

QSE- Procedure	Title: Landfill and Diverted Aggregate Reclamation and Collection Yard Compliance Programs			Number: EAP-P-1400	 
Unit Issuing: Quality, Safety & Environmental	Approved by: QSE Department Manager	Initial Issue Date: 07/18/12	Page: 1 of 8	Revision: 4 Eff Date: 02/14/24	

PURPOSE

The purpose of this document is to define the elements of the Landfill Compliance Program and Diverted Aggregate Reclamation and Collection Yard (DARCY) management program administered by Quality, Safety and Environmental (QSE) in support of the contract, to maintain compliance with applicable federal, state and local environmental regulations and National Aeronautics and Space Administration (NASA) Kennedy NASA Program Requirements (KNPR) 8500.1, Environmental Requirements.

SCOPE AND APPLICABILITY

The Landfill Compliance Program Manager, also known as Landfill Subject Matter Expert (SME), will use this procedure to provide environmental compliance support to the contract operated, permitted active and closed landfills and the DARCY facility located on Kennedy Space Center (KSC).

Compliance support for the active and closed KSC Class III landfills includes but is not limited to: assisting in compliance issues and permit renewals, submitting compliance monitoring and annual operational reports and performing periodic review for compliance with all applicable Federal, State and local environmental regulations. QSE provides compliance guidance and oversight to:

- Ensure the active landfill is maintained in compliance with the Florida Department of Environmental Protection (FDEP) permit number 0150308-007-SO-T3 and ensures maximum design life.
- Ensure the closed landfill is maintained and operated in accordance with FDEP permit number 0150308-008-SF-14
- Verify the roads in and around the landfills are maintained in a usable state free of ruts, potholes and washouts.
- Verify adequate cover material is stored at the active landfill.
- Verify non-friable asbestos cell is covered on a daily basis.
- Verify drainage system in and around landfills is maintained.
- Verify the landfill weigh station is operated and maintained properly.
- Verify scales are calibrated semi-annually.
- Verify calibration documentation

- Verify that recyclable wood products (including pallets, vegetation from land clearing operations and other wood material) are diverted to a designated area in the active landfill for recycling.
- Verify mulch material is utilized to minimize costs and optimize active landfill operations.
- Verify the active landfill is operated in accordance with the Landfill Operations Plan, EAP-REF-0001
- Review analytical groundwater results to verify landfills are operating in accordance with permit requirements.

Support for the KSC DARCY includes but is not limited to:

- Ensure the DARCY is operated in accordance with the DARCY Operations Plan, EAP-REF-0002 and any applicable federal, state and local regulatory requirements.
- Monitor the scale house to ensure aggregate material is weighed and recorded when entering the DARCY along with processed aggregate material leaving the DARCY for reuse.
- Verify material entering the DARCY is checked by Landfill personnel for hazardous and other non-suitable materials.
- Verify access for equipment and vehicles is maintained within and to the DARCY site.

The landfill at Kennedy Space Center is an approximately 85 acre FDEP permitted landfill site which consists of one 39 acre permitted active landfill (KSC/Schwartz Road Landfill, Class III) and one 45 acre permitted closed landfill (KSC/Schwartz Road Closed Class III Landfill). When required the landfill permit renewal applications are completed by Kennedy Space Center's Environmental and Medical Support Contract (KSCEMSC) with assistance from the contract QSE and submitted to NASA for review and submittal to FDEP. The operating landfill is a Class III landfill that does not have a liner; therefore, no Class I type materials are allowed. The landfill is operated in accordance with EAP-REF-0001, Landfill Operations Plan.

The KSC-closed landfill is adjacent to the operations landfill. The closed landfill occupies approximately 45 acres on the southwest end of the site and is in the post-closure phase. The official date of closing for this landfill is June 12, 2001.

The operating and closed landfills incorporate a joint groundwater and surface water monitoring plan which is performed by the KSCEMSC. Results of the sampling are reported to NASA on a semiannual basis. The closed landfill has a gas ventilation monitoring plan which is performed by the KSCEMSC. Results of the sampling are reported to NASA on a semiannual basis. Results of the monitoring are reported directly to NASA by KSCEMSC, with a courtesy copy provided to the contract; NASA forwards the results to FDEP. KSCEMSC also submits a groundwater and surface water monitoring report every 2 and a half years as required by the permit to NASA with the contract receiving a courtesy copy; NASA forwards the report to FDEP. The contract QSE also completes the Closure Cost Estimating Form for Solid Waste Facilities, DEP Form # 62-701.900(28) and submits the report to NASA by January 20th each year.

NASA Environmental Assurance Branch (EAB) forwards the submission to FDEP by January 31st each year.

The identification and determination of initial landfill application, operation, and closure permit requirements, as established by FDEP, are administered through the NASA EAB. The contract Landfill Compliance Program Manager may be required to provide technical input pertaining to permitting activities.

The DARC Y is a non-regulated facility located at the KSC landfill, established to provide a diverted Construction and Demolition material consolidation and processing area at KSC. The DARC Y is operated in accordance with EAP-REF-0002, Darcy Operations Plan.

PROCESS

The following instructions provide an overview of the requirements for the KSC Landfill Compliance Program Manager or designated representative (hereinafter collectively referred to as the subject matter expert (SME) when performing activities as part of the landfill and DARC Y compliance programs.

1. LANDFILL COMPLIANCE SITE VISITS

To ensure the contract operated active and closed landfills remain in regulatory compliance, the SME will conduct routine compliance site visits. The Daily Equipment Inspection Checklist, form EAP-F-1400B, which is completed by the landfill equipment operator, is reviewed by the SME for completeness.

1.1. Observing Non-Compliance Issues

Any non-compliance issues observed during a BOSS or NASA site visit shall be brought to the attention of the Manager of Landfill Operations (MOLO) or designated representative at that time so it may be corrected immediately. The contract QSE will provide assistance to correct the problem(s) as required. Upon completion of the site visit, the SME will review the results with the MOLO or designated representative.

2. DARC Y SITE VISITS:

The following instructions provide an overview of the requirements for the DARC Y Program Manager or designated representative (hereinafter collectively referred to as the SME) when performing activities as part of the DARC Y management program.

DARC Y is a non-regulated facility and is not covered under the landfill operating permit. The SME will conduct routine compliance site visits to ensure that the facility is being run properly and in accordance with the DARC Y management program.

2.1. Observing DARC Y Operations for Compliance with Best Practices

Any issues observed during a BOSS site visit shall be brought to the attention of the contract MOLO or designated representative at that time so it may be corrected immediately. The SME will decide if best management practices are being applied in running the DARC Y facility.

3. ASSIST IN STATE INSPECTIONS OF KSC LANDFILL AND DARC Y WALK DOWNS

The SME shall participate in and support the NASA EAB during FDEP inspections of the KSC Landfill. This includes accompanying the inspectors while conducting site visits and providing compliance documents as required. For DARC Y walk downs, the contract QSE representative will escort all regulatory and non-regulatory agencies that wish to tour DARC Y operations.

4. PARTICIPATE IN NASA INTERNAL INSPECTIONS

The SME will accompany representatives of NASA EAB on inspections. This includes accompanying the inspectors while conducting site visits and providing compliance documents as required. Inspections shall be documented, and all findings will be tracked until resolved.

5. PARTICIPATE IN EXTERNAL COMPLIANCE AUDITS

The SME shall participate in and support internal and external NASA Energy and Environmental Functional Review (EEFR) audits. This includes accompanying the inspectors while conducting site visits and providing compliance documents as required. EEFR inspections shall be documented, and all findings will be tracked.

6. DOCUMENTING REGULATORY INSPECTIONS AND COMPLIANCE AUDITS

When the FDEP conducts an inspection of the landfills and regulatory findings are noted, the SME will ensure all findings are corrected. When NASA conducts an internal inspection of the landfill, the SME will track the findings and ensure they are corrected.

7. WASTE REPORT PROCESSING

Waste Reports are prepared on KSC Form 28-1111 (KSC Landfill Monthly Waste Report) by the MOLO or designated representative and forwarded via electronic mail to NASA EAB by the fifth day of the following month. An annual consolidated Waste Report is provided to NASA EAB for submission to FDEP by February 1st.

8. PARTICIPATE IN “PARTNERING” TEAM MEETING

The SME shall participate in the NASA/ United States Space Force (USSF)/FDEP Waste Trackers “Partnering” team meetings. The partnering organizations were developed in order to provide a commitment between government and industry to improve communications and form a relationship of teamwork, cooperation, good faith performance, and avoid disputes. The partnering teams were developed for

different environmental disciplines to specifically address environmental permitting and compliance operational issues of concern. Solid waste issues fall under the Waste Trackers “Partnering” group.

9. DESIGN REVIEW MEETING SUPPORT

The SME shall attend or support other QSE personnel attending design review and environmental program working group meetings as needed in order to provide support and guidance, on potential landfill compliance issues or permitting concerns and DARCY best management practice issues. Upon request, the SME will assist in determining suitability of requests to dispose of new waste in landfill and to bring concrete demolition material into the DARCY facility. As applicable contractors shall complete a Contractor Landfill Use Approval Form, EAP-F-1400A for review and approval by the SME.

RECORDS

The following records are retained by the organizations listed below:

Record	Responsible Organization
Annual Waste Report Form (No KSC Form) (Copy)	Contract QSE
2.5 Year Landfill Monitoring Report (Copy)	Contract QSE
Closure Cost Estimating Form for Solid Waste Facilities DEP Form # 62-701.900(28)(Copy)	Contract QSE
EAP-F-1400A Contractor Landfill Use Approval Form (Copy)	Contract Road and Sanitation Operations
EAP-F-1400B Daily Equipment Inspection Checklist	Contract Road and Sanitation Operations
Semiannual Gas Monitoring Report (Copy)	Contract QSE
KSC Form 28-1111, Solid Waste –KSC Monthly Waste Report (Copy)	Contract QSE
Semiannual Landfill Monitoring Report (Copy)	Contract QSE

ROLES AND RESPONSIBILITIES

Contract Program Manager: Ensures compliance to the requirements stated in this procedure.

Department Manager: Ensures compliance within the Department to the requirements stated in this procedure.

Contract SME: Provides compliance guidance and oversight, conducts compliance site visits, provides technical support to KSC/EMSC for active and closed landfill permit renewal applications reviews and submits annual waste reports to NASA EAB, prepares annual cost to complete estimate update to EAB, revises operation plans as required.

Manager of Landfill Operations (MOLO): Corrects non-compliance issues and forwards electronic Waste Reports to NASA EAB.

Landfill Equipment Operator: Completes Daily Equipment Inspection Checklist, each day equipment is used.

KSCEMSC: Prepares and submits to NASA the permit renewal applications, conducts groundwater and surface water sampling and reports results semiannually to NASA, conducts gas ventilation monitoring and reports to NASA on a semiannual basis with the contract QSE receiving a courtesy copy of each report. KSCEMSC also submits a two and a half years groundwater and surface water monitoring report for submittal to NASA with the contract receiving a courtesy copy.

REFERENCE DOCUMENTS

The following documents are referenced in this procedure:

Document Number	Title
DEP Form #62-701.900(28)	Closure Cost Estimating Form for Solid Waste Facilities
EAP-F-1400A	Contractor Landfill Use Approval Form
EAP-F-1400B	Daily Equipment Inspection Checklist
EAP-REF-0001	John F. Kennedy Space Center/Swartz Road Landfill, Class III Revised Operations Plans
EAP-REF-0002	Kennedy Space Center Diverted Aggregate Reclamation and Collection Yard Operations Plan
KNPR 8500.1	KSC Environmental Requirements
KSC Form 28-1111	KSC Landfill Monthly Waste Report
0150308-008-SF-14	Closed KSC Class III Landfill Permit
0150308-007-SO-T3	Active KSC Class III Landfill Permit

ACRONYMS

BMP	Best Management Practice
DARCY	Diverted Aggregate Reclamation and Collection Yard
EEFR	Energy & Environmental Functional Review
FDEP	Florida Department of Environmental Protection
KSCEMSC	KSC's Environmental and Medical Support Contract
KNPR	Kennedy NASA Program Requirements
KSC	Kennedy Space Center
MOLO	Manager Of Landfill Operations
MPIS	Monitoring Plan Implementation Schedule
NASA	National Aeronautics and Space Administration
QSE	Quality, Safety & Environmental

SME	Subject Matter Expert
USSF	United States Space Force

DEFINITIONS

Best Management Practice: An environmental best management practice (BMP) is an action or combination of actions implemented to reduce the environmental impacts of operations.

2.5 Year Report: A report submitted every two and a half years summarizing the previous five years of groundwater and surface water sampling activities, laboratory analytical results, and trends. A report is prepared by, or under the supervision of, a professional geologist or professional engineer. The report is required to be signed and sealed by the professional geologist or professional engineer. The report is submitted for the KSC/Schwartz Road Landfill to NASA EAB.

Gas Monitoring Report: semiannual reports submitted to the FDEP summarizing the results of gas monitoring activities for the closed permitted KSC/Schwartz Road Landfill.

Waste Report: Annual reports submitted to the FDEP summarizing the types and quantities of solid waste received at a permitted landfill. A report is submitted for the active KSC/Schwartz Road permitted landfill. At the request of NASA EAB, monthly reports are provided to NASA as well.

Operations Plan: A written document that provides detailed instructions for the daily operation of the active landfill and DARCY. The operations plans are kept at the landfill facility and are to be accessible to landfill operators for reference and to NASA and FDEP upon inspection. The operation plans shall be complied with at all times and shall be revised if operational procedures change. Revisions are completed by the contract SME with the assistance of the MOLO and approved by NASA EAB for submittal to FDEP.

Semiannual Compliance Monitoring Report: A report submitted every six months summarizing groundwater and surface water sampling activities and laboratory analytical results. Sampling activities are conducted in accordance with the Monitoring Plan Implementation Schedule (MPIS) submitted as part of the permit application. Each report is prepared by, or under the supervision of, a professional geologist or professional engineer with experience in hydro geologic investigations and includes groundwater contour maps that are signed and sealed by the professional geologist or professional engineer.

REVISION RECORD

The following revisions have been applied to this document:

Revision Number	Change Description	Date
0-2	Previous contract.	02/28/11
3	Updated to BOSS.	06/20/19
4	Removed BOSS/PSP updated gas monitoring to semiannual	04/15/2024

DOCUMENT APPROVALS

2/14/2024



Environmental, Energy and Water Conservation ...
Signed by: Donald Humphrys (affiliate)

2/14/2024



Director of Environmental, Safety, Quality, S...
Signed by: David Boykin (affiliate)