards established by DoD in the OEBGD and those of the HN where the U.S. installation or facility is located.

General Permit—An NPDES permit that covers several facilities that have the same type of discharge and are located in a specific geographic area. A general permit applies the same or similar conditions to all dischargers covered under the general permit. Using a general permit to cover numerous facilities reduces paperwork for permitting authorities and permit holders and ensures consistency of permit conditions for similar facilities.

Host Nation—A nation other than the United States that which receives the force or supplies of allied nations or North Atlantic Treaty Organization organizations, the former force or supplies to be located on, to operate in, or to transit through its territories.

Individual Permit—An NPDES permit specifically tailored to the types of discharges from an individual facility. Once a facility submits the appropriate application(s), the permitting authority develops a permit for that particular facility based on the information contained in the permit application (e.g., type of activity, nature of discharge, receiving water quality). **Note:** For individual permits, WWTPs can be found in the EPA's Electric, Gas, and Sanitary Services category.

Industrial Sewer—A conveyance system for collecting industrial wastewater.

Industrial Wastewater—Wastewater from industrial activities such as electroplating, metal finishing, aircraft maintenance, corrosion control, vehicle maintenance, and other industrial processes at Air Force installations.

Infiltration—Groundwater that leaks into wastewater collection systems due to leakage through pipe breaks or joints.

Inflow—Storm water flow into wastewater collection systems.

Installation—An enduring location consisting of a base, camp, post, station, yard, center, or other DoD activity under the operational control of the Secretary of a Military Department or the Secretary of Defense.

Installation Support Team (IST)—The CE transformation has transitioned environmental compliance staff into base-level and IST organizations to meet environmental regulatory program requirements. The IST is part of AFCEC, located in San Antonio, Texas. HQ AFRC and NGB maintain their MAJCOM functions and responsibilities for environmental programs; no ISTs are assigned to AFRC and NGB commands.

Large—Capacity Cesspool—A cistern, well, or pit for retaining the sediment of a drain or for receiving untreated domestic sewage. A cesspool is not designed for receiving industrial wastewater. EPA regulations required all existing large-capacity (typically serving 20 or more persons) cesspools to be closed and replaced with an alternative wastewater system by April 5, 2005. Since 2000, the EPA has prohibited the construction of new large-capacity cesspools nationwide regulations. The regulations do not allow an extension of the deadline.

Lift Station—A wastewater collection system component pumping wastewater from a gravity sewer to a sewer or treatment plant at a higher elevation.

Major Lift Station—A pump station that, if it fails to operate as designed, will cause non-compliance with wastewater regulations and degrade mission operations.

Municipal Separate Storm Sewer System (MS4)—A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), owned and operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States. See 40 CFR 122.26(b)(8) for the complete definition.

National Pollutant Discharge Elimination System (NPDES)—A national program under Section 402 of the CWA for regulating pollutant discharges from point sources to waters of the United States. Discharges are illegal unless authorized by an NPDES permit.

Non—point Source—A pollutant source that does not meet the definition of "point source." Non-point source pollution generally results from land runoff, atmospheric deposition, drainage, or seepage.

Notice of Intent (NOI)—An application to notify the permitting authority of a facility's intention to be covered by a general permit.

Notice of Termination (NOT)—An application used to notify the permitting authority of a facility's termination of coverage under a general permit.

Overseas— Any geographic area outside the legal jurisdiction or exclusive management authority of the United States; any area outside the United States (e.g., foreign countries and territories).

Overseas Environmental Baseline Guidance Document (OEBGD)—The OEBGD is a set of objective criteria and management practices developed by DoD, pursuant to DoDI 4715.05,

Environmental Compliance at Installations Outside the United States. It specifies the minimum criteria for environmental compliance at DoD installations and other enduring locations overseas where no FGS have been established. It is designed to protect human health and the environment and reflects generally accepted environmental standards applicable to DoD installations and activities in the United States. The OEBGD is used to develop and update country-specific FGS for all DoD components located in that HN.

Oil and Water Separator (OWS)—A device designed to separate gross amounts of oil and suspended solids from the wastewater effluents of oil refineries, petrochemical plants, and other industrial sources. Gravity OWS are designed to separate free oil from waste streams and cannot remove non-petroleum materials, emulsified or soluble petroleum, and detergent solutions.

Point Source—Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation (CAFO), landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant—Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.), heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water (40 CFR 122.2, *Definitions*).

Pretreatment—The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW (40 CFR 403.3(q)).

Publicly Owned Treatment Works (POTW)—A treatment plant belonging to a state, county, regional agency, or municipality that treats domestic wastewater or pretreated industrial wastewater.

Resource Conservation and Recovery Act (RCRA) of 1976—(P.L. 94-580) RCRA regulates the generation, treatment, storage, disposal, or recycling of solid and hazardous wastes.

Responsible Official—The responsible official for NPDES permits is the Air Force installation commander. All permit applications, reports, and forms must be signed and/or certified by the installation commander except to the extent delegations are authorized under applicable Federal or state requirements.

Septic System—A septic system is a septic tank and a trench or bed surface/subsurface wastewater infiltration system typically of a small scale. Septic systems are common in areas with no connection to main sewerage pipes. Air Force policy is to eliminate septic systems where practical and connect to sanitary treatment works via sewage collection pipes.

Spill Prevention, Control, and Countermeasures (SPCC) Plan—A plan that establishes protective measures and procedures to prevent and contain any accidental release of oil and oily materials into the waters of the United States.

Storm Water—Storm water runoff is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces and does not percolate into the ground.

Storm Water Pollution Prevention Plan (SWPPP)—A series of steps and activities to identify sources of storm water pollution at an industrial or construction site, including actions to be taken that will prevent or control storm water contamination.

Total Maximum Daily Load (TMDL)—The maximum amount of a pollutant that a water body can receive and still meet applicable WQ standards. It is the sum of the allocations for point sources (called waste loads) and allocations for nonpoint sources (called loads) and natural background with a margin of safety (CWA section 303(d)(1)(c)). The TMDL can be described by the following equation: TMDL = LC = WLA + LA + MOS

United States— All States, territories, and possessions of the United States, and all waters and airspace subject to the territorial jurisdiction of the United States.

Watershed—A geographical area that drains to a specified point on a water course, usually a confluence of streams or rivers; also known as drainage area, catchment, or river basin.

Waters of the United States—All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide. Waters of the United States include all interstate waters and intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. (See 40 CFR 122.2 for the complete definition.)

Water Quality Compliance—Conformity with current Federal, state, and local clean water laws and regulations. In overseas locations, maintain conformity with applicable international requirements and FGS, or, if no FGS exists, the OEBGD.

Water Quality Criteria—EPA criteria for maximum in-stream concentrations of specific pollutants.

Water Quality Standards—Written goals for state waters, established by each state and approved by the EPA.

Water Treatment Residuals—Solids (sludge) and waste process water such as sludge dewatering decant water generated at water treatment plants.

Wetlands—Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in seasonally saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural or manmade ponds.

Attachment 1 (EGLINAFB)

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

62-4 F.A.C., *Permits*

62-25 F.A.C., *Regulation of Storm Water Discharge*

62-330 F.A.C., *Environmental Resource Permitting*

62-341 F.A.C., *Noticed General Environmental Resource Permits*

62-600 F.A.C., *Domestic Wastewater Facilities*

62-601 F.A.C., *Domestic Wastewater Treatment Plant Monitoring*

62-602 F.A.C., *Drinking Water and Domestic Wastewater Treatment Plant Operators*

62-604 F.A.C., *Collection System and Transmission Facilities*

62-620 F.A.C., *Wastewater Facility and Activities Permitting*

62-621 F.A.C., *Generic Permits*

62-624 F.A.C., *Municipal Separate Storm Sewer Systems*

62-640 F.A.C., *Domestic Wastewater Residuals*

62-660 F.A.C., *Industrial Wastewater Facilities*

62-699 F.A.C., *Treatment Plant Classification and Staffing*

EPA Publication 933-B-99-001, *Guidance Manual for the Monitoring and Reporting Requirements of the NPDES Storm Water Multi-Sector General Permit*, January 1999

Forms Adopted

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

ERP – Environmental Resource Permitting

F.A.C. – Florida Administrative Code

FDEP – Florida Department of Environmental Protection

MSGP – Multi-Sector General Permit for Storm Water Discharges from Industrial Activities

NWFWMD – Northwest Florida Water Management District

UEC – Unit Environmental Coordinators

WWTP – Wastewater Treatment Plant

Terms

Storm Water Management System - means the designed features of the property which collect, convey, channel, hold, inhibit or divert the movement of storm water

Attachment 2

IMPLEMENTING INSTRUCTIONS FOR AIR FORCE WATER RIGHTS DOCUMENTATION AND DATA RETENTION

A2.1. Implementation. Implementation requires all installations to complete the following three actions required by paragraph 2.3.1:

A2.1.1. Systematically locate and retain existing water rights documentation and data as described in paragraph A2.4;

A2.1.2. Create an index listing each record located, where it is being retained, and the point of contact (POC) for each record (Table A2.1);

A2.1.3. Maintain this index in the installation CE real property office, with copies provided to the installation legal office. This index will serve as the official record of water rights information for the base. **(T-1)**

Table A2.1. Index of Retained Water Rights Documentation and Data.

Installation:				
Date:				
Document (including year)	Location on Base Where Document is Retained	POC, Organization, Contact Information	File Title	Table and Rule #
e.g., Public Land Order No. XX-XX, 1939	Bldg 100, Room C	John Public, A4C Real Estate, DSN:555-1234	Reports of Soil and Water Consolidated Reports	T 32 - 38 R 04.00

A2.2. Points of Contact (POC).

A2.2.1. Form an informal or formal working group with members who will maintain water rights records (e.g., CEO, CEI, CES engineering flight, BE, historian, contracting, legal) to set out the course for this effort and assist with completing their portions of the index.

A2.2.2. The index is designed to be maintained as a spreadsheet but the installation can use whatever suits their purpose as long as equivalent information is maintained. (Future data management systems will allow inclusion of water rights information.)

A2.3. Process.

A2.3.1. Use the organization's file plan to label water rights records, making sure it is designated for permanent retention (*Retire as permanent*). Follow the procedures for establishing permanent records as explained in AFI 33-322, *Records Management Program*, AFMAN 33-363, and AFI 33-364.

A2.3.2. Include a statement in the file plan and on the file equivalent to, "This data is indexed as Water Rights Records. All activities and inquiries related to the disposition or use of this data must be referred to the base legal office." **(T-1)**

A2.3.3. The POC should maintain a working copy of the index for updating.

A2.4. Retention of Water Rights Documentation and Data.

A2.4.1. The BCE or appointee should locate and retain the following documentation and data for each Air Force installation. While intended to be comprehensive, collecting the information below may not cover all necessary records. It is expected that data collection will not just be limited to the data described below but will involve the collection of additional data.

A2.4.2. Whenever possible, the original documents should be preserved. If original documents are not available or are in poor condition, clean copies are acceptable. Organizations should also locate and retain documentation and data from the earliest available date or timeframe, from the time the Air Force installation was established as a military facility up to the present, or as far back as historical records are available. To help assist installations to locate these documents, the base CE organization(s) likely to have the information are shown below, italicized in brackets. In some cases, the documentation may be located in organizations outside the CE organization, such as the base history office, legal office, and/or BE office. Questions from CE offices about specific documentation and data to locate and retain should be directed to the installation legal office.

A2.4.2.1. **If Installation Purchases Water:** Documents showing the name(s) of the water provider(s), and what percentage of water demand is met by the purchased water *[Operations]*.

A2.4.2.2. **If Installation Supplies Own Water:**

A2.4.2.2.1. Real property documents showing how the installation was acquired, including E.O.'s, withdrawal legislation, public land orders, purchase agreements, deeds, condemnation, gifts, and the date(s) of acquisition *[Installation Management]*.

A2.4.2.2.2. Documents showing the names and locations of each diversion structure[1] (e.g., well #1), the source of the water, depth of each well, and what percentage (or range) of the water demand has been historically met by this water supply *[Operations, Programs]*.

[1] Diversion is taking water from its natural course or from an aquifer for conveyance to a place of use. A diversion usually takes the form of a well, dam, or ditch.

A2.4.2.2.3. Documents listing the priority date, if any has been assigned by the state or local water authority, of each diversion structure and the stated basis for that date *[Operations, Engineering, Installation Management]*.

A2.4.2.2.4. Documents that demonstrate current and historical water usage on the installation, such as water logs and meter records, diaries from infrastructure managers, and water purchase contracts. Specify the maximum diversion rate in cubic feet per second or acre-feet *[Operations]*.

A2.4.2.2.5. Documents pertaining to the establishment of water sources, including well drilling/construction information, well maintenance records, and installation maps with water wells plotted. *[Operations, Engineering, Installation Management]*.

A2.4.2.2.6. Documents that show major uses of water at the installation (e.g., municipal, irrigation, training, recreational, industrial, fire fighting, habitat enhancement), as well as documents showing anticipated future water use *[Operations]*.

A2.4.2.2.7. Water consumption/withdrawal permits (including all closed and pending) and applications for permits and certificates. *[Installation Management, Operations]*.

A2.4.2.2.8. Documents of water being sold or supplied to others, including any Memorandums of Understanding (MOU). Identify each user as DoD, non-Federal entities (e.g., credit unions or restaurants), or an off-base user *[Operations, Engineering, Installation Management]*.

A2.4.2.2.9. Regulatory reporting documents to the state, including annual reports pursuant to SDWA community water system reporting *[Installation Management]*.

A2.4.2.2.10. Environmental reports that studied or contains information on the installation's hydrology *[Installation Management]*.

A2.4.2.2.11. Documents showing any CWA, SDWA, or Endangered Species Act (P.L. 93-205) issues which may affect or constrain water supply at the installation *[Installation Management]*.

A2.4.2.2.12. Any other available records, documentation, or data relating to water use, water rights, or the installation's access to water resources.

A2.4.2.2.13. Documents showing any other issues that may affect the installation's ability to maintain an adequate water supply.

A2.4.2.3. **If Installation Recycles Water for Re-Use:** Documents that show the volume of recycled water used, as well as what the recycled water is used for (e.g., municipal, irrigation, training, recreational, industrial, fire-fighting, habitat enhancement) *[Operations]*.

Attachment 3 (Added-EGLINAFB)

SEWAGE DISCHARGE CONTINGENCY PLAN

A3.1. (EGLINAFB) Purpose and Overview. This plan assigns tasks and responsibilities to organizations in the event of a sewage discharge occurring on Eglin AFB. Sewage discharge is defined as any unauthorized release of domestic wastewater, whether treated or untreated, from any pipe, device, or facility. This also includes discharges from septic tanks, oil water separators and grease traps. The plan establishes responsibilities for sewage discharges, whether occurring on main base, military family housing or on the Eglin Reservation. Hurlburt Field is not within the scope of this plan. It is organized into the following sequences of action from discovery to clean-up.

A3.1.1. **(EGLINAFB)** Initial Discovery

A3.1.2. **(EGLINAFB)** Discharge Containment

A3.1.3. **(EGLINAFB)** Initial Regulatory Notification

A3.1.4. **(EGLINAFB)** Follow-up Notification

A3.1.5. **(EGLINAFB)** Site Clean-up

A3.2. (EGLINAFB) Initial Discovery Responsibilities. Base personnel who discover a sewage discharge shall dial 911. After notification of the discharge, the security police or fire department shall, based on the scope and potential danger involved, respond either directly to the discharge or notify the following office within the 96th Civil Engineer Group for response: Exterior Plumbing, 882-3376, for all Base areas. An exception to this is, if the discharge is discovered by 96th Civil Engineer Group personnel, the appropriate office may respond directly to the discharge.

A3.2.1. **(EGLINAFB)** When notified of the sewage discharge, the appropriate 96th Civil Engineer Group office (as designated above), shall respond as quickly as possible to minimize and stop the sewage outflow. Phone numbers and points of contact required for (96 CEG/CEIEC) notifications during duty hours and non-duty hours can be found in Section A3.7 of this attachment. Off-base regulatory offices are listed in Section A3.8 of this attachment. As soon as it is feasible (usually less than 2 hours of initial notification), the offices listed below shall be contacted as appropriate. This is necessary to meet the 24-hour notification requirement of the FDEP.

A3.2.1.1. **(EGLINAFB)** 96 CEG/CEIEC (882-7660) within 2 hours of discovery, to ensure required 24-hour notification(s) to regulators.

A3.2.1.2. **(EGLINAFB)** 96 CEG/CEPTS, Service Contracts (883-1358) as needed for contract support for cleanup and/or repair.

A3.2.1.3. **(EGLINAFB)** 96 AMDS/SGPB, Bioenvironmental Engineering (883-8607) as needed for sampling support.

A3.2.2. **(EGLINAFB)** Upon initial notification 96 CEG/CEIEC shall determine if the discharge poses an imminent threat to human health or the environment. If so, notification shall immediately be made to 96 AMDS/SGPB, 96 TW/JA, and 96 TW/PA for further action (see Section A3.4 for regulatory notifications). **If the discharge is over 1,000 gal, or there**

are circumstances that may endanger health or the environment, notification must also be given to the State Warning Point's toll free number, 1-800-320-0519.

A3.2.3. **(EGLINAFB)** 96 AMDS/SGPB shall, as requested, assess the extent of the discharge to determine the immediate public health risks and if applicable, prepare a sampling plan, determine actions to mitigate public health risks and evaluate extent of potential impacts.

A3.3. (EGLINAFB) Spill Containment Responsibilities. This section addresses roles and responsibilities during the containment of the discharge immediately after discovery and throughout the required repair. The discharge shall be contained or stopped from entering a surface water body to the best ability resources will allow. Surface water bodies include, but are not limited to, ponds, lakes, bayous, bays, swales or ditches which directly discharge into a pond, lake, bayou or bay, and pipe systems which will allow the conveyance of the sewage to a pond, lake, bayou or bay.

A3.3.1. **(EGLINAFB)** 96th Civil Engineer Group shall be the organization with primary responsibility for the containment of the sewage discharge. They shall be responsible for organizing all support and funding required to contain and eliminate the discharge of sewage into surface water bodies or areas with high public health risk.

A3.3.2. **(EGLINAFB)** 796 CES/CEOUUP (Exterior Plumbing) shall be the on-site commander and sole point of contact for all activities involved in the containment of the discharge (depending on location of discharge). This organization shall mobilize personnel and equipment needed to accomplish the successful containment of the discharge. They shall provide consultation in the development of proposed repairs and shall provide a preliminary estimate of the magnitude and time frame needed to complete the repairs.

A3.3.3. **(EGLINAFB)** 96 CEG/CEPTS (Service Contracts Element) shall provide service contract support when required and requested by the on-site commander.

A3.3.4. **(EGLINAFB)** 796 CES/CEOUUP (Exterior Plumbing) will provide assistance in shutting off valves, diverting flows, and providing consultations as to expected or predicted flows or problems associated with proposed actions of the on-site commander.

A3.3.5. **(EGLINAFB)** 96 CEG/CEIEC (Environmental Compliance) shall act as an on-site observer as necessary to allow for a clear and detailed notification to regulatory agencies. This organization shall also act as a consultant as needed to help in the decisions made by the on-site commander.

A3.4. (EGLINAFB) Initial Regulatory Notification Responsibilities. This section addresses roles and responsibilities for the initial notification of the discharge to regulatory agencies.

A3.4.1. **(EGLINAFB)** 796 CES/CEOUUP shall provide 96 CEG/CEIEC with the details on estimated quantity of discharge (in gallons), specific location of discharge, time discharge occurred or, if not available, time of initial notification, cause and type of discharge (treated/untreated), whether or not discharge entered surface waters, action(s) taken to minimize size and impact of discharge, time repair was completed, and any precautions taken to disinfect the contaminated area. This is necessary to allow clear and accurate reporting to required regulatory agencies.

A3.4.2. **(EGLINAFB)** 96 CEG/CEIEC shall be responsible for the verbal and written notification to all regulatory agencies. 96 CEG/CEIEC shall report all details obtained from on-site observation and interviews with key on-site personnel. The reporting schedule shall be as follows:

A3.4.2.1. **(EGLINAFB)** Within 24 hours of discovery of the discharge, verbal notification in accordance with FAC 62-620.610 (20) must be given to the Northwest District of FDEP at (850) 595-8300 (direct numbers are in Section A3.8). If the discharge is over 1,000 gal, or there are circumstances that may endanger health or the environment, notification must also be given to the State Warning Point's toll free number, 1-800-320-0519.

A3.4.2.2. **(EGLINAFB)** Okaloosa County Health and Rehabilitation Service (OCHRS) shall also be notified of all discharges regardless of size or impact. Releases to water bodies or to populated areas should be considered an emergency and notification should be done as soon as possible. Note: notification to OCHRS may be accomplished by FDEP.

A3.4.2.3. **(EGLINAFB)** Within 5 days of the discharge, written notification must be given to FDEP in accordance with FAC 62-604.550 unless specifically waived by FDEP.

A3.4.2.4. **(EGLINAFB)** Phone numbers for contacting these regulatory organizations can be found in Section A3.8.

A3.4.2.5. **(EGLINAFB)** Written notification shall be as precise as possible to allow a clear understanding of all events occurring at the site.

A3.4.2.6. **(EGLINAFB)** If deemed necessary, 96 CEG/CEIEC will notify 96 CEG/CC, 96 TW/PA and 96 TW/JA immediately upon making the 24-hour notification to regulatory agencies. In this event, 96 CEG/CEIEC will submit a notification to each of these organizations outlining details of the discharge event and action accomplished by the base.

A3.4.3. **(EGLINAFB)** 96 TW/JA as necessary will assess the potential liabilities associated with the discharge and also the need for possible claims processing.

A3.4.4. **(EGLINAFB)** 96 TW/PA as necessary shall release reports or factual information of the discharge and activities associated with the discharge.

A3.4.5. **(EGLINAFB)** 96 AMDS/SGPB shall provide support in the sampling and analysis of water bodies or land areas associated with the discharge as requested by the on-site commander or 96 CEG/CEIEC. 96 AMDS/SGPB shall also act as consultant for sampling and analysis requirements. If sampling is not requested, but deemed necessary by 96 AMDS/SGPB, they shall advise the on-site commander or 96 CEG/CEIEC of this recommendation. Copies of all analysis data shall be forwarded to 96 CEG/CEIEC as soon as available. 96 AMDS/SGPB shall provide consultation as to the magnitude and severity of the threat to public health.

A3.5. (EGLINAFB) Follow-up Notification Responsibilities. This section addresses the responsibilities for any follow-up notifications to base management and regulatory agencies.

A3.5.1. **(EGLINAFB)** 796 CES/CEOUUP shall verify the completeness and accuracy of all written information provided to regulators by 96 CEG/CEIEC. 96 CEG/CEOE, Maintenance

Engineering will provide support to 96 CEG/CEIEC in calculating release quantities, evaluating components that were involved with the discharge, and addressing planned repair methods and time frames. Upon request, 96 CEG/CEOE shall give a memorandum for record describing the above information and any other relevant information to 96 CEG/CEIEC.

A3.5.2. **(EGLINAFB)** 96 CEG/CEIEC is responsible for all verbal or written notifications to the regulatory agencies for required follow-up actions. 96 CEG/CEIEC must provide a written report to FDEP within 5 days of the initial discovery to include all the information listed in Section 3.2 of this plan. FDEP may waive this requirement under certain circumstances. Information required for follow-up notifications shall be obtained from the on-site commander, or any other person who can furnish pertinent details for a more complete report. **The written report to FDEP, if required, shall be coordinated through 96 CEG/CC before forwarding to the regulatory agency.**

A3.5.3. **(EGLINAFB)** 96 CEG/CEIEC will ensure significant spill events will be addressed in the Industrial Storm Water MSGP Annual Certification.

A3.5.4. **(EGLINAFB)** 96 TW/PA shall provide response to queries or requested follow-up information to local media outlets as required.

A3.5.5. **(EGLINAFB)** 96 CEG/CEIEC and 96 AMDS/SGPB shall be responsible for providing details of sampling events accomplished in support of the discharge to include sampling results and maps depicting locations where the sampling occurred.

A3.6. (EGLINAFB) Site Clean-up Responsibilities. This section outlines the responsibilities of organizations in regard to the clean-up and disinfection of the site following a sewage discharge. This action shall be initiated during or immediately after the repair has been accomplished.

A3.6.1. **(EGLINAFB)** 796 CES/CEOUUP shall be responsible for the repair, clean-up and disinfection operation. 96 CEG/CEIEC may provide the on-site commander with the amount of clean-up work required and the proposed area to be affected by the work. 96 AMDS/SGPB provides an additional advisory role to the on-site commander. The work shall be accomplished to the full extent necessary and accomplished in a timely manner.

A3.6.2. **(EGLINAFB)** 96 CEG/CEIEC shall be notified of all proposed clean-up and disinfection efforts proposed by the on-site commander. 96 CEG/CEIEC shall either include this information in the follow up written report to the regulators or, if necessary, verbally notify them of the proposed work. If comments are received by the regulatory agencies, 96 CEG/CEIEC shall relay them to the on-site commander and 96 AMDS/SGPB for consideration.

A3.6.3. **(EGLINAFB)** 96 AMDS/SGPB provides advice as needed to the on-site commander of required work to be accomplished in the clean-up and disinfection of the site.

Table A3.1. (EGLINAFB) Eglin Sewage Discharge Points of Contact.

ORGANIZATION AND FUNCTION	NAME	DUTY NUMBERS	OFFICE CELL NUMBERS
96TH CIVIL ENGINEER			
Main Base Exterior Plumbing Element (796 CEOIUW) For discharges on Main Base and Reservation	Primary: Mr. Pearson Alt: Mr. Skipp Alt: Mr. Honeyman	882-3376 882-3783 882-3376	978-0311 699-2519 699-9645
For discharges in Corvias Military Family Housing	Corvias Community Support	850-613-5024	850-613-5024
Main Base, Plew, and Range Waste Treatment Plants	Primary: Mr. Okonczak Alt: Mr. Fruge Alt: Mr. Barrow	699-9778 699-9664 978-2108	699-9778 699-9664 978-2108
Civil Engineer, Service Contracts	Primary: Mr. Ouimette Alt: Mr. Goss	883-5455 882-3743	978-0281 699-9805
ENVIRONMENTAL MANAGEMENT			
Water Quality Program Manager (96 CEG/CEIEC)	Primary: Mr. Brown Alt: Mr. Langley Alt: Mr. Stippich	882-7660 882-7658 882-7659	850-212-8349 For 24/7 Emergency Response (see below)
Spill Response Manager, 24 hour Emergency (96 CEG/CEIEC)	Primary: Mr. Stippich Alt: Mr. Vannoy	882-7659 882-1856	850-240-1628
BIOENVIRONMENTAL ENGINEERING	Primary: Duty Airman	883-8607	850-855-2113 850-855-3100
STAFF JUDGE	Primary: Mr. Averett	882-4611	

ADVOCATE (96 TW/JA)		x117	
PUBLIC AFFAIRS (96 TW/PA)	Primary: Mr. Spaits	882-2878	621-3391

A3.7. (EGLINAFB) Regulatory Agencies for Wastewater Spills:

A3.7.1. **(EGLINAFB)** Call the **Florida State Warning Point** for all wastewater spills of 1,000 gallons or more, or those that pose a threat to health or environment. Toll Free Number is 1-800-320-0519.

A3.7.2. **(EGLINAFB)** Call FDEP Pensacola District Office for all wastewater spills regardless of size. One of the following individuals should be contacted within 24 hours of being notified of the spill:

Table A3.2. FDEP Pensacola District Office.

Name	Duty Number
Dana Vestal	850-595-0659
Shelly Alexander	850-595-0677
Kevin Hargett	850-595-0687
Kim Allen	850-595-0553

A3.7.3. **(EGLINAFB)** Contact Okaloosa County Health and Rehabilitative Services for sewage discharges if it poses a threat to human health or enters water bodies

Table A3.3. Okaloosa County Health and Rehabilitative Services.

Name	Duty Number
Shaun May (Director)	850-699-4255
County Warning Point	850-689-5755
Other Phones	850-833-9242, or 850-833-9247
Fax	850-833-9258

Attachment 4 (Added-EGLINAFB)

INDUSTRIAL WASTEWATER CONTROL PLAN (ACTIVITIES/FACILITIES)

A4.1. (EGLINAFB) Purpose and Overview. This plan provides guidance for handling wastewaters generated by specific industrial processes located on Eglin AFB. The plan applies to discharges occurring on main base, military family housing or on the Eglin Reservation. Hurlburt Field is not within the scope of this plan. If shop personnel have any doubts about the content of wastewater generated from a specific industrial process, representative samples should be taken and analyzed to assist in deciding the proper disposal procedures. Any new sources of industrial wastewater generated on Eglin AFB must first have authorization from 96 CEG/CEIEC and the Waste Water Treatment Plant lead operator before being discharged into the sanitary sewer.

A4.2. (EGLINAFB) Fire Suppression and Fire Fighting Training. Aqueous film-forming foam (AFFF) is a water miscible, clear, amber-colored liquid used at military installations to combat aircraft fuel-related fires. AFFF is used by crash rescue vehicles in responding to runway and terminal accidents and in foam-water sprinkler systems in fuel storage areas and in aircraft hangars. In addition to AFFF having a high organic loading, it causes foaming at wastewater treatment facilities. Discharge of wastewater containing AFFF to surface waters is not permitted except in emergency conditions, when spill prevention, control, and countermeasures normally are implemented. Non-emergency discharges of AFFF must be contained and not allowed to enter the base storm water drainage system or nearby surface waters. For example, small amounts of wastewaters in the Climatic Laboratory are drained to a lined holding pond before being released to the wastewater treatment plant at a prescribed rate (with prior notification and approval) or hauled in tanker trucks to an industrial wastewater treatment plant. High expansion (Hi-Ex) type foams are replacing AFFF in several applications on base, such as hangar fire suppression. Although these materials pose less potential hazards on the environment, similar precautions should be taken when handling releases and spills.

A4.3. (EGLINAFB) Aircraft Maintenance. Potential industrial pollutant sources associated with aircraft maintenance services performed on base include: non-destructive structural integrity testing, aircraft washing, aircraft painting, and engine cleaning.

A4.3.1. **(EGLINAFB)** Non-Destructive Testing. This type of testing may generate wastewater containing high COD and heavy metals which will impact the wastewater treatment system if discharged into the sewer system.

A4.3.2. **(EGLINAFB)** Aircraft Washing. Some aircraft cleaning solutions contain relatively high concentrations of petroleum hydrocarbons and solvents. Typical wastewater contaminants include fuel, oils, lubricants, detergents, and heavy metals. Spilling only a modest quantity of full strength cleaner poses a potential risk of treatment interference. Bulk storage practices should be designed to minimize the risk of spillage. In the event a spill should occur, the spill plan should recognize the need to contain and recover, not to hose the material down a drain. As with other washing operations, aircraft wash waters may be considered a dilute effluent which poses acceptable risk to the treatment plants. Within the limits of the applicable technical orders, levels of pollutant loadings to treatment plants could be reduced through the use of aircraft cleaners with the least impact to treatment plant operations and phase out of those with the highest. Note: clear water aircraft rinses (no

detergent, relatively low pressure) to remove salt accumulation are approved on the flight line and apron areas as long as the runoff percolates or evaporates prior to entering surface waters or wetlands. This clear water rinse exemption was approved by FDEP in a letter dated 9 Jul 01 which can be found in the Eglin AFB Environmental Document System, in the "Permits – Waste Water" tab.

A4.3.3. **(EGLINAFB)** Aircraft Painting. Painting operations usually generate only a small amount of wastewater. Sources of wastewater include paint stripping, floor wash down, and spray-gun cleaning. Pollution prevention usually focuses on improved painting techniques to reduce overspray, and minimizing use of solvent paint thinners and cleanup solvents. The use of plastic media blasting paint stripping as an alternative to conventional solvent stripping has also been successfully implemented at many military facilities.

A4.3.4. **(EGLINAFB)** Engine Washing. Wastewater generated from engine washing activities contains contaminants including fuels, oils, lubricants, detergents, and heavy metals. All engine washing activities at Eglin AFB are required to be conducted in a contained area. The wash water shall not be allowed to runoff into the storm drainage system or surface waters. If Okaloosa Walton Sewer are used to help remove wash water contaminates, the OWS should be regularly inspected and properly maintained. Periodically, and in accordance with base hazardous waste management procedures, the engine rinse water should be tested for hazardous constituents.

A4.4. (EGLINAFB) Battery Maintenance. Battery maintenance shops on base rinse and store lead/acid batteries and nickel cadmium batteries. The rinse water is collected in a sink, neutralized, and pH tested prior to being discharged into the sanitary sewer. Typical contaminants include heavy metals, sulfuric acid, sodium bicarbonate, and detergents. Special care should be taken to store batteries in a containment area away from floor drains.

A4.5. (EGLINAFB) Engine Test. There are opportunities for fuel and oil leaks associated with setting up and testing each engine at jet engine test firing facilities on base. Although drip pans and bowsers are used to contain such leaks, often small quantities of petroleum products are released to surrounding floors. Jet fuels and lubricating oils would exert a potentially toxic impact on an activated sludge system at the treatment plant, pose a threat of flammability, and could be released as volatile organic emissions by the treatment process. Engine test cells that have floor drains leading to the sanitary sewer system must have an OWS installed. Cleaning methods such as dry-sweeping small petroleum spills should be employed rather than floor rinsing.

A4.6. (EGLINAFB) Fuel Storage. Fuels management recovers water condensation from JP-8 storage tanks on base. Water is decanted from the tank bottoms, often on a daily basis, and separated from the fuel. The fuel portion is returned to the Petroleum Oil and Lubricants (POL) tank, and the water portion is then taken to the Eglin Recycle Center as petroleum contact water and placed into an underground storage tank (UST). When the UST is nearly full, water is drained off the bottom and processed through an oil water separator and is finally discharged to the sanitary sewer system. Water containing small amounts of POL may also be generated from the secondary containment structures surrounding fuel transfer and ASTs. Storm water in containment areas is checked for petroleum sheen; if none is present, the water is drained to the surrounding soils. If the storm water contains an oily sheen, the tank custodian is required to remove the contamination before releasing the water and determine the cause. Similarly, when

fuel tank trucks require maintenance they are flushed with water which is then discharged through an oil water separator into the sanitary sewer system.

A4.7. (EGLINAFB) Hospital Operations. Hospital operations on base include Sterilization, Clinical Lab, and Tissue Analysis, X-ray development, and dental clinic. Possible pollutant discharges from hospital operations on base include Formalin and various disinfectants/sterilizers. It is possible hospitals discharge low levels of heavy metals and toxic organics primarily through the use of laboratory reagents, disinfectants, and preservatives. However, these discharges are expected to be well controlled by lab-type settings in which very high standards of process control, materials handling, spill control, and program of recovery/recycle of selected wastes are implemented on base.

A4.8. (EGLINAFB) Maintenance Area Floor Washing. Floor washing is conducted in various maintenance areas on base. Biodegradable floor cleaners are used for floor washing throughout the base. The aircraft maintenance hangars perform floor washing activities which generate a wastewater stream at each facility. The vehicle maintenance facilities conduct floor washing on a routine basis. The volume and contaminants contained in the floor washing waters are expected to be dependent on the method of floor washing, the floor area, and the type of activities being conducted in the building. Contaminants in vehicle maintenance floor washing wastewaters typically include residual oil, fuel, hydraulic fluid, antifreeze, lubricants, degreasers, and other maintenance-related fluids as well as the liquid biodegradable cleaners which are known to have high oxygen demand values. Also due to high oxygen demand values, use of biodegradable cleaners should be limited. For these reasons floor wash water may only be discharged into the sanitary sewer with prior approval from 96 CEG/CEIEC, not outdoors or in the stormwater collection system. Good housekeeping practices and pollution prevention techniques should be considered and implemented to control and minimize floor wash water discharges.

A4.9. (EGLINAFB) Parts Washing. The facilities on base that perform parts washing use/store some quantity of solvent degreasing compounds. Potential pollutants from these operations include fuel, oil, hydraulic fluids, petroleum distillates, heavy metals, organic solvents, and detergent cleaning agents. For most facilities the parts washing operation is a small portion of overall shop activities. In some cases, no wastewater discharge results from the parts washing operation. When a waste stream is generated, it is usually intermixed with other waste streams from the facility. Discharge collection/treatment practices on base include solvent recovery/recycle through “closed loop” vendors; waste solvent turn-in as hazardous waste, and prevention strategies (spill control, protected storage, housekeeping standards). Accidental spills and inappropriate disposal of accumulated waste are the primary potential sources of discharges which could conceivably contribute to treatment plant interference.

A4.10. (EGLINAFB) Photo/X-ray Processing. Within the group of photo and X-ray processing shops at Eglin AFB, only a few operations produce waste streams and operate at a scale comparable to the minimum process rate to which Environmental Protection Agency (EPA) categorical standards apply. These categorical standards identify silver, cyanide compound, and pH as the pollutants of concern. Most of the small shops recover spent developer and fixative solutions for turn-in and thus generate no wastewater discharge. At all locations, accidental spills of stored material or accumulated wastes constitute the primary threat of excessive discharge.

A4.11. (EGLINAFB) Heat Plants/Cooling Towers and Laundries. The base operates numerous boilers and cooling towers which employ a variety of water treatment chemicals in order to control corrosion scaling and microbe growth. Routine discharges from these systems (containing water treatment chemicals) have the potential of interfering with the wastewater treatment plant operations. All new treatment chemicals should be evaluated for their impact on the treatment system before purchase and use. Laundry facilities also release quantities of spent detergent and bleach on a continuous basis throughout the day. Such waste streams are categorized as dilute sources which are not likely to cause interference at receiving treatment plants by the EPA pretreatment standards.

A4.12. (EGLINAFB) Vehicle Maintenance. Vehicle maintenance facilities on base will perform any of the basic following activities: preventative inspections, maintenance, washing in outdoor wash racks, barrel rinsing, intermittent parts cleaning, and floor cleaning on a daily basis. Normally, maintenance operations do not discharge an industrial wastewater stream. This type of activity is associated with potential pollutant including brake, transmission, power steering, or differential fluids, antifreeze, gasoline, oil, etc. These amounts can be substantial and all such fluids should be stringently accounted for and controlled so as to prevent spills or accidental releases that might interfere with the wastewater treatment plants. All fluids are accumulated by each facility and turned in through the waste oil program or other appropriate channels. Negligible discharges to the sanitary sewer will be achieved by applying good housekeeping practices at all times. Many of the larger maintenance facilities are connected to an OWS which must be inspected regularly and properly maintained.

A4.13. (EGLINAFB) Vehicle and Equipment Washing. Equipment being serviced by vehicle wash racks on base include the motor pool and personal vehicles, Aircraft Ground Equipment (AGE), civil engineer equipment, trucks, trailers, and heavy equipment. Depending on the types of items cleaned and the volume of water used at wash racks, pretreatment processes may be necessary. An oil water separator and/or grit removal system are typical pretreatment methods. These, however, can be problematic, principally when strong detergents are used that emulsify oils. Pretreatment can be reduced or even eliminated when water only or steam cleaning only are utilized. Many of the problems associated with wash racks are lack of inspections and maintenance of oil water separators and grit interceptors.

A4.14. (EGLINAFB) Pesticides Management and Hazardous Waste Storage Facility. The use of floor drains linked to containment tanks should be used at pesticide mixing and storage facilities to avoid any accidental discharge of spilled materials.

A4.15. (EGLINAFB) Mechanisms for Pollutant Discharges. The primary mechanism for pollutants associated with the above facilities/activities entering the base's wastewater treatment system is as follows:

A4.15.1. **(EGLINAFB)** Inappropriate Work Practices. Inappropriate work practices related with the above-referenced facilities/activities commonly discharge significant amounts of pollutants to the wastewater collection system. The use of these inappropriate work practices is sometimes considered standard operating procedure but is in fact unacceptable measures in accordance with base-wide Best Management Practices and Eglin AFB Contingency Plans**.** Washing heavy petroleum products such as greases into wash rack drains and creating excessive water flows that may over load OWS are two examples of inappropriate work practices.

A4.15.2. **(EGLINAFB)** Accidental Spills. The most common spills on base are those of small quantities which are perceived as insignificant and therefore not contained and properly cleaned. This type of small quantity spill is typically washed down a sink or floor drain that leads directly into the wastewater collection system. The accumulation of the many small quantity spills in the base- wide facilities may result in significant consequences to Waste Water Treatment Plant-operations.

A4.15.3. **(EGLINAFB)** Inappropriate Disposal. The discharge of small amounts of excess or expired chemicals down a laboratory sink drain or the deliberate disposal of waste petroleum products down floor drains of maintenance facilities are two examples of inappropriate disposal. The main reason for these deliberate, inappropriate disposal practices is due to the lack of waste disposal training and the misinterpretations regarding what are acceptable disposal practices for sanitary sewers. Shop supervisors are encouraged to contact 96 CEG/CEIEC for in-shop training or personnel may take online classes, including two excellent videos (EM-201 Environmental Management System and EM-103 Storm Water Pollution Prevention Awareness).