

KSC Environmental Control Handbook

National Aeronautics and
Space Administration

John F. Kennedy Space Center

KSC FORM 16-12 (REV. 7/92)

* **Responsible Office:** Spaceport Services

PREFACE

This Handbook is issued to ensure KSC compliance with federal, state, and local environmental laws and regulations. This Handbook contains procedures for environmental documentation and controls and details responsibilities of the KSC Environmental Program Branch, other KSC organizational elements, and KSC Environmental Working Group and Energy Working Group members.

This Handbook applies to all KSC organizational elements including tenant organizations.

This Handbook supersedes KHB 8800.6 Revision B, dated November 29, 1999.

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Director of Spaceport Services

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SECTION 1: LIST OF REFERENCES

1.1 Federal Documents

a. Presidential Executive Orders

- (1) EO 11988, "Floodplain Management"
- (2) EO 11990, "Protection of Wetlands"
- (3) EO 12088, "Federal Compliance with Pollution Control Standards"
- (4) EO 12856, "Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements"
- (5) EO 12898, "Environmental Justice"
- (6) EO 13101, "Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition"
- (7) EO 13148, "Greening the Government Through Leadership in Environmental Management"
- (8) EO 13123, "Greening the Government Through Efficient Energy Management"
- (9) EO 13149, "Greening the Government Through Federal Fleet and Transportation Efficiency"
- (10) EO 13150, "Federal Workforce Transportation"

b. Federal Congressional Acts

- (1) National Environmental Policy Act of 1969 42 U.S.C. 4321-4347
- (2) Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as Amended 42 U.S.C. s/s 9601 et seq.
- (3) The Clean Air Act 42 U.S.C. s/s 7401 et seq.
- (4) The Clean Water Act 33 U.S.C. s/s 121 et seq.
- (5) The Emergency Planning and Community Right to Know Act 42 U.S.C. 11011 et seq.
- (6) The Endangered Species Act 7 U.S.C. 136; 16 U.S.C. 460 et seq.
- (7) The Federal Insecticide, Fungicide and Rodenticide Act 7 U.S.C. s/s 135 et seq.
- (8) The Occupational Safety and Health Act 29 U.S.C. 651 et seq.
- (9) The Oil Pollution Act of 1990 33 U.S.C. 2702-2761
- (10) The Pollution Prevention Act 42 U.S.C. 13101 and 12102 s/s et seq.
- (11) The Resource Conservation and Recovery Act 42 U.S.C. s/s 321 et seq.
- (12) The Safe Drinking Water Act 42 U.S.C. s/s 300f et seq.
- (13) The Superfund Amendments and Reauthorization Act 42 U.S.C. 9601 et seq.
- (14) The Toxic Substances Control Act 15 U.S.C. s/s 2601 et seq.

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- (15) The Noise Control Act of 1972 42 U.S.C. 4901 et seq.
- (16) Coastal Zone Management Act of 1972 as Amended
- (17) National Historic Preservation Act of 1966
- (18) Archeological and Historic Preservation Act of 1974
- (19) Hazardous Materials Transportation Act
- (20) National Energy Conservation Policy Act 42 U.S.C. 8252 et. seq.
- (21) Energy Policy Act of 1992 (Public Law 102-486)

1.2 Codified Federal Regulations

- a. 10 CFR, Chapter I, "Nuclear Regulatory Commission"
 - b. 10 CFR, Part 435, "Energy Conservation Voluntary Performance Standards for New Buildings; Mandatory for Federal Buildings"
 - c. 14 CFR, Chapter V, "NASA"
 - d. 15 CFR, Chapter IX, "National Oceanic and Atmospheric Administration"
 - e. 29 CFR, Chapter XVII, "Occupational Safety and Health Administration"
 - f. 32 CFR, Part 989, "Environmental Impact Analysis Process"
 - g. 33 CFR, "Navigation and Navigable Waters"
 - h. 36 CFR, "Parks, Forests and Public Property"
 - i. 40 CFR, "Protection of Environment"
- (1) 40 CFR, Parts 50 – 87, "Air Programs"
 - (2) 40 CFR, Part 82, "Protection of Stratospheric Ozone"
 - (3) 40 CFR, Part 112, "Oil Pollution Prevention"
 - (4) 40 CFR, Part 125, "Criteria and Standards for NDPEs"
 - (5) 40 CFR, Part 131, "Water Quality Standards"
 - (6) 40 CFR, Part 141, "National Primary Drinking Water Regulations"
 - (7) 40 CFR, Part 143, "National Secondary Drinking Water Regulations"
 - (8) 40 CFR, Part 156, "Labeling Requirements for Pesticides and Devices"
 - (9) 40 CFR, Part 157, "Packaging Requirements for Pesticides and Devices"
 - (10) 40 CFR, Part 260-265, "Hazardous Waste Management"
 - (11) 40 CFR, Part 268, "Land Disposal Restrictions"
 - (12) 40 CFR, Part 280, "Standards for Underground Storage Tanks"
 - (13) 40 CFR, Part 300, "National Oil and Hazardous Substances Pollution Contingency Plan"
 - (14) 40 CFR, Part 302, "Designation, Reportable Quantities, and Notification"
 - (15) 40 CFR, Part 311, "Worker Protection"
 - (16) 40 CFR, Part 355, "Emergency Planning and Notification"
 - (17) 40 CFR, Part 370, "Hazardous Chemical Reporting: Community Right-to-Know"
 - (18) 40 CFR, Part 372, "Toxic Chemical Release Reporting"

- (19) 40 CFR, Part 503, "Standards for the Use or Disposal of Sewage Sludge"
- (20) 40 CFR, Part 761, "Polychlorinated Biphenyls"
- j. 49 CFR, "Transportation"
- k. 50 CFR, "Wildlife and Fisheries"

1.3 State and Regional Documents

a. Florida Statutes (FS)

- (1) Florida Statute 373, "Water Resources"
- (2) Florida Statute 376, "Pollutant Discharge Prevention and Removal"
- (3) Florida Statute 380, Part III, "Coastal Planning and Management"
- (4) Florida Statute 403, "Environmental Control"

b. Florida Regulations (Florida Administrative Code (FAC))

- (1) TITLE 5E, "Pesticides"
- (2) CHAPTER 62, "Department of Environmental Protection"
 - (a) 62-4, "Permits"
 - (b) 62-160, "Quality Assurance"
 - (c) 62-204, "Air Pollution Control"
 - (d) 62-210, "Stationary Sources - General Requirements"
 - (e) 62-212, "Stationary Sources - Preconstruction Review"
 - (f) 62-213, "Operation Permits for Major Sources of Air Pollution"
 - (g) 62-242, "Motor Vehicle Emission Standards and Test Procedures"
 - (h) 62-243, "Tampering With Motor Vehicle Air Pollution Control Equipment"
 - (i) 62-256, "Open Burning and Frost Protection Fires"
 - (j) 62-257, "Asbestos Program"
 - (k) 62-281, "Motor Vehicle Air Conditioning Refrigerant Recovery and Recycling"
 - (l) 62-296, "Stationary Sources - Emission Standards"
 - (m) 62-297, "Stationary Sources - Emissions Monitoring"
 - (n) 62-330, "Environmental Resource Permitting"
 - (o) 62-520, "Ground Water Classes, Standards, and Exemptions"
 - (p) 62-532, "Water Well Permitting and Construction Requirements"
 - (q) 62-550, "Drinking Water Standards"
 - (r) 62-600, "Domestic Wastewater Facilities"
 - (s) 62-620, "Wastewater Facility Permitting"

- (t) 62-660, "Industrial Wastewater Facilities"
- (u) 62-701, "Solid Waste Management Facilities"
- (v) 62-730, "Hazardous Waste"
- (w) 62-761, "Storage Tank Systems"
- (x) 62-770, "Petroleum Contamination Site Cleanup Criteria"

- (3) 64E-6, "Standards for Onsite Sewage Treatment and Disposal Systems"

1.4 Other Regulations

- a. TITLE 40C, St. Johns River Water Management District, "Water Management Regulations"
- b. Brevard County Ordinance 89.09, "Onsite Sewage Disposal Systems"

* 1.5 NASA and KSC Documents:

c. NASA Issuances

- (1) NASA Policy Directive
NPD 8500.1, "NASA Environmental Management"
- (2) NASA Policy Guidance
 - (a) NPG 8820.3, "Pollution Prevention"
 - (b) NPG 8830.1, "Affirmative Procurement Plan for Environmentally Preferable Products"
 - (c) NPG 8850.1, "Environmental Investigation and Remediation – PRP Identification and Analysis"

d. KSC Issuances

- (1) Kennedy Management Issuance
 - (a) KMI 8800.8, "KSC Environmental Management"
 - (b) KMI 1860.1, "KSC Radiation Protection Program"
- (2) Kennedy Handbook
 - (a) KHB 8800.7, "Waste Management Handbook"
 - (b) KHB 1840.1, "The Industrial Hygiene Handbook"
 - (c) KHB 1870.1, "KSC Sanitation Program"
 - (d) KHB 1860.1, "KSC Ionizing Radiation Program"
 - (e) KHB 8810.1, "Processing and Approving Excavation Permits"
- (3) KSC Program Wide Generic Work Plans (Volume I – VII)

1.6 Kennedy Documented Procedures (KDP's)

- a. KDP-P-1714 Annual Title V Fee Calculation
- b. KDP-P-1715 Title V Annual Operating Report (AOR)
- c. KDP-P-1723 Drum Management
- d. KDP-P-1726 Environmental Assessment (EA)
- e. KDP-P-1727 Environmental Checklist (EC)
- f. KDP-P-1728 KSC Pollution Incident Reporting and Notification System
- g. KDP-P-1730 Excavation Permit Application and Siting Approval
Environmental Review
- h. KDP-P-1733 Historic and Archaeological Site
- i. KDP-P-1734 Environmental Permit Compliance Reporting
- j. KDP-P-1737 Petroleum Contamination Site Cleanup
- k. KDP-P-1739 Resource Conservation and Recovery Act
- l. KDP-P-1741 Threatened and Endangered Species
- m. KDP-P-1743 Environmental Permit Application Review and Submittal
- n. KDP-P-1744 Environmental Permit Electronic Funds Transfer (EFT)
- o. KDP-P-1745 Environmental Regulatory Response To Request For
Information
- p. KDP-P-1747 Internal Environmental Monitoring and Compliance
Inspections
- q. KDP-P-1748 Regulatory Inspections

1.7 Environmental Checklists

- a. KDP-F-2561 Hazardous Waste 90 Day Accumulation Area Inspection
- b. KDP-F-2562 Hazardous Waste Satellite Site Accumulation Area
Inspection
- c. KDP-F-2563 Polychlorinated Biphenyl (PCB) Inspection
- d. KDP-F-2564 KSC/Schwartz Road Landfill, Class III Inspection
- e. KDP-F-2565 Pesticide Inspection
- f. KDP-F-2566 Registered Storage Tank Systems Inspection
- g. KDP-F-2567 Biomedical Waste Inspection
- h. KDP-F-2568 Malfunction Report

1.8 Other Documents

- a. EPA HSWA Permit FL6 800 014 585
- b. Florida Soil Cleanup Standards
- c. Florida Groundwater Guidance, Bureau of Groundwater Protection
- d. KSC Generic Work Plans
- e. EPA Standard Operating Procedure and Quality Assurance Manual

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- f. KSC Investigative Derived Waste Management Plan

SECTION 2: DEFINITIONS

- 2.1 Best Management Practices (BMP): A set of procedures, coordinated through the Environmental Working Group or Organizational Representatives and, when necessary, with regulatory agencies, establishing detailed performance or design practices which are considered the best standard method for meeting broad or general environmental regulatory requirements.
- 2.2 Organizational Representative (OR): One or more individuals; civil service, KSC contractor or subcontractor, or other permanent or temporary KSC tenant, who has been designated as points-of-contact for an organization for matters of environmental compliance and/or activities.
- 2.3 Energy Working Group: A team comprised of OR's, who ensure KSC makes continual progress toward compliance with federal energy efficiency mandates and utility cost reduction.
- 2.4 Environmental Working Group: A group comprised of OR's and other interested parties who meet on a regular basis to review environmental issues and address solutions to these issues and problems.
- 2.5 Environmental Policy Letter: A document from the Environmental Program Branch (EPB), coordinated through the Environmental Working Group (EWG), Energy Working Group, Pollution Prevention Working Group or OR's, and when necessary, with regulatory agencies, which provides specific guidance to KSC organizations for approaches to satisfying requirements of environmental including energy regulations within KSC policy guidelines.
- 2.6 KSC Environmental Program Branch (EPB): The Office, appointed by the Director of Spaceport Services, to fulfill the Directorate's environmental management responsibilities under [KMI 8800.8](#) (as revised).
- 2.7 Lead Organization (Maintenance): The primary organization responsible for maintenance of a facility or system.
- 2.8 Lead Organization (Construction): The primary organization responsible for design and/or construction of a facility or system.
- 2.9 Lead Organization (Operations): The primary organization responsible for operations of a facility or system.

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- 2.10 Pollution Prevention Working Group (P2WG): A group comprised of OR's and other interested parties who meet on a regular basis to review Pollution Prevention, Recycling and Affirmative Procurement issues and address solutions to these issues and problems.
- 2.11 Pollution Control and Sanitation Officer (PCSO): The Officer, appointed by the Director of Spaceport Services, responsible for fulfilling the responsibilities described in [KHB 1870.1](#) (as revised).
- 2.12 Primary Organization: NASA Directorate or Office reporting directly to the Center Director.

SECTION 3: GENERAL ENVIRONMENTAL RESPONSIBILITIES

- 3.1 The Kennedy Space Center is located on the East Coast of Central Florida. Areas of the Center not used for operations are part of the Merritt Island National Wildlife Refuge and are managed by the U.S. Fish and Wildlife Service. The Center is adjacent to the Atlantic Ocean, the Indian River Lagoon system, and encompasses most of the Canaveral National Seashore (managed by the National Park Service). The Center has a large number of threatened and endangered species (T&E) and is recognized as a setting with unique ecological features. Maintaining and improving the environment is a goal of NASA as an Agency. In addition, KSC lists Environmental Leadership as a Guiding Principle and environmental considerations should be taken into account in every operation at the Center. All personnel share the responsibility for environmental stewardship. This document outlines the environmental programs that affect KSC and describe programs KSC has in place to ensure the operational impacts to the environment are minimized.
- * 3.2 Environmental Program Branch (EPB) Responsibilities
- a. The EPB represents KSC on the NASA Environmental Management Board and the NASA Energy Efficiency Board.
 - b. The EPB is responsible for managing the KSC Environmental Programs at KSC. Responsibilities include coordination and integration of all environmental programs (compliance, restoration, prevention, affirmative procurement; acquisition for pollution prevention; recycling and conservation); all formal contacts with environmental regulatory agencies; cease and desist authority for all polluting activities; all ambient environmental and ecological monitoring, compliance monitoring and surveillance; remediation of contaminated sites; and sampling at contaminated sites.
 - c. The EPB is the NASA Principle Center for Recycling and Affirmative Procurement. Responsibilities include providing leadership and expertise in recycling and affirmative procurement throughout NASA's centers by incorporating the pollution prevention hierarchy of source reduction, and recycling/reuse. This program will be carried out through compliance with EO 13101, the NASA Implementation Plan and NPG 8830.1.
 - d. The EPB chairs the Environmental Working Group (EWG), Pollution Prevention Working Group (P2WG), and the Energy Working Group for the purpose of discussing and disseminating environmental policy and information to Center organizations.

- e. The EPB will follow KSC ISO 9000 documentation requirements, whenever applicable, and will attempt to make documents available electronically through the NASA TechDoc System or on the EPB Home Page.

3.3. Organizational Responsibilities

Each civil servant and contractor operational and tenant organizations will designate one or more OR's for their activities. Each organization should also designate an Environmental Working Group (EWG), Energy Working Group, and Pollution Prevention Working Group member(s).

3.4 Documentation and Control

- a. Environmental documents required for KSC's actions by federal, state, and local laws and regulations will be prepared by either the organizations initiating the actions or by the organization preparing the design, as indicated within the sections of this KHB. Organizations responsible for maintaining onsite documentation (as established by regulation or permit condition) will ensure the proper documentation is readily available for internal or regulatory inspections.
- b. The organization generating documentation on-site, which must be included as part of an official communication with an environmental organization external to KSC or which is necessary for Centerwide inventories and permit compliance, must ensure copies are available to the EPB. The EPB will ensure copies of all approved permits and other applicable documentation from sources external to KSC are forwarded to the appropriate OR and will maintain a centralized official file for this documentation. Specific documentation required is detailed in each section of this KHB.
- c. The EPB is the Center's single interface for official communications with environmental regulatory agencies and other organizations external to KSC (e.g., NASA Headquarters and Enterprise Offices) regarding environmental issues. Official communications include negotiating permit conditions, enforcement orders, compliance agreements, and discussions that impact KSC-wide programs and operations or have multi-directorate implications. The gathering of information by a contractor to provide advice, opinions, recommendations, or ideas to Governmental officials is encouraged, as is contractor participation in Agency meetings or discussions with regulatory officials. Having EPB as a single interface is intended to ensure consistency of application of environmental program requirements across the Center, to present a consistent position to parties external to the Center, and to meet Office of Federal Procurement Policy and NASA Headquarters' mandates regarding inherently governmental functions. Activities that require the

exercise of discretion in applying Governmental authority, or the making of commitments that bind the United States to take some action, either by contract, policy, regulation, authorization, order, monetary payment or otherwise, are considered inherently Governmental and should be reserved to the performance of Government employees.

- d. When environmental regulations require interpretation, the EPB shall coordinate and document policy for KSC organizations. Any KSC organization may request clarification of KSC environmental policy or provide draft "Best Management Practices" for their operations to the EPB. The EPB, whenever possible, will provide a response based on in-house expertise or previously negotiated agreements.
- e. When necessary, the EPB will request clarification from and negotiate new agreements with the appropriate regulating agencies, coordinate the responses with KSC organizations through the EWG or through the OR and document the final agreements as either "Environmental Policy," or "Best Management Practices." A copy of each agreement will be sent to each OR for further distribution within that organization. This documentation will be incorporated into a permanent file maintained by the EPB and made available to KSC organizations for review. A current list of these documents can be found on the EPB Home Page and they will also be available in the electronic documentation system established by NASA-KSC (TechDoc).

3.5 Controls

- a. All KSC organizations (NASA and contractor) are responsible for ensuring all actions taken under their authority and funding meet the applicable requirements of all federal, state and local environmental laws and regulations including obtaining all required environmental permits. Each organization must ensure that controls on employee and contractor and subcontractor activities are established and maintained to prevent noncompliance.
- b. The EPB will evaluate and maintain current knowledge in all environmental protection regulations and will make appropriate KSC procedures and controls available to help assure compliance.
- c. All KSC organizations are responsible for ensuring the essential requirements of the "Environmental Policy" and "Best Management Practices" are included in all applicable operating procedures and in the terms of all prime contracts. KSC contractors are responsible for ensuring these requirements are included in the applicable terms of all subcontracts.

- d. Operational controls to ensure environmental compliance must be incorporated into all construction contracts.
- e. Model clauses for construction contracts are included in Appendix A. These clauses are illustrative-only and need not be incorporated verbatim into operating procedures and/or contracts.

3.6 Testing, Inspection, Monitoring and Reporting

Testing, inspection, monitoring, and reporting required to comply with environmental regulations are detailed in each section of this KHB. KSC organizations are responsible for ensuring the appropriate requirements of the regulations are fulfilled. The EPB and the appropriate OR will accompany all outside environmental compliance agencies on inspections of KSC facilities and operations. The EPB will be contacted immediately if outside environmental agencies request access to KSC's property for inspection or observation.

3.7 Training

For training required by regulation, KSC organizations will ensure personnel receive proper training prior to engaging in the regulated activity. Mandatory training is specifically set forth in CFR's and other regulations. Training required for work on a particular site will be noted on the response sheet to the Environmental Checklist (i.e., Record of Environmental Consideration).

3.8 Public Involvement

- a. Public involvement through public notice, comments, and/or inputs will be required at times to support environmental actions at KSC. Actions include certain permit applications/modifications, Environmental Assessments (EA), and Environmental Impact Statements (EIS).
- b. Public involvement also occurs through workshops, public meetings, public hearings, and administrative hearings. The workshop is the most informal and is a meeting to inform the public of the status of a specific topic and to answer any questions the public might have. The public meeting is also an informally structured meeting to discuss a specific topic and to get the public's input. This type of meeting is a requirement for RCRA permit modifications and may be attended by the regulatory agency involved. A public hearing is a formally structured meeting run by the interested Governmental Agency and is part of the public record. An administrative hearing is a legal proceeding run by a Hearing Officer. It is conducted after an Intent to Issue Permit has been challenged and is attended by lawyers for the challenging and the defending parties.

- c. While the ultimate responsibility for these meetings will reside with the EPB, it will be the task of the OR to support the technical aspects of the meetings and coordinate the details with the EPB, such as date, time, place, and meeting set-up.
- d. While the EPB will be responsible for the final content and release of information to outside agencies, the general public, and the media (through the External Affairs Office), the OR will be required to provide technical input to meeting notices, press releases, and fact sheets.

SECTION 4: ENVIRONMENTAL CHECKLIST AND IMPACT STATEMENTS

4.1 Regulatory Relationships

The National Environmental Policy Act (NEPA) of 1969 levied the requirement for all federal agencies review their actions for environmental effects and when the action could or would produce a significant effect, the proposal be publicly reviewed. The Act also establishes the Council on Environmental Quality (CEQ) to administer the program and advise the President and Congress on environmental issues. As the law relates only to federal agencies and their actions, no state regulations apply and no state agencies have authority to administer the program. However, public review is required, therefore, the appropriate state and local agencies must be consulted and their comments on projects solicited.

* 4.2 Documentation

a. Use of Environmental Checklist for KSC Project Site Requests

When a new facility or project involving the construction or modification of a facility is proposed, site approval must be obtained through the Spaceport Services Directorate. As these activities often involve impacts to the environment, a KSC Environmental Checklist must be prepared for each project ([KDP-P-1727](#)). The checklist should be completed by the project initiator, signed by the requestor, and submitted to EPB prior to the submittal of a siting request, unless all "NO's" were checked for the project. In which case, the checklist must be signed by the requestor and filed in the official project file. For those checklist submitted to the EPB, the EPB will respond with a Record of Environmental Consideration (REC). The completed REC or checklist with all marked, whichever is appropriate, for the chosen alternative should be attached to the siting request. Refer to [KDP-P-1730](#) for the process of evaluation excavation permits in EPB. No siting request will be approved without a completed approved checklist attached.

b. Use of AF Form 813 for CCAFS Projects

When a new facility or project involving the construction or modification of a facility on CCAFS is proposed, an AF Form 813, "Request for Environmental Impact Analysis," is required by the Air Force. Form 813 will be completed by the EPB using information from the completed KSC Environmental Checklist. The EPB will forward the signed AF 813 to CCAFS and contact the affected OR if more information is needed and when the response is received from the Air Force (AF).

c. NEPA Documentation

(1) Environmental Analysis

- (a) The NEPA of 1969 requires federal agencies to prepare an Environmental Analysis of any action undertaken that could result in a significant impact on the environment. The initial process of environmental review of projects and actions under this requirement is depicted in [KDP-P-1727](#). The KSC Environmental Checklist is a document prepared to aid in this early identification of environmental issues and requirements associated with proposed work and activities. The project lead or requester for a project or action is responsible for completing the KSC Environmental Checklist portion of this form at the earliest possible time and submitting it to the appropriate OR for the organization proposing the project. A copy of the form and detailed instructions for its completion are available on the KSC EPB Home Page.
- (b) Once all the pertinent information is received, the primary organization's OR signs the appropriate space on the form; if all "NO's" were completed in Section 2b, the OR marks the appropriate box and files the checklist. If further evaluation is needed, the OR signs and forwards the document to the EPB. EPB will then prepare a REC for the project and return it to the OR.
- (c) If the project is categorically excluded from further evaluation, because of a lack of impacts, the EPB will mark the appropriate space on the REC.
- (d) The REC will list all environmental requirements for the project including permits, outside consultations, and special procedures or processes that must be used during project implementation.
- (e) If the EPB determines a formal environmental assessment (EA) will be required, EPB will prepare the EA. If special studies are required, EPB may request funding from the appropriate program/project office. If an Environmental Impact Statement (EIS) is required, the primary organization's OR will be requested to contact the appropriate NASA

Headquarters' official to obtain funding for the preparation of the EIS. Preparation of the EIS will be coordinated between the EPB and NASA Headquarters with support of the primary organization with programmatic responsibility. Refer to [KDP-P-1726](#) for the process of Environmental Assessments.

d. Environmental Resources Document

The EPB will prepare and update the Environmental Resources Document (ERD) required by 14 CFR 1216.3. The ERD will be used by preparers of EA's and EIS's as a reference document to avoid restating similar material. The ERD will cover areas prescribed in 14 CFR 1216.3 and will be updated yearly with page changes, if needed, and will be rewritten every five years. The ERD can be found on the KSC EPB home page.

SECTION 5: POLLUTION INCIDENT REPORTING AND NOTIFICATION

* 5.1 Regulatory Background

- a. Hazardous materials in amounts varying from several ounces of relatively benign substances to thousands of gallons of toxic, flammable and/or explosive materials are received and handled throughout KSC each day.
- b. Unpermitted releases must be reported to the Environmental Program Branch (EPB) as "pollution incidents," because the environmental impact that may result is regulated by federal or Florida Codes or because the circumstances of the release, such as the location or nature of the release, may result in violations of Code.
- c. All unpermitted releases at KSC shall be reported using the KSC Incident Reporting and Notification Form (PIR), KSC Form 21-555 (as revised). The following are general exemptions from the reporting requirement:
 - (1) Quantity of hazardous material released is 4 ounces or less.
 - (2) Release occurs inside a facility and does not reach the outside environment.
 - (3) Release is considered a fugitive emission or is contained as a standard operating procedure (e.g., drips from disconnection of fluid lines).
 - (4) Release occurs on impervious surface and is cleaned up without aid from JBOSC spill response and with no impact to soil or water. (Exception is a release from a storage tank system to its secondary containment, which must be reported.)
- d. There are four primary Federal Statutes that require release reporting:
 - (1) CERCLA Section 103 (40 CFR Part 302.6, Part 300.405) - Requires that the release of a CERCLA hazardous substance that meets or exceeds the reportable quantity (RQ) set forth in 40 CFR 302.4 must be reported to the National Response Center (NRC).
 - (2) EPCRA Section 304 (40 CFR Part 355.40) - Requires that the release of an RQ or more of an EPCRA extremely hazardous substance or a CERCLA hazardous substance (one pound or more if a reporting trigger is not established by regulation).

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- (3) CWA Section 311 (40 CFR Part 110.10, Part 300.300) - Requires that the release of oil be reported to the NRC if the release: (1) violates applicable water quality standards; (2) causes a film, sheen or discoloration of the water or adjoining shoreline; or (3) causes a sludge or an emulsion to be deposited beneath the surface of the water or upon the adjoining shorelines.
 - (4) HMTA Section 1808 (49 CFR Part 171.15) - Requires that the release of a DOT hazardous material during transportation be reported to the NRC under certain circumstances such as death, injury, significant property damage, evacuation, highway closure, etc.
- e. Pollution Incident Release Reporting Requirements
- (1) At the Kennedy Space Center and NASA/KSC-operated facilities located at Cape Canaveral Air Force Station (CCAFS), releases must be reported verbally to the EPB at 867-4280 or 867-4556 within eight hours of the incident.
 - (2) In cases where the EPB cannot be reached, such as second or third shift or on the weekend, the JBOSC Support Operations Office shall be notified at 853-5211. The Operations Officer will notify the appropriate personnel.
 - (3) Within three working days of the incident, the responsible party must submit a KSC PIR (KSC Form 21-555 (as revised)) as completely as possible based on the best available knowledge of the incident.
 - (4) Information required by the EPB for verbal notifications and for completion of KSC Incident Reporting and Notification Form (PIR), KSC Form 21-555 (as revised) is:
 - (a) Date of incident
 - (b) Time of incident
 - (c) Contact person, name and telephone number
 - (d) Location of contact person
 - (e) Substance released
 - (f) Location of the incident
 - (g) Quantity of release
 - (h) Release effects
 - (i) Incident description
 - (j) Incident cause

- (k) Action taken to respond, contain or cleanup incident
 - (l) Health risks
 - (m) Injuries
 - (n) Personnel notified (e.g., 911, Duty Office)
- (5) Maps are especially useful when reporting petroleum spills, because the off-site notification requirement includes written notification. A map showing spill locations should be attached to the forms submitted to the EPB. The map can be a rough sketch or a facility utilization map showing compass directions, buildings, landmarks, spill location and approximate area covered by spill.
- (6) In some cases, the PIR and map may be required by the EPB more quickly than the KSC Mail System can deliver. In these cases, the OR and the responsible contractor will be notified and required to either hand carry or electronically transmit the report to the EPB.
- (7) The EPB shall be responsible for determining if the release is a reportable quantity of a reportable substance. The EPB shall be the KSC point-of-contact for all notification and correspondence about any release to off-site authorities. Substances which require EPB to contact off-site authorities include:
- (a) Petroleum products:
 - 1. Brevard County, verbal, followed by written appropriate FDEP form. Maps are desirable.
 - 2. National Response Center, verbal, if discharged to surface waters.
 - (b) Extremely hazardous substances:
State Emergency Response Commission, verbal.
 - (c) CERCLA hazardous substances:
 - 1. National Response Center, verbal.
 - 2. State Emergency Response Commission, verbal.
 - (d) Industrial Wastewater Emergency Overflow:
FDEP, verbal, written as requested.
 - (e) Sewage releases:
FDEP, verbal, written with next monthly report.
 - (f) Air releases of emissions exceeding permitted limits:
FDEP, verbal, followed by written report at FDEP's discretion.

- (g) PCB's:
National Response Center, verbal.
 - (8) Any sampling required at the incident site either initially or long-term follow-up will be coordinated with the EPB. The OR will be notified verbally and/or in writing by the EPB of the response from the off-site authorities regarding the verbal release notification.
- f. Pollution Incident Reports
- (1) The PIR will be kept by the EPB. The EPB will provide a monthly status of the reports received during the previous month to the affected organization's OR, if requested.
 - (2) Besides being an internal account of spills at KSC, the PIR is a mechanism for identifying sites requiring remediation. A detailed description of the incident on the report form is necessary to support the EPB request for funding from NASA Headquarters to investigate and remediate the site.
 - (3) A database of PIR's is maintained by EPB and is used to store information on reported releases. Compiling information in this manner allows for the evaluation of incidents for trends and to rapidly answer questions concerning spills reported at the Center. Refer to [KDP-KSC-P-1728](#) for PIR process requirements.
 - (4) PIR data is also used to support other environmental programs at KSC such as:
 - (a) Compliance and Enforcement Support
 - (b) Permit Nonconformance
 - (c) Environmental Planning
 - (d) Statistical and Trend Analysis
 - (e) Academic Research
 - (f) Property Transfer/Site Audits
 - (g) Remediation

SECTION 6: PERMITTING AND COMPLIANCE

* 6.1 Permit Application Review and Submittal

- a. When a Record of Environmental Consideration (REC) is returned with a requirement for a permit, the initiating organization is responsible for preparing the permit application, including signing and sealing, when required. The EPB may be contacted for guidance concerning preparation of the application. The EPB is responsible for reviewing and submitting permit applications to the appropriate regulatory agency. The environmental permit application review and submittal process can be found on [KDP-P-1743](#).
- b. Florida regulatory agencies' response to a permit application can be either a notice of completeness or a request for additional information (RAI). After additional information is provided (reference [KDP-P-1745](#)), the Agency may continue to ask additional questions until the permit application is considered complete by the Agency.
- c. After the permit application is deemed complete, the regulatory agency must indicate intent to issue the permit (or in the case of St. Johns River Water Management District, arrange for a governing board review). Typically, a draft permit is received within a 14-day turnaround period for comments to the Agency. EPB will send the draft permit to the lead OR upon receipt. When comments are resolved, typically, 30 days is required to advertise the permit issuance in a local newspaper, for the regulatory agency to sign the permit, and for EPB to receive the permit through the mail.
- d. Permit Conditions. After a permit is received, the EPB will forward a copy to the lead OR. The OR is responsible for ensuring the permit is available to the office managing construction or operation and ensuring compliance with the permit. The OR is responsible for ensuring all applicable special and general conditions of the permit are included in the work package or construction contract; for notifying the EPB when work begins and ends; and for ensuring completion of any "Certificate of Completion" and as-built drawings required as a condition of the permit. For operational or maintenance conditions of permits, the organization conducting the operation or maintenance will comply with all the terms of the permit, coordinating with and arranging for monitoring support by the EPB, keeping the OR informed of any change in the operation which could require permit modification, and preparing permit modification packages.

- e. **Permit Modifications.** The EPB should be contacted for determination of whether a modification is considered major or minor. The lead OR is responsible for forwarding permit modification packages to the KSC EPB. Major permit modifications will be reviewed and processed like a new permit (see [KDP-P-1743](#)). Minor permit modifications may be handled with a notice to the regulatory agency or through submission of the as-builts in the Certcomp.
- f. **Certification of Completion.** After work is complete, the lead OR will notify the EPB and, within the timeframe indicated in the permits, transmit a completed Certcomp with as-builts, as needed. The EPB will review the Certcomp, submit it to the regulatory agency, and arrange a regulatory agency inspection, if required. If a regulatory agency inspection reveals discrepancies in the permitted work, the EPB will notify the OR, who will arrange to have the discrepancies corrected or explained. If a Certcomp cannot be developed within the timeframe indicated in the permit, a request for extension must be processed through the EPB.
- g. **Operation Permits.** Preparation of operation permit applications will be the responsibility of the organization conducting or scheduled to conduct the permitted operation. When operation permits follow completion of construction permits, the organization preparing the design will serve as lead organization and ensure construction permit is available to and coordinated with the operations organization. Following construction, the operation organization will become the lead organization. When operation permits are independent of any construction permit, the operations organization will serve as lead organization for the preparation of the application.
- h. **Turnover of Permitted Facilities and Systems.** Permitted facilities and systems will be transferred to the operations and maintenance organizations as agreed between affected KSC organizations.
- i. **Monitoring Reports.** Monitoring reports required by permits are addressed in the next subsection of this KHB.
- j. **Permit Renewals.** Permit renewal applications must be submitted to the EPB through the lead OR in the timeframe required by the applicable regulation prior to the permit expiration date. The development and transmittal of the application will be the same as for new permit applications. The organization responsible for the permitted system will be considered the lead organization for permit renewals.
- k. **Permit Fees.** The EPB will request permit fees to be paid from funds budgeted and funded by the organizations requesting new facilities or

operations. KSC tenants will provide the fee to the EPB in the form of a check payable to the external agency processing the permit. A list of permit fees is available from each agency or from the EPB. (See [KDP-P-1744](#) for permit fee payment process.)

- I. Violations of Permit Conditions. In no case will construction or operation begin prior to approval and receipt of a required permit nor should the operation violate the conditions of a permit. The OR is responsible for ensuring procedures have been developed to ensure compliance with permit requirements within their organization. All designated OR are responsible for reporting apparent permit violations to the lead organization OR and the EPB. The EPB is responsible for reporting apparent permit violations to the appropriate state or federal agencies and negotiating compliance requirements in cooperation with the lead organization.

* 6.2 Inspection, Monitoring, Testing and Reporting

a. Inspection

- (1) Environmental regulatory agencies that are authorized to inspect may do so at any reasonable time for any permitted or regulated facility or activity at KSC. The regulators may give verbal or written notice of an impending inspection or the inspection may be unannounced. The EPB will be the point-of-contact and will accompany the regulator at all times while on KSC property. The lead OR or a representative responsible for the permitted facility being inspected should also attend the inspection. Refer to [KDP-P-1748](#) for the regulatory inspection process.
- (2) Permits and regulations list specifically which records the regulators will inspect. To assure compliance with the permit, regulators can also perform sampling or monitoring on any substance or parameter at any KSC facility.
- (3) On-site inspections by regulators may also be required before a permit is issued. Again, the EPB, and the OR or a representative will accompany the regulator at all times.
- (4) The EPB will be responsible for implementing an internal inspection program for KSC. Schedules for internal inspections depend upon staffing constraints. The purpose of internal inspections is to ensure activities are in compliance with their respective permits or with the regulations governing their operations. These inspections will not assess punitive damages such as those assessed by the regulatory

agencies, their purpose is to identify compliance concerns so they can be corrected.

- (5) Inspection findings are provided to operational personnel and the OR. In general, permitted facilities where routine monthly or quarterly monitoring is performed are not inspected unless the monitoring shows cause for concern.
- (6) Other facilities or activities, which are inspected annually by regulators, will be inspected internally either annually prior to the regulator's inspection or every six months to ensure the facilities are in compliance. Examples include storage tank inspections and air emission unit inspections. Requirements for internal inspections may also be triggered by consent orders or unannounced inspections by regulators that expose areas of concern. Checklists used for internal inspections are provided in the applicable program area section of this KHB.
- (7) Routine inspections of facilities or operations are performed by the facility manager or qualified operational personnel. Requirements for routine inspections and recordkeeping are specified in regulations. Examples of required routine inspections include weekly inspection of secondary containment for storage tanks and weekly inspections of hazardous waste storage facilities. Facility operators shall know which inspections are required, shall perform the inspections, shall keep applicable records, and shall make them available for the inspection.
- (8) Guidance on the inspection requirements is available from the EPB. Refer to [KDP-P-1747](#) for the internal inspection process.

b. Monitoring

- (1) Environmental monitoring of operational areas at KSC is performed to determine if operations currently have or in the past have had adverse effects on the surrounding environment.
- (2) General and specific conditions listed in all permits give instructions on required monitoring for the permitted source. Monitoring unique to permit types is explained in the corresponding section of this KHB. Permit-related sampling and analysis is performed by the EPB Sampling Contractor or designated representative. Monitoring results are transferred to appropriate forms and transmitted to the operator. The OR or representative is responsible for reviewing the

data provided by the Environmental Sampling Contractor or operational personnel to ensure no transcription errors have occurred. The OR is also responsible for listing items of noncompliance, and when possible, explaining the reason for noncompliance. If the reason for noncompliance is unknown, this should be stated and the OR should consult with the EPB to determine if an investigation or further sampling is required.

- (3) When monitoring reports require an "Operator" or "authorized company official" signature, a designated NASA employee will sign the report. When the report requires an "owner or authorized representative signature," the Chief EPB will sign. In no case will a contractor employee sign as Operator or owner unless the signature of a licensed operator is required as in the case of the Wastewater Treatment Facilities and the Drinking Water Treatment Plant. In those cases, the licensed operator will sign the monitoring reports.

c. Testing

Any operational testing required by permit or regulation will be performed by the Operator or installer, as applicable. Examples of testing are tightness tests for storage tank installations to certify the integrity of a tank before it is placed in service and leak tests on containment to determine the integrity of the containment system.

d. Reports

- (1) All required reports of monitoring results will be submitted to regulatory agencies through the EPB. The OR must make certain the required reports with applicable signatures are submitted to the EPB in sufficient time (usually five working days prior to submittal) to ensure the reports reach the agencies in the time period listed in the applicable permit or regulation. The EPB will review the submittal to ensure all required data and all signatures are present before transmittal to regulatory agencies. The OR will be notified of any deficiencies and is responsible for correcting deficiencies. Copies of the monitoring data transmitted to the regulatory agency are kept by the EPB. A copy of the dated transmittal letter will be provided to the OR. Refer to [KDP-P-1734](#) for the permit compliance reporting process.
- (2) Any reports of testing results should be maintained on-site and a copy forwarded to the EPB through the OR for submittal to the proper agency, if required.

- (3) The EPB will track permits requiring monitoring submittals and track dates that the reports were submitted. The EPB will notify OR's when reports are overdue. The EPB will be the listed point-of-contact for all monitoring report submittals and will coordinate inquiries from regulatory agencies concerning monitoring data.

SECTION 7: AIR POLLUTION

* 7.1 Regulatory Requirements

- a. The Clean Air Act (CAA) requires federal facilities to, “comply with all federal, state, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of air pollution in the same manner, and to the same extent as any non-Governmental entity.” The Act further states that, “This subsection shall apply notwithstanding any immunity of such agencies, officers, agents, or employees under any law or rule of law.”
- b. The EPA has delegated part of its air pollution permitting authority under the Clean Air Act to the Florida Department of Environmental Protection (FDEP).
- c. This delegation allows the FDEP to issue Prevention of Significant Deterioration (PSD) permits and Non-attainment Area Applicability (AA) permits for the EPA. These permit programs apply to major sources within attainment areas and non-attainment areas, respectively. Brevard County is currently considered an attainment area for all the National Ambient Air Quality Standard (NAAQS) pollutants.

7.2 Documentation

Refer to Section 5 of this KHB for more information on required documentation for all pollution releases including air pollution.

* 7.3 Permits

- a. Air pollution permits establish specific requirements for emission units. To ensure permits are obtained or modified as required by regulation, the lead organization, through the OR, must notify the EPB of the existence, construction, or modification of air pollution emission points.
- b. The OR must ensure procedures are in place to have the permit, or the basis for a permit exemption, kept in the vicinity of each emission point or filed in one designated central location.
- c. The OR must ensure procedures are developed which ensure permit compliance for each emission unit within their organization.

d. Permit Applications

(1) Existing Permitted Emission Units

- (a) To modify an emission unit, an application must be submitted to the EPB by the OR signed and sealed in accordance with Section 6 under Permit Application Review and Submittal (paragraph 6.1.a.).
- (b) Renewing the FDEP Title V Air Operation Permit will be the responsibility of the EPB, which will compile information from each emission unit operator.

(2) Future Emission Units

- (a) Prior to constructing or initiating operation of an air pollution emission unit, a construction permit must be obtained from the FDEP. To obtain a permit to construct or initiate operation of an emission unit, an application must be submitted to the EPB by the OR signed and sealed in accordance with Section 6 under Permit Application Review and Submittal.
- (b) The emission units with construction permits will be incorporated into the Title V Operating Permit. The incorporation will be accomplished by submitting an application to modify the overall permit. The modification will be requested from FDEP at the time that construction is complete.

e. Recordkeeping

To show each emission unit's compliance with applicable regulatory and permit requirements, the OR shall ensure records are kept and available to support inspections and annual reporting requirements. The EPB will keep records, as necessary, to determine the status of KSC as a major or minor source as defined within EPA and FDEP regulations, to manage the joint Title V permit conditions, and to facilitate the general knowledge of KSC emission units. In addition to the files that will be kept, EPB will maintain an air pollution database. The OR is responsible for coordinating the submittal to the EPB of the data necessary to keep the database current for each emission unit.

f. Controls

- (1) The OR and the EPB must work together to eliminate or minimize air pollution emissions.
- (2) Permit Requirements. The type of control technology required for a particular emission point is specified in the permit issued by the FDEP.
- (3) Prevention of Accidental Releases of Hazardous Air Pollutants
 - (a) Accidental releases of hazardous air pollutants are regulated under the Clean Air Act (CAA), 42 U.S.C. Section 7412r.
 - (b) The CAA general duty clause establishes a duty, as stated in 42 U.S.C. Section 7412r(1), "to identify hazards which may result from such releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases and to minimize the consequences of accidental releases which do occur."
 - (c) The lead organization (operations), with assistance from the EPB and Safety, is responsible for ensuring compliance with the general duty clause of the CAA and the regulations associated with the prevention of accidental releases.
- (4) Prevention of the Release of Ozone Depleting Substances
 - (a) Class I and Class II Substance Provisions of the Clean Air Act Amendments of 1990.
 1. Section 7671(g) requires the EPA promulgate "requirements that Class I or Class II substances contained in bulk in appliances, machines or other goods shall be removed from each such appliance, machine or other good prior to the disposal of such items or their delivery for recycling" before November 1994. "Effective July 1, 1992, it shall be unlawful for any person, in the course of maintaining, servicing, repairing, or disposing of an appliance or industrial process refrigeration to knowingly vent or otherwise

knowingly release or dispose of any Class I or Class II substance used as a refrigerant in such appliance (or industrial process refrigeration) in a manner which permits such substance to enter the environment. De minimis releases associated with good faith attempts to recapture and recycle or safely dispose of any such substance shall not be subject to the prohibition set forth in the preceding sentence.” [42 U.S.C. Section 7671(g)]

2. The OR is responsible for ensuring the CAA requirements, and any related regulations, as they pertain to the Ozone Depleting Substances are complied with.

(b) Servicing of Motor Vehicle Air Conditioners.

The servicing of motor vehicle air conditioners is currently regulated under FAC 62-281. The primary organization responsible for the servicing of motor vehicle air conditioners must ensure that all applicable motor vehicle air conditioner regulations are complied with and that responsible personnel are properly trained. Certification of training must be maintained and kept on file in the Motor Vehicle Air Conditioner (MVAC) servicing shops.

* 7.4 Inspection, Monitoring, Testing and Reporting

- a. Refer to Section 5 of this KHB for more information on inspection, monitoring, testing and reporting associated with all pollution releases, including air pollution.
- b. Inspections
 - (1) The EPA or the FDEP may inspect KSC for compliance with regulatory and permit requirements at any time. FDEP inspects KSC for compliance at least once a year.
 - (2) All inspections will be coordinated and scheduled through the EPB with assistance from the affected OR.
- c. Monitoring and Testing

FDEP Title V Air Operation Permit requires Visual Emission Observations (VEO) monitoring reports to be performed and submitted to FDEP for some emission units. The frequency of the monitoring is specified in the permit. The performance of compliance monitoring, as specified within the permit, will be the responsibility of the EPB. The OR must concurrently coordinate with EPB to ensure the monitoring is done in time to meet the permit deadline taking into account the time needed for review. The FDEP must be notified 15 days prior to monitoring, therefore, the OR must contact the EPB and request the EPB notify the FDEP of the scheduled monitoring. Once the VEO is completed and provided to the OR, the OR will review the reports for accuracy prior to submitting to the EPB. Upon the OR acceptance of the VEO, the reports will be submitted to the EPB for transmittal to the FDEP.

d. Reporting

In addition to the requirement to submit monitoring reports, permits may require the submission of calculations showing emissions based on the amount of material used in a process over a period of time. These reports must be prepared in accordance with the permit requirements and submitted by the OR to the EPB, generally at least once a year. Refer to [KDP-P-1714](#) for the Fee Calculation process and to [KDP-P-1715](#) for the Annual Air Reporting process.

SECTION 8: WATER POLLUTION

* 8.1 Regulatory Relationships

The Rivers and Harbors Act of 1899, as amended, and the 1977 amendments (Clean Water Act) to the Federal Water Pollution Control Act require permits and place restrictions on actions in federal waterways and wetlands. The Clean Water Act requires federal facilities to comply with all federal, state, interstate and local pollution control requirements. Federal permit regulations have been promulgated by the U.S. Army Corps of Engineers (COE) with EPA oversight. Florida pollution control statutes delegate pollution prevention control to the Florida Department of Environmental Protection (FDEP). The FDEP has promulgated regulations which require permits for domestic wastewater systems and industrial wastewater discharge. Regulation of surface water management systems and dredge and fill permitting are implemented under the Environmental Resource Permit (ERP) Program, which is shared jointly by FDEP, COE, and the St. Johns River Water Management District (SJRWMD).

* 8.2 Documentation

Permit application and processing will be as described under Section 6, General Procedures. Permit requirements specific to water pollution prevention are as follows:

a. Environmental Resource Permits

- (1) An ERP is required for any work that creates new impervious and/or semi-impervious surfaces with some limited exceptions. Existing impervious areas without surface water management systems must be upgraded to current treatment standards and re-permitted when modified beyond certain parameters. All ERP's requiring the construction of a surface water management system must be reviewed and concurred by Operator or maintenance entity. Inspection reports required of the Operator by the permit will be prepared by the OR and submitted to the EPB in sufficient time to meet the required submittal date.
- (2) An ERP is also required for any work disturbing a wetland or waterway including drainage ditches (other than maintenance dredging). Wetland impacts are currently under the permit jurisdiction of the COE, the FDEP, and the SJRWMD depending on wetland type and jurisdictional definition. Due to agreements between these agencies, one permit application will usually suffice for all dredge and fill requirements. However, two separate permits

will be issued and construction may not start until both are received approved. In accordance with a Memorandum of Understanding between FDEP and SJRWMD, all dredge and fill permits will be submitted to SJRWMD except those associated with primarily industrial or domestic wastewater projects, or other types of projects permitted by FDEP. The applicant will in all cases be the Chief of the EPB. Typically, there is no Operator for dredge and fill permits, however, when wetland creation is required as mitigation for wetland impacts, a maintenance organization must be identified as part of the mitigation plan. Refer to [KDP-P-1743](#) for the process flow for Environmental Resource Permits.

b. Domestic Wastewater Permits

- (1) Permits are required by the FDEP for modifications, additions and tie-ins to sewage lift stations, domestic wastewater treatment facilities and domestic wastewater collection systems. The OR for the project design organization shall complete a permit application and all supporting data completed and forwarded to the EPB. The applicant will in all cases be the Chief of the EPB. The operating organization will, in all cases, be the Chief of Operations of Spaceport Services and all domestic wastewater permits must be reviewed and signed or concurred by the Chief of Operations of Spaceport Services as Operator or Maintenance entity.
- (2) For domestic wastewater treatment facilities permits, a monthly operating report is required. The operating report will be prepared by the operating organization and submitted through the organization OR to the EPB in sufficient time to meet the required submittal date. New sewage treatment plant permits and renewals of existing domestic wastewater treatment facilities permits must address wastewater reuse as part of the application. Reuse of domestic wastewater is required by Florida law unless it is economically, technically or environmentally unfeasible. New or renewal permit applications for domestic wastewater treatment facilities must include a wastewater reuse plan or show that reuse is not feasible.

c. Industrial Wastewater

- (1) The Federal Water Pollution Control Act Amendments of 1972 and the FAC require all organizations whose activities involve the generation or disposal of industrial wastewater to maintain appropriate facilities, systems, and controls for the safe management of all operations. Permits are required for any process discharging

wastewater to ground or surface waters and for any recycling process that has a potential for overflow or leakage to ground or surface waters. Monitoring and reporting are usually required as conditions of these permits.

- (2) New permit applications and renewals must address the potential for reuse, alternative methods of disposal, or source elimination of the wastewater discharge as part of the permit application. If a permit cannot be obtained from the FDEP for a wastewater discharge, the wastewater must be disposed of as controlled or hazardous waste in accordance with [KHB 8800.7](#) (as revised).

d. Septic Tank Permits

- (1) Septic tanks are to be installed only when no other reasonable alternative to sewage disposal for a project exists. The lead organization shall provide a completed application form to the EPB. The EPB will notify the OR that the permit has been submitted to Brevard County Environmental Health, which has been given jurisdiction by the Florida Department of Health. Permitting for these facilities is different than the normal permit processing, because several inspections are held during the construction process.
- (2) Once the permit is received, construction may begin. Upon completion of construction of the system, including connection of the water supply to the structure, the OR shall contact the EPB who will contact the County for the final inspection. A representative for the EPB must be present for all inspections. Upon installation, the OR shall ensure the system is maintained properly. Unless otherwise provided for, the Director of Spaceport Services shall be responsible for the operation and maintenance (O&M) of all septic tanks installed on KSC property and NASA facilities on CCAFS. The OR must ensure O&M support is available as a part of the permit coordination process.
- (3) Permitted septic tanks are required to submit operation permit applications on an annual basis.

e. Construction Dewatering

- (1) Documentation

A Consumptive Use Permit from the St. Johns River Water Management District is required for all construction dewatering if the

maximum estimated daily pumping exceeds 300,000 GPD or duration is greater than 30 days. If all dewatering effluent is retained on-site, the system is exempt from permitting requirements. If retention on-site is not feasible, the OR must prepare a Consumptive Use notification using form RDS-50 in accordance with WMD 40C-2.

KSC has a General Construction Dewatering Permit, however, the RDS-50 must be submitted which describes the project and duration. The amount of water pumped must be calculated so that the total gallonage at KSC can be submitted to St. Johns when requested by the Agency.

(2) Controls

The OR must ensure a permit package is developed in accordance with the requirements of WMD 40C-2 or ensure all dewatering effluent is retained on-site. Preference should be given to retention of water on-site. Retention on-site can include creation of a bermed temporary retention area to allow effluent to percolate back into the groundwater or overland sheet flow of the effluent so it does not flow into drainage ditches or waterways. The EPB will review effluent retention plans upon request of the OR.

f. National Pollution Discharge Elimination Systems (NPDES) Permits

(1) Regulatory Relationships

- (a) The 1987 amendments to the Clean Water Act require NPDES permits for stormwater discharges associated with industrial activity. In November 1990, EPA issued regulations establishing permit application requirements for these activities including construction activities.
- (b) The permit requirements for industrial activities and construction projects are different in both timing and content.

(2) Documentation

- (a) The Clean Water Act requires any discharge to waters of the United States be permitted under the NPDES. This applies to both point and nonpoint discharges such as stormwater outfalls.

- (b) KSC has one NPDES permit for point source discharges and one permit for stormwater discharges. The permit application requirements for point source discharges will be submitted concurrently by the OR with the applications for State permit for these discharges. This data will then be used by the EPB to modify the existing NPDES permit, as required.

SECTION 9: POTABLE WATER

* 9.1 Treatment Systems

a. Documentation

KSC is subject to regulation under the Safe Drinking Water Act as a supplier, since it operates a Non-Transient Non Community "Public Water System" as defined by federal and state regulations. Test records are maintained by the KSC EPB and submitted monthly to the FDEP. [KHB 1870.1](#) establishes requirements for monitoring of potable water at KSC.

b. Controls

KSC is supplied treated potable water from the City of Cocoa and the City of Titusville Public Water Systems, which are regularly tested. Rechlorination stations are installed at KSC where, because of distance from the public supply, chlorination levels drop below required levels.

9.2 Water Conservation and Reuse

Controls. The OR for each KSC organization will ensure water conservation measures are instituted within each KSC organization. All new projects must be reviewed to ensure water usage is minimized and reuse of wastewater is accomplished, where feasible. Retrofitting of existing water usage will be initiated to the extent required by regulation. The EPB will ensure OR's are advised of current regulations for water conservation and reuse.

9.3 Permitting Requirements

a. Permits are required prior to start of construction for:

(1) Any extension or tie-in to the KSC potable water system with:

(a) 2 inch i.d. or greater line size without a meter or,

(b) 1-1/4 inch i.d. or greater with a meter

(2) Any construction of, or modifications of the treatment system.

b. Permits are not required for:

- (1) Water main extension to a single service connection when extension is two inches or less in diameter. (Permits may or may not be required for single service connections greater than two inches, but less than four inches in diameter. In these cases, a letter requesting permit determination should be submitted to the NASA EPB for review and disposition by FDEP. The letter should include a project description and a sketch or drawing of the extension.)

NOTE: A single service connection serves a single residential lot or business building not to be used for further development nor for use for 24-hour irrigation.

- (2) Repairs or replacement of lines using existing design (i.e., same size, location).
- (3) Demolition/construction inside of buildings/structures.
- (4) Extensions solely for the purpose of adding or relocating fire hydrants provided that the extension is less than 50 feet. In these cases, a sketch of the extension must be submitted to the EPB for review and approval by FDEP.
- (5) Although permits are not specifically required, it is expected that any work done will:
 - (a) Be per standards and criteria, that would have been required had there been a permit issued by the Department and,
 - (b) Not jeopardize the health and safety of personnel, due to effects of the construction/modification on the KSC PW system (i.e., backflow preventers will be installed, as required; disinfection and verification prior to use).

- c. The organization responsible for the work will ensure that best engineering practices, codes, specifications and standards are followed. Pressure and leak tests, as well as disinfection, are also required.
- d. Upon completion and prior to use of the extension or other construction, the engineer of record or professional engineer, who is responsible for construction, must submit the following:
 - (1) FDEP Form 62-555.910(9), "Certification of Construction Completion and Request for a Letter of Clearance to Place a Public Drinking Water Facility into Service."

- (2) As-built drawings (if substantially different from the original application drawings).
 - (3) Copy of satisfactory bacteriological results (absence of total coliform in two consecutive daily water samples).
 - (4) Copy of asbestos sampling results from downstream location, if asbestos piping is affected.
- e. FDEP will review this data and if satisfactory, provide notification of clearance to put the extension or construction into service.

9.4 Requirements for Water Incident/Malfunction Reporting

- a. Per 61E12-41.010, Duties of Operators:

Report to the permittee (EPB) or supplier of water and the Department of Environmental Protection and, if applicable, the local regulatory agency, as soon as possible, but within 24 hours following the occurrence of any serious plant breakdown or condition causing or likely to cause:

- (1) Unsafe treatment plant operation, or
 - (2) Any discharge of water or wastewater not in accordance with rules 62-550.101 and 62-600.100 F.A.C.
- b. KSC operational personnel will report the following type of incidents (per the above bullet):
- (1) Any plant problem that has had or has the potential for detrimental or unsafe effects on the potable water supply.
 - (2) Any disruption or loss of service to a facility and/or personnel.
 - (3) Any leak or discharge of water (loss of water to the environment) from 4-inch diameter or greater lines.
 - (4) Water complaints (quality: odor, taste, color, etc.), which are verifiable or received in mass.
 - (5) Firex systems on the downstream side of a backflow preventer do not require notification to FDEP or EPB, unless there is a cross connection to the drinking water lines.

- c. The FDEP contact for reporting malfunctions or incidents is the Drinking Water Section, (407) 894-7555. During regular work hours, FDEP personnel will take the information. After hours, provide the required data to the answering machine or service.
- d. The FDEP "Malfunction Report" ([KDP-F-2568](#)) lists the data that should be supplied to FDEP at the time the incident is phoned in. The same data should also be supplied to EPB with the Pollution Incident Report (refer to Section 5 of this KHB), as well as notation of the date, time and person contacted at FDEP and any actions required by FDEP.
- e. The Operator is responsible for coordination with EPB Environmental Monitoring and Compliance for two consecutive day water sample bacteriological tests following correction of the malfunction. Satisfactory test results will be supplied to EPB for submittal to FDEP with written Incident Report (preferably submitted with the Monthly Operating Report for the appropriate month).
- f. When in doubt of requirements related to notification of a particular incident:
 - (1) During regular work hours contact EPB at 867-1599 or 867-4284 for guidance.
 - (2) After hours report incident to FDEP (voice recording) and follow above instructions.

SECTION 10: HAZARDOUS AND CONTROLLED WASTE

- 10.1 The Resource Conservation and Recovery Act (RCRA) provides cradle-to-grave control of hazardous and solid waste by establishing management requirements on generators and transporters of hazardous waste and on owners and operators of hazardous waste treatment, storage, and disposal facilities (TSDF). In Florida, the FDEP is delegated authority to implement most sections of RCRA and rules are listed in Florida Administrative Code (FAC) 62-730.
- * 10.2 At KSC, the Spaceport Services Directorate is responsible for implementation of a Hazardous, Controlled, and Solid Waste Management Program. Refer to [KHB 8800.7](#) (as revised) for general and specific waste management procedures.
- 10.3 KSC has a permitted TSDF and the application for permit renewal will be prepared by the operating organization per requirements in the FAC and Section 6 of this document.
- * 10.4 The EPB is responsible for all notifications to regulatory agencies concerning RCRA compliance at KSC and NASA-operated facilities on CCAFS.
- * 10.5 The EPB is responsible for implementation of an internal Hazardous Waste Inspection Program. The EPB will inspect all hazardous waste storage areas, including the TSDF, satellite sites, storage tanks, and 90-day areas at least semi-annually. When compliance concerns are identified the operational organization will be responsible for corrective action. Inspection includes review of required records in addition to the site visits. Refer to [KDP-F-2561](#) and [KDP-F-2562](#) for KSC Hazardous Waste Inspection Checklists that include references to applicable regulations.
- 10.6 The FDEP will inspect the TSDF on an annual basis and can conduct unannounced inspections of other areas at any time.
- 10.7 All required training will be provided to employees by their respective organizations. Training records must be readily available to inspectors.

SECTION 11: LANDFILL

- 11.1 Operation and closure of solid waste landfill facilities in Florida are regulated by Florida Administrative Code (FAC) 62-701. These regulations cover proper placement of material in landfill cells, monitoring requirements, and recordkeeping requirements. KSC operates two unlined landfills that are permitted by the FDEP. The permits cover an operational Class III and a Closed Class III Landfill on Schwartz Road.
- * 11.2 At KSC, the Spaceport Services Directorate implements requirements associated with the management of the landfills. Refer to [KHB 8800.7](#) (as revised) for general and specific solid waste management procedures.
- * 11.3 The EPB is responsible for implementing an inspection program to monitor the landfills for compliance with FAC 62-701 and specific conditions of the permits. The EPB is responsible for all notifications to regulatory agencies for matters concerning landfill compliance at KSC.
- * 11.4 The EPB will inspect the landfills on a quarterly basis to assess compliance with applicable regulations and permit conditions. Any non-compliant conditions will be corrected by the operational organization. An official letter of inspection findings will be forwarded to the responsible organization. Refer to [KDP-F-2564](#) for the KSC Landfill Inspection Checklist that includes references to applicable regulations.
- * 11.5 The EPB Environmental Sampling Contractor will be responsible for permit-required groundwater, surface water, and gas monitoring at the landfills. All samples will be analyzed by a State-certified laboratory and records will be compiled and maintained by the contractor for EPB.
- 11.6 Records required by FAC 62-701 and permit-specific conditions will be inspected on a quarterly basis. Records of daily operations, maintenance, load checking, and training will be maintained by the operational organization and provided to EPB for transmittal to the FDEP in accordance with permit conditions.
- 11.7 The FDEP will inspect the landfills on a quarterly basis. Representatives from EPB and the Operations Directorate shall attend the inspection.

SECTION 12: BIOMEDICAL WASTE

- 12.1 Requirements for management of biomedical waste are given in Title 29 Code of Federal Regulations (CFR) Part 1910.1030 and in Florida Administrative Code (FAC) 64E-16. These rules cover monitoring of sanitary practices relating to the management of biomedical wastes.
- * 12.2 At KSC, the Spaceport Services Directorate is responsible for implementing a program to manage controlled waste including biomedical waste. Refer to [KHB_8800.7](#) (as revised) for general and specific waste management procedures.
- * 12.3 The EPB monitors medical and laboratory experiment processing operations that generate biomedical waste streams to assure KSC is in compliance with the regulations.
- * 12.4 EPB will inspect on a quarterly basis and monitor for continuing compliance with federal and state regulations. Refer to [KDP-F-2567](#) for the KSC Biomedical Waste Inspection Checklist that includes references to applicable regulations. Where noncompliance exists, the responsible organization for the non-compliant activity shall correct all discrepancies.
- 12.5 Training for biomedical waste generators will be provided by the operational organization.
- 12.6 Records required by FAC 64E-16 and [KHB_8800.7](#) (as revised) will be maintained by the contractor and monitored by the EPB on at least a quarterly basis. Records of interest include, but not limited to, autoclave logbooks, contingency plans, waste shipping manifests, training, operation plan and the biomedical waste bag report.

SECTION 13: BLOODBORNE PATHOGENS/EXPOSURE CONTROL

- 13.1 The Occupational Safety and Health Administration requires employers with employees who could possibly come in contact with blood or potentially infectious materials to have an Exposure Control Program for awareness and training. This is regulated by Title 29, Code of Federal Regulations, Part 1910.1030. Examples of positions at KSC covered by an Exposure Control Program are all Medical Personnel, Emergency Response Crews, Payload Engineers and Processors, Stow and De-stow Crews, Lab Technicians, Housekeeping and Groundskeepers. The EPB will provide guidance and direction on meeting these requirements.
- * 13.2 At KSC, the Occupational Health Office establishes requirements for the Bloodborne Pathogen and Exposure Control Programs. Refer to [KBM-PL-1.4](#) for the NASA Bloodborne Pathogen Program Plan. The EPB is responsible for implementing an inspection program to evaluate compliance with applicable federal and state regulations. The EPB will inspect these programs on an annual basis. Where noncompliance exists, the responsible organization shall correct all discrepancies.
- * 13.3 Regulations require that a written Exposure Control Plan be established by each affected employer. The plan must be reviewed on an annual basis by the contractor and a signed copy forwarded to the EPB.
- * 13.4 Training must be provided to employees and training records must be maintained for a minimum of three years. The EPB will inspect these records on an annual basis.

SECTION 14: STORAGE TANKS

14.1 Regulatory Relationships

The provisions of 40 CFR 280 govern design and maintenance requirements for underground storage tanks. There are currently no federal regulations covering aboveground storage tanks, except that 40 CFR 112 requires Spill Prevention, Control and Countermeasures (SPCC) plans for all oil storage tank facilities. Underground and aboveground storage tank registration and regulation are covered in Florida under FAC 62-761. As provided for in the FAC, the FDEP has contracted with Brevard County Office of Natural Resources Management to administer the Storage Tank Program in Brevard County. County representatives oversee all tank activities at KSC including registration, closure, and annual compliance inspections.

* 14.2 Documentation

a. Storage Tank Listing

Facility managers are responsible for providing an accurate listing of all storage tank systems at their sites, including underground, aboveground, out-of-service and unmaintained tanks. The tanks will be identified to the EPB through the respective OR. The complete listing of tank systems at all NASA facilities both at KSC and CCAFS will be maintained by the EPB.

b. Registration

- (1) Requirements for registration of storage tanks with the FDEP are listed in FAC 62-761 for Storage Tank Systems. Types of systems exempt from the registration and compliance requirements based on contents or use of the contents are also listed in the FAC. However, the exemptions can be repealed by the legislature at any time after adequate public notice has been given. Therefore, all tanks should be identified on the tank survey forms, even if a current exemption exists.
- (2) All storage tanks at construction sites, including wheeled mobile tanks or tanks on skids, must be identified to the EPB if the tank will be on-site for longer than 180 days. The OR responsible for the construction site must notify EPB within 15 days of the placement of the tank. The OR shall also inform the EPB when the tank is taken off-site. As with all tank sites, the tank site must have containment sufficient to avoid contamination of soils under the tank. A tank on skids which remains in place for more than 180 days is not

considered to be a mobile tank. If the tank meets other requirements for registration, such as size and use of the contents, then the tank will be registered with the FDEP by the EPB.

- (3) All aboveground, underground, out-of-service, and unmaintained tanks so identified will be registered with the Brevard County Office of Natural Resources Management. The current FDEP tank registration forms will be used. The EPB will be responsible for filing the registration and maintaining records of all registered tanks. The OR will be provided with copies of tank registrations for dissemination to applicable organizations. The Chief of the EPB will be listed as the owner of all tank systems on NASA property and will sign registration forms. All tanks will be registered under the KSC Property Office Facility Number for the tank.
- (4) Facility managers will be responsible for informing the EPB through their respective OR of any change in the status of a tank system so registration and listings of tanks can be updated and FDEP notified, if required. Registration updates are required for change in status including, but not limited to, changing the contents of a tank system, changing the end use of the contents of a tank system, placing the tank out-of-service, or abandoning the tank as an unmaintained tank.
- (5) The EPB will make the required notifications, as required by FDEP, with input from the OR.

14.3 Financial Responsibility

As a federal facility, KSC is exempt from the requirement to show proof of financial ability to pay for facility cleanup in the event of a discharge. However, KSC is still responsible for the cleanup of any discharge on NASA property.

14.4 New Storage Tank Installations and Upgrades to Existing Tank Systems

The requirement for a tank system installation or modification at a facility is identified during completion of the Environmental Checklist through the respective OR. All new tank systems must meet requirements outlined in the REC.

* 14.5 Closures

Disposal of sludge must be in accordance with [KHB 8800.7](#) (as revised). Sampling associated with tank closure will be coordinated with the EPB. Before permanent closure, the tank site must be examined to determine if a release has occurred, and samples must be taken where contamination is most likely to be present.

Requirements for sampling and reporting per FAC and the FDEP Pollutant Storage Tank Closure Assessment Requirements must be followed.

* 14.6 Inspection, Monitoring, Testing and Reports

a. Inspections

The FDEP has delegated the responsibility for inspection of storage tanks to the Brevard County Office of Natural Resources Management. The County Office will inspect at least annually all aboveground and underground storage tanks registered by NASA. OR's will be notified in advance of the inspection. All records required by FAC should be available for inspection. Records required for inspections include those listed in the recordkeeping section. In addition, all keys to dispensers at vehicular fuel facilities must be available for the inspection. The inspection will be supported by the EPB. The OR or designated representative responsible for the permitted facility being inspected should also be present. Following the inspection, the County Inspector will issue a report noting violations found. The recipient of the report will be the EPB. All remedies to violations will be coordinated through the EPB and the OR, and the EPB will answer all violations with either a solution that has already been implemented or with a schedule for remedying the violation. Additional internal inspections for compliance will be conducted by EPB throughout the year and will be supported by the EPB. Refer to [KDP-F-2566](#) for the KSC Storage Tank Systems Inspection Checklist that includes references to applicable regulations.

b. Compliance Monitoring

(1) Monitoring requirements for tank systems are listed in FAC 62-761. The person performing the monitoring should maintain logs of all monitoring activities. At KSC, monitor wells are in place around some fuel tanks to be used as a method of release detection. The wells are sampled monthly by the Environmental Sampling Contractor. If a sheen layer is noted in water removed from the monitoring wells, the occurrence must be reported to the EPB so the proper agencies can be notified. Further sampling may be required at the discretion of the EPB. The dispensers at vehicular fuel stations will be examined monthly for any visible leakage. Any leakage will be reported to the EPB and on a Pollution Incident Report Form (KSC Form 21-555). Follow-up monitoring of the site to determine the extent of contamination will be arranged by memo through the EPB. Aboveground tank systems will be inspected weekly by facility managers or authorized personnel.

- (2) The secondary containment for AST's should be checked for leakage, and the surface of the tank should be examined for peeling paint, corrosion and leakage. Valves on secondary containment should be kept in a normally closed position, preferably locked with a keyed padlock with the facility manager responsible for the key. Before any operations involving the tanks, the closed position of the valve should be ensured so the possibility of any spills spreading outside the containment is avoided. Rainwater collected in the secondary containment should be detained until the condition of the water can be determined. Water in the containment must be inspected for the presence of free product, odor or sheen.
- (3) If any contamination is detected or should there be reason to believe that the product was introduced to the containment system, the entire contents of the containment system are to be removed (not released) and treated as an industrial wastewater stream. Following a visual inspection for free product, and based on the knowledge that there was no event or occurrence to indicate that product was introduced to the containment system, the discharge valve may be opened and the contained stormwaters released to the stormwater retention system. The flow should not be directed to surface waters. A retention area near the tank location should be used to receive the water and allow it to flow to groundwater. Retention areas must be designed per stormwater regulation 4OC-42 and KSC Best Management Practices.

14.7 Discharge Notifications

Any spill, overflow or other discharge of a regulated substance from a storage tank system at KSC shall be reported per requirements in Section 5 of this KHB.

14.8 Recordkeeping

- a. All facility managers will be responsible for maintaining records as required by FAC for tanks. Records required include:
 - (1) Daily measurements and reconciliation of inventory for vehicular fuel tanks.
 - (2) Results of examination of monitor wells and other release detection systems.
 - (3) Dates of upgrading or replacement of existing storage tank systems.

- (4) Results of maintenance examinations on storage tank systems.
 - (5) Results of all tightness tests of storage tank systems and results of tests on integral piping.
 - (6) Descriptions and dates of all repairs.
 - (7) Release detection equipment performance claims.
 - (8) The inspection log for AST's includes at least the date of the inspection, condition of the tank, condition of the containment, date stormwater removed from secondary containment, and any problems found and when corrected.
- b. All records must be maintained for two years and must be available for inspection during KSC's internal inspections and the annual County inspection. FAC 62-761 requires inventory records for vehicular fuel tanks be reconciled weekly. For any significant loss or gain, the cause must be investigated until the source of the discrepancy is found. Vehicular fuel tanks with secondary containment are exempt from the inventory requirements.

* 14.9 Requirements for and Development of Spill Prevention Control and Countermeasures Plans

- c. The Clean Water Act, FAC, and Presidential Executive Order require all KSC organizations using or storing oils maintain appropriate facilities, systems, and controls for safe management of all operations. These documents require owners or operators of facilities that have discharged, or due to the location would reasonably be expected to discharge, oil in harmful quantities into the navigable waters of the United States, prepare Spill Prevention, Control and Countermeasures (SPCC) Plans. The SPCC Plan is a document that contains an efficient and coordinated plan of action to minimize damage from accidental discharges of oils or hydrocarbons.
- d. The responsibility for determining if a facility is required to develop a SPCC Plan rests with the Directorate responsible for operation of the facility with input from the EPB.
- e. When it is determined that a facility requires a plan, the OR for operation of the facility is required to write the plan. The plan must include the information described in 40 CFR 112.

- f. The plans must be maintained at the facility, if the facility is normally attended at least eight hours per day and be made available to all personnel working at the facility.
- g. The plan must be reviewed and evaluated at least once every three years. As a result of this review, the document must be amended within six months to include more effective prevention and control technology, if such technology will significantly reduce the likelihood of a spill event from the facility and if such technology has been field-proven at the time of the review.

SECTION 15: PESTICIDES

* 15.1 Documentation

- a. Under Federal Insecticide Fungicide Rodenticide Act (FIFRA), before individuals or companies can market or sell a new pesticide in the United States, studies must be performed to demonstrate the product can be used safely and effectively. Pesticides already registered must be characterized to determine if they can be used safely and re-registered. If new information becomes available after a pesticide is registered, which shows the material does not perform as intended or causes adverse effects, the registration can be suspended, canceled, or the material reclassified.
- b. FIFRA requires the Government to pay producers, distributors and other holders of the product compensation for the economic loss associated with suspension and cancellation.
- c. Registration

All products labeled as pesticides must be registered. The producer must submit an application to the EPA giving the product name and information concerning product formulation and studies showing performance and safety data. If at any time after the registration of a pesticide the registrant has additional factual information regarding unreasonable adverse effects on the environment by the pesticide, the information shall be submitted to the EPA. The EPA will consider information and rule on the disposition of the pesticide material. In Florida, registration is handled by the Department of Agriculture and Consumer Services. This body requires data supplied adequately address Florida-specific concerns before the material is registered in Florida.

15.2 Controls

- a. Labeling
 - (1) All pesticide products must bear a label, the contents of which must show clearly the following: the name, brand or trademark under which the product is sold; name and address of the producer; the net contents; product registration number; producing establishment number; ingredient statement; warning or precautionary statement; directions for use; and the use classification. The label should be securely attached to the immediate container of the product. When products are stored in bulk containers, whether mobile or stationary,

a label shall be attached to the container in the immediate vicinity of the discharge control valve.

- (2) The label must have the name and percentage by weight of each active ingredient, the total percentage by weight of all inert ingredients with each ingredient designated as active or inert. The name for each ingredient shall be the accepted common name, if there is one, followed by the common name. In no case will the use of a trademark or proprietary name be permitted. For pesticides which change in chemical composition significantly with age, an expiration date must be given. Warnings concerning toxicological hazards including hazard to children, environmental hazard, or physical hazards must be on the label. Environmental hazards warnings shall include toxicity to wildlife and fish, and warnings to keep the pesticide out of lakes, streams and ponds. The directions for use shall include sites where the product may be used, pests associated with each site, dosage rates, method of application, frequency and timing of application, limitation on reentry to treated areas, and storage and disposal of pesticide and its container. It is a violation of federal law to use a product in a manner inconsistent with its labeling.

b. Storage

- (1) Pesticides and excess pesticides (and their containers) whose uncontrolled release into the environment would cause unreasonably adverse effects on the environment, should be stored only in facilities where due regard has been given to the hazardous nature of the pesticide, site selection, protective enclosures, and operating procedures. Adequate measures must be taken to assure personal safety, accident prevention, and detection of potential environmental damages. The storage criteria following are for pesticides and excess pesticides which are highly toxic or moderately toxic and are required to bear the words DANGER, POISON, or WARNING or the skull and crossbones symbol on the label. Storage sites should be located where soil texture/structure and geologic and hydrologic characteristics will prevent the contamination of any water system by runoff or percolation. Drainage from the site should be contained, monitored, and if contaminated, disposed of as excess pesticide. The storage facility should be a dry, well-ventilated, separate room, building or covered area where fire protection is provided. The entire storage facility should be kept locked to prevent unauthorized entry. Identification signs should be placed on rooms and buildings to advise of the contents and warn of their hazardous nature. All items of moveable equipment used for handling pesticides at the storage

site should be labeled "contaminated with pesticides" and should not be removed from the site unless decontaminated. Provisions must be made for decontamination of personnel and equipment. All contaminated water should be disposed of as excess pesticide.

- (2) Pesticide containers should be stored with the label plainly visible. Containers should be in good condition. Metal or rigid plastic containers should be checked to ensure lids and bungs are tight. Each pesticide formulation should be segregated and stored under a sign containing the name of the formulation. All containers should be stored off the ground in an orderly way to permit ready access and inspection. They should be placed in rows with all labels visible and with lanes to provide access. A complete inventory should be maintained indicating the number, identity, and age of containers in storage. Containers should be checked regularly for corrosion and leaks. Materials for spill treatment, such as, adsorptive clay, hydrated lime, and sodium hypochlorite should be kept on hand. Safety procedures include use of proper clothing and respirators, as required, by precautions on the label. The storage facility should be registered with the Fire Department and the Department provided with a floorplan showing pesticide locations.

c. Disposal

Before disposing of excess pesticides, the owner should try to exhaust the supply for the purposes originally intended or return the material to the manufacturer or distributor for potential relabeling, recovery of resources, or reprocessing. Pesticides and containers must be disposed of in a manner consistent with its labeling.

d. Spills

Any spills of pesticides, whether in the storage facility or while in use, shall be reported per Section 5 of this KHB.

e. Reporting

Each application of a restricted use pesticide must be documented and the records maintained at the principal place of business for two years. The records must include: the date and time of treatment, the name of the person directing or authorizing application, location, target area, total acreage to be covered, pest to be controlled, pesticide used and application rate, type of equipment used, and name of applicator. Certification can be revoked for violation of CFR, including use of a pesticide inconsistent with its

labeling, non-maintenance of records, fraudulent records, or use of any registered pesticide classified for restricted use in a manner other than that use.

- f. At KSC, the Spaceport Services Directorate manages pesticide procurement, storage, use, and disposal. The EPB is responsible for implementing a Pesticide Storage Inspection Program. Refer to [KDP-F-2565](#) for the Pesticide Inspection Checklist that includes applicable regulatory references.
- g. Training
 - (1) Categories of applicators are identified in CFR and FAC. Each category has specific certification requirements for applicators.
 - (2) In Florida, the categories and knowledge requirements are identical to federal requirements. Each applicator will be examined to determine competency before certification and licensing. The Department of Agriculture will issue an applicator license.
 - (3) All persons who apply restricted-use pesticides, unless they operate under the direct supervision of a licensed applicator, shall be licensed in Florida. The handling and application of restricted-use pesticides may be accomplished by no more than two unlicensed applicators, when they are under the direct supervision of a licensed applicator. The licensed applicator shall be immediately available, if and when needed. The license is in effect for two years, and renewal is contingent upon the applicator demonstrating evidence of continued competence. Competence can be demonstrated by re-examination or by accruing continuing education units through participation in approved seminars and professional meetings.
- h. KSC organizations storing, mixing, and applying pesticides will:
 - (1) Provide to the EPB, on an annual basis, their current or proposed Pest Control Program Document for review and comment.
 - (2) Require employees to wear appropriate protective equipment and clothing, while mixing and applying pesticides and while cleaning equipment used to apply pesticides.
 - (3) Assist the EPB in specialized investigations and elimination of insects, rodents, etc., associated with infestations of

spacecraft/vehicles, food serving facilities, food storage facilities, and similar type vehicles/facilities.

- (4) Identify to the EPB facilities/areas that require spraying due to poor housekeeping practices, poor sanitary habits, or potential health hazards to personnel.
- (5) Ensure each operator has two lockers, one for work shoes, coveralls, etc., that are not changed daily and the other for street clothes. Applicators that have been working with pesticides, especially insecticides (e.g., EPA Category I, Category II, etc.), must take a shower and change clothes before going home after work.
- (6) Maintain records of personnel handling or applying pesticides to include:
 - (a) Training received
 - (b) Date of physical examination
 - (c) Accumulated exposure times
- (7) Ensure pesticide workers' physical examinations are performed annually on those handling or applying pesticides. In addition, blood serum analysis is to be performed annually for those handling or applying pesticides.

SECTION 16. POLYCHLORINATED BIPHENYL (PCB) MANAGEMENT

- 16.1 Under the Toxic Substances Control Act, the EPA specifically regulates PCB manufacture, usage, storage, and disposal. 40 CFR 761 establishes prohibitions of and requirements for, the manufacture, processing, distribution in commerce, use, disposal, storage, and marking of PCB's and PCB items.
- 16.2 At KSC, the Spaceport Services Directorate implements a management program for PCB use and storage. This includes the process for identification, marking, refilling, storage, inspection, inventory, and transportation to off-site disposal facilities. Refer to [KHB 8800.7](#) (as revised) for general and specific PCB waste management procedures.
- 16.3 The EPB is responsible for all notifications to regulatory agencies about matters concerning PCB compliance at all NASA-owned facilities at both KSC and CCAFS.
- 16.4 The EPB will implement an Inspection Program for PCB management and will inspect facilities containing PCB items, including the PCB Storage Facility, for compliance with applicable regulations on at least a semi-annual basis. When compliance concerns are identified, the operational organization will be responsible for corrective action. Besides a physical inspection of PCB items, the inspections will include a review of required records, in particular, the Annual Document Log. This log must be completed by July 1, covering activities of the previous calendar year. Other required records include visual inspection reports, spill cleanup reports, disposal manifests, and any correspondence concerning compliance with timeframes for disposal. Refer to [KDP-F-2563](#) for the KSC PCB Inspection Checklist that includes references to applicable regulations.

SECTION 17: RADIOACTIVE MATERIALS

[KMI 1860.1](#) and [KHB 1860.1](#) describe the handling of radioactive materials at KSC.

SECTION 18: ENVIRONMENTAL NOISE

18.1 Regulatory Relationship

Under the Noise Control Act of 1972, the State and local Governments have primary regulatory authority which federal facilities must honor. Florida Statutes direct the Florida Department of Environmental Protection (FDEP) to “establish standards for the abatement of excessive and unnecessary noise.” The Clean Air Act establishes an EPA Office of Air, Noise and Radiation. Under the Clean Air Act, the EPA may require any federal facility to control noise deemed to be a public nuisance.

18.2 Documentation

The KSC Chief Counsel is responsible for responding to any legal claims associated with damages alleged to have occurred due to Orbiter sonic booms.

* 18.3 Controls

The lead organization is responsible for ensuring compliance with the regulations. The EPB will assist KSC organizations in determining the appropriate actions to control noise and will notify the appropriate OR's of any public complaint associated with operational noise, including those that may have impacts to wildlife.

* 18.4 Monitoring

Monitoring of noise due to public complaint or regulatory intervention will be performed by the Pollution Control and Sanitation Officer (PCSO). The PCSO will submit the Monitoring Report to the appropriate OR's and the EPB will maintain copies.

SECTION 19: REMEDIATION ACTIVITIES

19.1 Regulatory Requirements

KSC has a Hazardous and Solid Waste Amendment (HSWA) permit that mandates the investigation of any releases of hazardous waste or hazardous constituents at the facility regardless of the time at which the waste was released. KSC is also required to take appropriate corrective action for any such releases. The permit also requires the facility to comply with all land disposal restrictions. The investigation and cleanup of KSC's contaminated sites is performed with guidance and direction from the Environmental Protection Agency (EPA) Region 4 and the Florida Department of Environmental Protection (FDEP).

* 19.2 Documentation

- a. The EPB shall notify the EPA Regional Administrator and FDEP in writing, within 15 calendar days of discovery, of any suspected new Area of Concern (AOC) or additional SWMU as discovered. The notification shall include, at a minimum, the location of the AOC and all available information pertaining to the nature of the release (e.g., media affected, hazardous constituents released, magnitude of release, etc.).
- b. Solid Waste Management Unit (SWMU) Potential Contamination Notification
 1. The EPB shall report to the EPA Regional Administrator any noncompliance with this document resulting from a release from a solid waste management unit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the PCSO becomes aware of the circumstances. This report shall include the following:
 - (a) Hazardous waste or hazardous constituents, which may endanger public drinking water supplies.
 - (b) Information concerning the release or discharge of any hazardous waste or hazardous constituents, or a fire or explosion at the facility, which could threaten the environment or human health outside the facility.
 2. A written report shall also be provided to the Regional Administrator within 15 days of the time the PCSO becomes aware of the circumstances. The written report shall contain a description of the

noncompliance and its cause; the period of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. This report shall include the following:

- (a) Name, address, and telephone number of the owner or operator.
- (b) Name, address, and telephone number of the facility.
- (c) Date, time, and type of incident.
- (d) Name and quantity of materials involved.
- (e) The extent of injuries, if any.
- (f) Any assessment of actual or potential hazard to the environment and human health outside the facility. Estimated quantity and disposition of recovered material that resulted from the incident.

c. SWMU Notification

- (1) The EPB shall report to the EPA Regional Administrator any and all areas of concern discovered or suspected having a probable release that may endanger human health or the environment. The EPA Hazardous and Solid Waste Amendments (HSWA) permit will be modified to include the new operation or facility on the Corrective Action Management Plan (CAMP).
- (2) The EPB will be responsible for the notification and permit modification of the HSWA permit. All KSC organizations will ensure all discovered or suspected releases to the environment are reported to the EPB.

* 19.3 Modifications to Operational SWMU's

Modifications to facilities located at, on or in any SWMU's will require notification to and approval by the EPA and FDEP prior to the implementation of the modification. All KSC organizations will use the KSC Environmental Checklist process to identify to the EPB their facility modification plans. The EPB will coordinate the modification plans with the EPA and FDEP.

* 19.4 Remediation of SWMU's

The EPB will maintain a schedule, in accordance with the permit, to investigate and cleanup SWMU's and suspected potential release locations. The EPB will manage and coordinate with the EPA and FDEP the performance of Confirmatory Sampling, RCRA Facility Investigations, Interim Measures, Corrective Measures Studies, and selected remedies for all sites. The results of these workplans, studies, and decisions will be kept in an administrative file in the EPB. All investigations will be conducted in accordance with the KSC Wide Generic Work Plans and the Investigations Derived Waste Management Plan.

* 19.5 Continuing Operations Within SWMU's

Once a site is identified as a SWMU, the responsible KSC organization will conduct a review of all ongoing and new operations to ensure there are no releases to the environment and provide this review to EPB. The EPB will review the report, approve the action taken and provide guidance on training requirements and protective equipment. Any contamination resulting from operations after this review will be identified to EPB for reporting to the EPA. The responsible KSC organization will be required to clean up any contamination resulting from releases after this review.

* 19.6 Controls

- d. All KSC organizations that are involved in the handling of hazardous waste or materials must ensure that their activities are conducted in a manner that prevents the uncontrolled release of these wastes or materials into the environment. In the event of a release, the responsible organization must take steps to immediately clean up the release and limit the area impacted by the release. That organization must also notify the EPB by telephone at the time of the release per the procedures described in Section 5 of this KHB.
- e. Upon discovery of a contaminated site at a facility through the review of procedures, the OR must inform the EPB within 24 hours of that discovery.
- f. For those OR's that discovers contamination, or if the EPB informs them that there is contamination at their facilities, they shall review all ongoing procedures to ensure that current operations are not causing or adding to the contamination. The OR will take measures to eliminate the sources of any releases. These reviews and corrective measures must be provided to the EPB within 30 days of being notified of the discovery of contamination.

The EPB will review these documents to determine if the corrective actions are appropriate and provide comments, if required.

- g. The EPB is responsible for the overall investigation of suspected and contaminated sites and the management of corrective actions. Through the KSC Checklist process, the EPB will issue guidance on the requirement for operations and training at active SWMU's.
- h. The EPB will manage the identification and reporting of the sites to the regulatory agencies; develop funding through Environmental Compliance and Regulation budget; and the selection and management of cleanup contractors.

19.7 Training

Personnel involved in the investigation or remediation of a SWMU will have the training outlined in 29 CFR 1910, Subpart Z and 40 CFR, Parts 264 and 265.

- 19.8 Refer to [KDP-P-1737](#) for Petroleum Contamination Site Cleanup process; [KDP-P-1739](#) for RCRA Investigation and Corrective Action process; and [KDP-P-1723](#) for Drum Management at SWMU Sites process.

SECTION 20: TOXIC SUBSTANCES AND EMERGENCY PLANNING

20.1 Documentation

- a. The Toxic Substances Control Act (TSCA) was enacted in 1976 to ensure data on the production, use, and environmental and health effects of chemical substances were obtained by the EPA and to provide a means by which the EPA regulates the manufacture, processing, distribution in commerce, use, and disposal of chemical substances.
- b. KSC users of toxic substances should refer to [KHB 1840.1](#) (as revised) for direction on the handling, storage, use, or disposal of these chemicals. This KHB will cover only the requirements to report the use of hazardous substances at KSC and CCAFS to proper local, state, and federal agencies.
- c. The Emergency Planning and Community Right-to-Know Act (EPCRA), which is Title III of the Superfund Amendments and Reauthorization Act of 1986, was enacted to require persons to report the amount and location of hazardous chemicals produced, stored, used, or released to the environment each year in the United States.
 - (1) EPCRA is divided into three sections:
 - (a) Subtitle A - emergency planning and notification of hazardous materials (Sections 301 through 304).
 - (b) Subtitle B - reporting requirements for chemical inventories and releases (Section 311 through 313).
 - (c) Subtitle C - general provisions dealing with trade secret protection, public access to records, and penalties for noncompliance (Sections 321 through 330).
 - (2) Reporting Requirements:
 - (a) The following sections of EPCRA require reports to be submitted to the State Emergency Response Commission (SERC) or other regulatory entities. All reports filed by KSC will be submitted through the EPB.
 - (b) Section 302

1. Section 302 is a one-time reporting requirement. Any contractor, who has an extremely hazardous substance (EHS) present at KSC in amounts greater than or equal to the threshold planning quantity (TPQ) of the substance, must notify the EPB. The EPB will then notify the SERC. A list of EHS's and their respective TPQ's is available in 40 CFR 300 and 355.
2. To determine whether a contractor has an EHS that meets or exceeds the TPQ, the contractor must calculate the total amount of the EHS present at any one time at the facility, regardless of location, duration, number of containers, or methods of storage. The SERC defines all areas of KSC, including NASA-controlled areas at CCAFS, as one facility. All sources of EHS's, both pure forms and in mixtures at a level greater than or equal to one percent, should be added together and the total amount compared to the TPQ. The unit of the TPQ is pounds. An EHS present in a solution or mixture in an amount less than one percent (de minimis) is exempt and does not have to be added to the total amount for determination of exceedance of the TPQ. A total amount of an EHS present at less than the TPQ is exempt from the Section 302 reporting requirements. If the amount is equal to or greater than the TPQ, then the contractor is required to report under Section 302.

(c) Section 303

Section 303 is a one-time notification to the SERC of an emergency contact at the facility. At KSC, the Chief of the EPB is the contact.

(d) Section 304

1. Section 304 requires releases of chemicals listed as EHS or CERCLA hazardous substances be reported to State and federal authorities. These lists are available in the Appendices of 40 CFR 355 and Table 302.4 of 40 CFR Part 302.
2. All spills or releases are to be reported to EPB per requirements of Section 5 of this KHB.

(e) Section 311

1. Section 311 requires Government agencies to submit Material Safety Data Sheets (MSDS) or a list of certain chemicals present within their facilities. Chemicals covered by this section are:

 - a. Any of the EHS's that meet or exceed the TPQ or 500 pounds, whichever is less.
 - b. Any of the hazardous chemicals that meet or exceed 10,000 pounds for which OSHA requires an MSDS to be maintained.
 - c. In both cases, the amount is the total amount that is present in either a pure form or in a mixture on any one day. It is not a cumulative amount.
2. No list of OSHA regulated chemicals exists. Chemicals are ranked by OSHA as 1 of 9 physical hazards or 1 of 15 health hazards (29 CFR 1910.1200). An MSDS form will list the hazards associated with the substance. In general, if a material has an MSDS, it is an OSHA-regulated substance.
3. Certain classes of materials are exempt from the OSHA MSDS requirement.
4. While 40 CFR 355 calls for MSDS's for each chemical that meets reporting requirements per Section 311 be submitted to the State Committees, the Florida SERC prefers facilities submit a list of chemicals instead of the MSDS's. Chemicals on the list must be grouped by the five EPA physical and health hazard categories: fire hazard; sudden release of pressure hazard; reactive hazard; immediate (acute) health hazard; and delayed (chronic) health hazard.

5. A chemical can fit more than one hazard category and all applicable categories should be noted on the report list. The OSHA hazard groupings noted on MSDS's must be converted to the five EPA categories.
6. Each contractor is required to determine which chemicals used, stored, or processed by the contractor meet reporting requirements under Section 311. Guidelines and formulas for calculating chemical quantities are given in the Section.
7. Concentrations should be listed on the MSDS for the hazardous chemical. If the concentration is not listed, then the person reporting is not required to search any further for the value and can assume the value is less than 1 percent (or 0.1 percent in the case of a carcinogen). The chemical is not required to be added to the total amount for comparing to the TPQ.
8. Reporting under Section 311 is a one-time requirement. When a chemical meets requirements for reporting, then the SERC must be notified within 90 days.

(f) Section 312

1. Section 312 requires the chemicals covered by Section 311 and their location be reported to the SERC on an annual basis. The report is due to the SERC by March 1 for the previous calendar year.
2. EPB will report for all contractors and NASA operations at KSC, therefore, each contractor and NASA operator must report amounts of covered chemicals that exceed 10 percent of the reporting threshold.
3. The chemicals and thresholds include:
 - a. Any of the EHS's that meet or exceed the TPQ or 500 pounds, whichever is less.

- b. Any of the hazardous chemicals that meet or exceed 10,000 pounds for which OSHA requires an MSDS to be maintained.
 - 4. In both cases, the amount is that which is present on any one day. The amount is not cumulative.
 - 5. Lists of EHS's and their TPQ's are given in Appendices of 40 CFR 355.
 - 6. The report will be submitted to the SERC on Florida Tier Two forms. The Florida form differs from the federal form slightly in that Florida requires the actual amount of the chemical in pounds be reported, rather than ranges of weights.
 - 7. The SERC has ruled that the entire confines of KSC, including NASA-controlled facilities on CCAFS, are one facility.
- (g) Section 313
- 1. The Toxic Chemical Releases section applies to federal facilities no matter what the mission of the Agency. The facility must manufacture, process, or otherwise use a listed toxic chemical in amounts that meet or exceed threshold planning quantity. A Toxic Chemical Release Form (Form R or Form A) must be filed for each chemical present above the threshold level. The threshold amount for manufacturing, importing, or processing any listed chemical is 25,000 pounds per year. The threshold for other use (which includes cleaning) is 10,000 pounds per year.
 - 2. The EPB will report for all contractors and NASA operations at KSC, therefore, each contractor and NASA operator must report amounts of covered chemicals that exceed 10 percent of the reporting threshold.
 - 3. The forms are submitted to the SERC and to the EPA in Washington, DC, by July 1 for the previous calendar year.

SECTION 21: NATURAL RESOURCES

* 21.1 Threatened And Endangered Species

a. Regulatory Relationships

Section 7 of the Endangered Species Act requires all federal agencies to consult with the U.S. Fish and Wildlife Service on all actions that may affect a threatened or endangered (T&E) species or its habitat. The rules and requirements for these consultations are delineated in 50 CFR Part 402, which includes the form (e.g., formal, early, informal), parties involved and timing. Under the provisions of the Endangered Species Act, it is the duty of NASA and all federal agencies to protect and enhance these species. Therefore, prior to taking any actions on KSC, we must consider the impacts to these resources. This includes impacts to individuals of a species as well as populations.

b. Documentation

- (1) KSC is home to more T&E species than any other wildlife refuge in the continental United States. Therefore, any project or action has the potential to impact one or more of these species.
- (2) When the response to the KSC Environmental Checklist ([KDP-P-1727](#)), Record of Environmental Consideration (REC), indicates that a project may adversely impact a T&E species, a formal consultation with the U.S. Fish & Wildlife service must be conducted as described in [KDP-P-1741](#).
- (3) Reasonable and prudent measures often involve the requirement to “compensate” for the loss of habitat. For example, taking of scrub habitat for construction will usually require new scrub habitat be restored elsewhere on KSC. The EPB is responsible for the overall management and coordination of compensation activities with input from other KSC organizations, as appropriate.

c. Controls

- (1) Whenever an action may affect any fish, wildlife or plant, it is prudent to determine if that fish, wildlife or plant is a protected species. This will ordinarily be addressed as part of the Environmental Checklist Review ([KDP-P-1727](#)). However, in some cases, this issue is raised after implementation of a project has begun. For example, many roof

repairs have the potential to impact nesting Least Terns, and this is only discovered after the job has started. In these cases, the project lead should halt operations and contact the EPB for further direction. All species should be treated as protected unless otherwise directed by the EPB.

- (2) In the case of nuisance species such as alligators, the U.S. Fish and Wildlife Service should be contacted to remove them.
- (3) Finally, a number of species are listed as protected or as species of special concern by State and local agencies. These species must also be protected, even though the review and consultation requirements under the Endangered Species Act do not apply. A good example of this case is the Gopher Tortoise. This species is typically protected via relocation from a construction site to elsewhere on KSC. Relocation may only be performed by personnel who are permitted by the State. Any questions regarding the level of protection, if any, required for any species on KSC should be directed to the EPB.

21.2 Coastal Zone Consistency Determination

a. Regulatory Relationships

By law, all states must develop and implement Coastal Zone Management Programs. The Coastal Zone Management Act also requires all federally conducted or supported activities are consistent with the State Program in which they are undertaken.

b. Documentation

- (1) All federal agencies performing or approving work in the coastal zone of any state must determine if their activities directly affect the coastal zone of that state. If they do, they must provide the state with the determination at the earliest possible time, but at least 90 days prior to the final approval of implementation of the activity, to allow the state time to concur or non-concur.
- (2) The Florida Coastal Zone Management Plan describes the entire State of Florida to be within the coastal zone. However, it also lists several facilities, which are considered to be outside the coastal zone. The KSC is so listed. This does not mean, however, KSC projects are exempt from the regulatory requirement of determining consistency with the Florida Coastal Zone Management Program.

Each project and/or activity must be reviewed to determine if the action will affect areas outside KSC. Appropriate documentation would be sent to the State for their concurrence by the EPB. If the project will affect the coastal zone and is consistent with the Florida Coastal Zone Management Plan, a consistency determination must be prepared and submitted to the State. The determinations are typically included in the Environmental Assessment for the proposed project ([KDP-P-1726](#)).

21.3 Wetlands And Floodplains

a. Regulatory Relationships

EO 11988, "Floodplain Management," and EO 11990, "Protection of Wetlands," direct federal facilities to avoid impact to floodplains and wetlands, whenever practicable, and to develop procedures for protection of floodplains and wetlands.

b. Documentation

An analysis of all alternatives and early public notice of proposed impacts are required prior to approval of projects with floodplain or wetland impacts. Mitigation will usually be required for all wetland impacts and these costs must be estimated and included in the project design costs. Biological analysis must be performed prior to destruction of wetlands for use as criteria for mitigation efforts. This is usually performed as part of the environmental permitting process.

c. Controls

Actions in floodplains and wetlands must be avoided unless there is "no practicable alternative." OR's will ensure their organizations approve no project in a wetland or floodplain without proper documentation.

21.4 NASA Use of Areas Managed by the U.S. Department of the Interior

- a. Of the 140,000 acres of land and water, which comprise KSC, only a small portion has been developed by NASA (approximately 7,000 acres). The remainder is managed for NASA, by agreement, by the U.S. Fish and Wildlife Service (FWS) as the Merritt Island National Wildlife Refuge (MINWR) and by the National Park Service (NPS) as a portion of the Canaveral National Seashore. The NASA operational areas include the Industrial Area, Complex 39, the Shuttle Landing Facility, the KSC Visitor Complex, KSC roads and various other smaller areas. The KSC areas not

developed for operational facilities are required as buffer zones, because of the hazards associated with the launching and landing of space vehicles.

- b. Whenever a project or action is proposed for an area within the MINWR outside an operational area, a Special Use Permit from the U.S. FWS is required. These permits are usually valid for one year. If the project will last longer or is permanent, the area should be removed from the Refuge. The procedure is implemented by the Spaceport Services Directorate.

SECTION 22: CULTURAL RESOURCES

22.1 Regulatory Relationships

In 1966, Congress passed the National Historic Preservation Act (NHPA) to ensure places of historic value were preserved and enhanced. Section 106 of the Act requires federal agencies consult with the National Advisory Council on Historic Preservation on actions adversely affecting listed properties. Under 36 CFR, Part 800, the consultation with the Council is conducted primarily through the State Historic Preservation Office (SHPO). This is usually conducted using the State Clearinghouse coordination system established under EO 12372, but may be performed directly with the SHPO.

22.2 Documentation

KSC is mandated by the NHPA of 1966 to consider the effects on historic and archaeological properties of any action undertaken by NASA, its contractors or tenants on KSC land. There are two categories of properties of concern: those listed on the National Register of Historic Places and those eligible for listing. A listing of listed and eligible properties may be found on the EPB Home Page. Whenever a project or action will or may adversely affect one of these properties, KSC must consult with the State Historic Preservation Officer (SHPO) and the National Advisory Council on Historic Preservation. This process is the responsibility of EPB as documented in [KDP-P-1733](#). Determination of the need for consultation is typically done through the use of the KSC Environmental Checklist process.

22.3 Controls

- a. No action should be taken on any listed historic property without concurrence from the EPB and the SHPO, if it is determined by the EPB that the property will be adversely affected. All actions involving listed historic properties should be coordinated with EPB through the use of the KSC Environmental Checklist process [KDP-P-1727](#).
- b. Archaeological sites are found in many places on KSC. Therefore, prior to any digging or excavation, the EPB should be consulted using the KSC Environmental Checklist to determine if there is a potential to affect a known or unknown site. If excavation reveals any artifacts that might be considered historical in nature, work must cease and the EPB contacted. Refer to [KDP-P-1733](#) for the process to modify a Historic and Archaeological Site.

- c. Should a requestor propose to lease a piece of equipment or facility that is a listed historic property, the EPB must determine if the activity for which the property will be used will have an adverse affect on the property. The request for this evaluation will typically come from the Real Property Office. The process is documented in [KDP-P-2569](#).

SECTION 23: MANAGEMENT INFORMATION SYSTEMS

* 23.1 NASA Environmental Tracking System (NETS)

- a. The NETS is an information management tool (central database) for assisting NASA and contractor personnel in the collection, maintenance, and reporting of environmental data related to KSC operations.
- b. The NETS environmental database is maintained for the Agency at Glenn Research Center. KSC has access to the system from personal computers located in EPB and various operational areas. Multiple users at KSC will be responsible for data input. EPA will consolidate the information and submit it to NASA Headquarters. Data to be input will be determined as modules are developed and implemented.

* 23.2 Training

It will be the responsibility of each OR to identify individuals requiring training in NETS to the EPB NETS Data Administrator. Online training will be available and EPB representatives will be available for guidance during the training period.

* 23.3 Other Systems

- c. The EPB will maintain data tracking systems necessary to schedule and track environmental actions not covered in NETS, or in the interim period between creation of the data and the point in time when the specific NETS module covering that data comes online. Each primary organization will maintain an independent data tracking systems necessary to adequately and fully coordinate its environmental actions, and periodically provide required information to the EPB. Likewise, the EPB will provide information updates to the OR, when required. The type of databases the EPB will maintain are primarily data required by outside regulatory agencies and additionally, information required to ensure the proper control of environmental projects and actions at KSC.
- d. Some examples of the databases maintained by or for the EPB are:
 - (1) Air Source Inventory
 - (2) Checklist
 - (3) Energy Utilization and Consumption Report
 - (4) Hazardous Waste 90-Day and Satellite Site Locations and Inspections
 - (5) Landfill Inspections

- (6) Operational and Groundwater Monitoring Reports Tracking
- (7) Permit Tracking
- (8) Pesticide Inspections
- (9) Pollution Incidents
- (10) Polychlorinated Biphenyl (PCB) Inspections
- (11) Storage Tank Inventory and Inspections

SECTION 24: RECYCLING, POLLUTION PREVENTION AND AFFIRMATIVE
PROCUREMENT

* 24.1 Recycling

- a. All KSC organizations are responsible for contributing to Agency and Center goals for recycling. These goals will be maintained on the EPB and Principal Center for Recycling and Affirmative Procurement web pages. A 35 percent diversion of waste to landfills by 2010 is the current Agency goal. EPB will be responsible for providing guidance and direction to KSC organizations in the requirements associated with this compliance.
- b. Programs. Recycling Programs are implemented by the Spaceport Services Directorate. Spaceport Services administers Recycling Programs for aluminum cans, paper, cardboard and others as they are developed. Refer to [KHB 8800.7](#) (as revised) for program description. Logistics Operations administers recycling of all other recycled commodities. Sales of recyclable commodities are conducted by the Property Disposal Officer in Logistics Operations.
- c. Funds. Funds are received from the sale of excess commodities designated as recyclable. The funds will be reconciled after sales and EPB will manage the recycling funds for the Center. Section 608 of Public Law Number 103-329 allows federal agencies to retain the funds generated by the recovered through Recycling or Waste Prevention Programs. These funds can be expended for the following purposes: Acquisition, Waste Reduction and Prevention, and Recycling Programs as described in EO 12873. Other Federal Agency Environmental Management Programs, including but not limited to, development and implementation of Hazardous Waste Management and Pollution Prevention Programs. Other employee programs as authorized by law or as deemed appropriate by the head of the federal agency.

* 24.2 Affirmative Procurement

- d. All KSC organizations are responsible for compliance with EO 13101. In addition, KSC organizations should comply with NPG 8830.1, "Affirmative Procurement Plan for Environmentally Preferable Products." EPB will maintain current versions of these documents.
- e. Logistics Operations administers KSC's Affirmative Procurement Program, including facilitating awareness across the Center, assessing performance, and compiling Centerwide information for annual reporting requirements.

24.2 Pollution Prevention

- a. EPB is responsible for chairing the Pollution Prevention Working Group. This is a group comprised of OR's and other interested parties who meet on a regular basis to discuss pollution prevention, recycling, and affirmative procurement issues and develop strategies and policies to address them.
- b. EPB will revise the Center-wide Pollution Prevention Plan on a routine basis with input from P2WG members.
- c. Pollution prevention projects will be solicited and compiled and status updated regularly. Projects will be presented annually at a session of the Quarterly Safety, Occupational Health and Environmental Leadership Briefing.

SECTION 25: ENERGY MANAGEMENT

- 25.1 NASA Agency Energy Mission Statement. Improving energy efficiency to save taxpayer dollars, reduce emissions contributing to air pollution and global climate change, and conserve precious natural resources for future generations.
- 25.2 KSC Policy. Energy efficiency is everyone's responsibility. All KSC organizations shall comply with federal requirements (see Section 1 of this document) and perform day-to-day activities as energy efficiently as possible. For example, designing efficient equipment and facilities, buying efficient products, operating/maintaining equipment and facilities at peak efficiency, and turning off systems when not in use.
- * 25.3 Division of Responsibilities
- a. All KSC employees and tenants:
 - (1) Carry out day-to-day functions with good energy efficiency practices.
 - (2) Report energy waste from improperly operating equipment to appropriate Trouble Call Office, and submit opportunities for improvement to your organization's Energy Working Group member.
 - b. KSC Energy Manager (resides in EPB):
 - (1) Represent KSC on NASA Energy Efficiency Board and NASA Energy/Water VITS and chair KSC Energy Working Group.
 - (2) Lead planning and program implementation to ensure compliance with federal and NASA mandates, and communicate progress through metrics.
 - (3) Ensure effective energy utility purchase.
 - (4) Ensure submittal to NASA Headquarters of deliverables such as budget exhibits, reports, self-assessments, spot check responses and special data collections.
 - (5) Serve as technical contact for energy budgeting, and manage special funds for energy projects, such as Utility Rebates and Department of Energy funding.

- c. NASA program and institution organizations and supporting contractor organizations, regarding facilities and operations under your responsibility:
 - (1) Participate in Energy Working Group per Section 3.3 of this document.
 - (2) Plan and implement an Energy Program that ensures compliance with federal and NASA mandates consistent with KSC Energy Program, and communicate progress through metrics.
 - (3) Ensure efficient and cost-effective utility use by applying energy conservation techniques and shifting load to cheaper times in rates.
 - (4) Contribute to deliverables to NASA Headquarters such as budget exhibits, reports, self-assessments, spot check responses, and special data collections via NETS (see Section 23 of this document) and otherwise.
 - (5) Forecast program's energy consumption/cost.
- d. KSC facility and equipment design organizations ensure new construction and modifications are compliant with federal and NASA energy mandates.
- e. Spaceport Services Supply, Equipment, Transportation, & Center Support Branch coordinates KSC response to transportation mandates with GSA.

APPENDIX A: ENVIRONMENTAL CONTROL CLAUSES FOR CONSTRUCTION
CONTRACTS

Model clauses to be included in contracts are found on the NASA KSC Procurement Office home page (<http://www.ksc.nasa.gov/procurement>). These clauses include environmental clauses, which should be used as applicable to the project.