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FINAL STORAGE SYSTEMS MANAGEMENT PLAN FOR NAS SAUFLEY FIELD FL
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E.C. JORDAN COMPANY

FINAL REPORT

STORAGE SYSTEMS MANAGEMENT PLAN FOR SAUFLEY FIELD PENSACOLA PENSACOLA, FLORIDA

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PREPARED FOR

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3.0 SAUFLEY FIELD PENSACOLA STORAGE SYSTEMS MANAGEMENT PLAN

This section contains information on the naval activity, environmental conditions, a discussion of each regulated transportation related storage tank system and a general discussion of the non-transportation storage systems. The TIMS data base for the activity is also presented in this section in a table format. These tables represent the Storage Tank Management Plan for the activity. The regulated tanks are discussed individually; however, all the information is contained in the TIMS data base tables.

3.1 Activity Description

Saufley Field is located in Escambia County, Florida and lies northwest of NAS Pensacola. The mission of the activity is to prepare training manuals and exams for the Naval Technical Training Center. The activity is under the command of the Chief of Naval Education and Training. The airstrip at the base is used by NAS Whiting Field for T-34 training. U.S. Customs also maintains helicopters and Leer jets at the field.

3.1.1 Hydrogeolgic Setting

Data on the hydrogeologic setting of the site is used as a parameter in the development of an environmental risk rating (see Section 2.3.3.2 and Appendix B) and in determining an appropriate interim alternate procedure for a storage tank system. For example, if a storage tank system is located in a hydrogeologic setting underlain by a shallow aquifer containing potable water, annual precision tank testing would be proposed. However, if the water quality of the shallow aquifer is not acceptable and the potable water source is from a deep confined aquifer, then biennial precision tank testing would be proposed.

Saufley Field is underlain by three water-bearing zones. These include:

Sand and Gravel Aquifer

The Pleistocene terrace deposits and Citronelle Formation and the Miocene coarse clastics that contain the Sand and Gravel aquifer extend to a depth of approximately 400 feet below land surface at Saufley Field Pensacola. These deposits are comprised predominantly of poorly sorted fine to coarse sands with numerous lenses and layers of clay and gravel (up to 60 feet thick). There is a great lithologic variability in these formations. The clay lenses and the presence of hardpan layers within the Sand and Gravel aquifer are responsible for the occurrence of perched water tables and artesian conditions (Musgrove et al., 1965). Groundwater flow is generally

topographically controlled. Recharge to the aquifer is derived almost entirely from local rainfall. Virtually all groundwater usage in the area comes from the Sand and Gravel aquifer.

The Upper Floridan Aquifer

The lower Miocene to upper Oligocene Chickasawhay and Tampa Formations that contain the upper Floridan aquifer are approximately 380 feet thick in the area of Saufley Field Pensacola (Marsh, 1966). The formations that make up the aquifer are characterized typically as a brown to light gray hard dolomitic limestone or dolomite with a distinctive spongy looking texture and containing abundant shell fragments. The overlying Pensacola clay is approximately 1,000 feet thick in this area and forms an effective confining unit between the Sand and Gravel aquifer and the upper Floridan aquifer (Marsh, 1966). The upper Floridan aquifer is recharged by rainfall where it outcrops in Conecuh, Escambia and Monroe counties (Alabama). General groundwater flow in the aquifer is to the southeast toward the Gulf of Mexico (Healy, 1980). The groundwater in the upper Floridan aquifer is mineralized in this area and is not used as a water supply.

The Lower Floridan Aquifer

The upper Eocene and other limestones of middle Eocene age that contain the lower Floridan aquifer are approximately 500 feet thick in the area of Saufley Field Pensacola (Marsh, 1966). The formations that make up the aquifer are characterized as a white to grayish cream, soft and chalky limestone. The lower Floridan aquifer is confined from above by the Bucatunna Clay Member of the Byram Formation of middle Oligocene age and from below by gray shale and clay of middle Eocene age. The Bucatunna clay is approximately 170 feet thick in the area of Saufley Field (Musgrove et al., 1965). Groundwater flow in the aquifer is to the southeast toward the Gulf of Mexico (Healy, 1980). The water quality is poor because of high mineralization.

The first groundwater encountered beneath Saufley Field is that found within the Sand and Gravel aquifer. Virtually all potable water usage in the area comes from the Sand and Gravel aquifer. Therefore, the proposed interim compliance for tank testing of underground storage systems less than 20,000 gallons will be on an annual schedule.

3.2 Regulated Transportation Tank Systems and Proposed Action

Currently there are 4 underground and 1 above ground tanks at Saufley Field that are regulated by FDER. Regulated tanks

include 1 tank at facility 807, 1 tank at the Motor Pool and 3 tanks at the Base Exchange Service Station.

Proposed actions for replacement or upgrading any of these regulated tanks will comply with the requirements of Chapter 17-61 FAC presented in Appendix C. For above ground tank systems, this includes:

- impervious containment must be equivalent to the capacity of the largest tank with appropriate controls for drainage of precipitation within diked areas by January 1, 1990;
- proper inventory and reconciliation;
- proper record keeping as described in Chapter 17-61.050(4)(a) FAC;
- metal tanks shall not be in contact with the soil without corrosion protection or interior lined with a material impervious to the product to be stored or have monitoring wells or be included in the Spill Prevention Control and Countermeasure (SPCC) plan.

For underground tank systems defined by Chapter 17-61.020 FAC compliance measures include:

- proper product inventory and reconciliation, and gauging for water in the tank;
- proper record keeping as described in Chapter 17-61.050(4)(a) FAC;
- acceptable designs for tank and piping materials and construction as defined under Chapter 17-61.060(2)(b)1 FAC;
- a strike plate beneath the fill pipe and gauge opening;
- tank protection according to FDER's retrofit schedule; and
- proper cathodic protection systems for metal tanks and associated metal piping.

3.2.1 TIMS Data Base for Saufley Field Pensacola

The TIMS data base for the storage tank systems at Saufley Field is shown on Tables 3-1 and 3-2. Table 3-1 presents the

TABLE 3-1
PHYSICAL INFORMATION ON STORAGE SYSTEMS
TANK INVENTORY AND MANAGEMENT SYSTEM DATA BASE
U.S. NAVY STORAGE SYSTEMS MANAGEMENT PLAN

TANK NO.	YEAR	CONTENTS	TRANSPORT	TANK SIZE	ABOVE/ UNDER	TANK CONST.	PIPE CONST	LD TYPE	STATUS	LAST TEST DATE	PROPOSED INTERIM COMPLIANCE MEASURES
** ECJID: FL17PENSFLY			SAUFLEY FIELD			LT. EILERT				(904)452-1322	
807E	0	D	Y	100	A	BB	A		E	/ /	N/A
807F	82	E	Y	3000	A	BBPR	A	DH	A	/ /	N/A
2418	88	B	Y	5000	U	FI	P	DIH	A	/ /	N/A
2419	63	B	Y	500	U	C	P	DH	E	/ /	N/A
2420	63	D	Y	2000	U	C	P	DH	E	/ /	N/A
2439A	70	A	Y	10000	U	C	P	DH	A	/ /	A
2439B	70	B	Y	10000	U	C	P	DH	A	/ /	A
2439C	70	B	Y	10000	U	C	P	DH	A	/ /	A
2439D	70	L	N	200	U	C	P	DH	A	/ /	
2443	0	L	N	2000	U	C	P		E	/ /	

TABLE 3-2
MANAGEMENT AND PLANNING INFORMATION
TANK INVENTORY AND MANAGEMENT SYSTEM DATA BASE
U.S. NAVY STORAGE SYSTEMS MANAGEMENT PLAN

TANK NO.	RISK RATING	TARGET DATE	PROPOSED ACTION	ESTIMATED BUDGET	ACTION COMPL.	INVENTORY RECORDING	SPILL HISTORY	REMARKS
** ECJID: FL17PENSFLY			SAUFLEY FIELD			LT. EILERT	(904)452-1322	
807E		/ /	REMOVED	0	05/31/88		NONE	REMOVED MAY 1988
807F	MOD	/ /		0	/ /	GAUGED DAILY	NONE	U.S. CUSTOMS FUEL TANK
2418	MOD	03/31/88	NONE	0	/ /	GAUGED DAILY	NONE	OVERFILL PROT, SPILL PREVENT
2419		/ /	REMOVED	0	03/31/88		NONE	TANK REMOVED
2420		/ /	REMOVED	0	03/31/88		NONE	TANK REMOVED
2439A	MOD	12/31/92	REPLACE	0	/ /	GAUGED DAILY	NONE	REPLACE W/UN DBL WALLED TANK
2439B	MOD	12/31/92	REPLACE	0	/ /	GAUGED DAILY	NONE	REPLACE W/UN DBL WALLED TANK
2439C	MOD	12/31/92	REPLACE	0	/ /	GAUGED DAILY	NONE	REPLACE W/UN DBL WALLED TANK
2439D		12/31/92	REPLACE	0	/ /	GAUGED DAILY	NONE	REPLACE W/UN DBL WALLED TANK
2443		/ /	REMOVED	0	03/31/88		NONE	DEMOLISHED MARCH 1988

physical information for the storage systems. Table 3-2 presents management and planning information for the systems. Additionally a TIMS key to the coded data is presented on Table 2-1. A general discussion of the non-transportation storage systems is presented in Section 3.3. A general development map of Saufley Field highlighting the location of all the storage tank systems is presented in Appendix D.

3.2.2 Storage System Summaries and Management Plan

The information on each of the regulated transportation tank systems presented in Tables 3-1 and 3-2 is summarized and the management plan is discussed in this section. The tank system description, proposed interim compliance measure and proposed action are presented for each storage system or group of related storage systems.

Tanks 807

Tank System Description. Tank numbers 807-E and 807-F are respectively, 100 and 3,000 gallon, steel, above ground tanks. Tank 807-E contained diesel; Tank 807-F contains aviation gasoline. The associated piping has no parts in contact with the soil. Tank 807-F is gauged daily. Tank 807-F was installed in 1982 while the installation date for 807-E is unknown. Tank 807-F has impervious containment. Tank 807-F is monitored under the SPCC plan. Tank 807-E was removed in May 1988.

Interim Compliance and Proposed Action. There is no proposed interim compliance or proposed action for tank numbers 807-E, and 807-F. Tank 807-E was removed in March 1988. Tank 807-F meets the requirements for an above ground system.

Motor Pool - Tanks 2418, 2419 and 2420

Tank System Description. Tank number 2418 is a 5,000 gallon, double walled, fiberglass clad steel, underground tank installed in 1988 which contains unleaded gasoline. Tank numbers 2419 and 2420 were respectively, 500 and 2,000 gallon, asphalt coated steel, underground tanks which were installed in 1963 and contained unleaded gasoline and diesel fuel. The associated piping for these systems was of unknown construction. Tank 2418 is contained in the current SPCC Plan and is gauged daily and reconciled weekly. Tank 2418 has a line leak detection system. Tanks 2419 and 2420 were removed in March 1988.

Interim Compliance and Proposed Action. There is no proposed interim compliance or proposed action for these tanks. Tanks 2419 and 2420 were removed in March 1988 and should be taken off the FDER tank registration list. Tank 2418 is a new system that meets all current FDER regulation requirements.

Base Exchange Service Station - Tanks 2439-A, 243-B and 2439-C

Tank System Description. Tank numbers 2439-A, 2439-B, and 2439-C are 10,000 gallon, asphalt coated steel, underground tanks installed in 1970 that contain gasoline. The associated piping is of unknown construction. The tanks are contained in the SPCC plan and are gauged daily and reconciled weekly.

Interim Compliance. The proposed interim compliance for tank numbers 2439-A, 2439-B and 2439-C is annual precision tank testing because the first encountered groundwater beneath the site is of sufficient quality to be used as a potable water source.

Proposed Action. The proposed interim compliance measures will be implemented until such time as the construction standards of the storage systems comply with Chapter 17-61 FAC. Recommendations for upgrading the storage systems are to replace them with double walled underground tanks with proper protection systems, double walled piping and leak detection devices. The target date for completing this action is December 31, 1992.

3.3 Non-Transportation Tank Systems and Proposed Action

Because the non-transportation tanks are not currently regulated by FDER and were not addressed in the alternate procedures request they were not included in the scope of this project. Therefore, specific information on the storage systems and proposed action will not be discussed for each individual system. General suggestions for these systems and suggested design criteria for underground and above ground storage systems will, however, be presented.

Currently there is one known non-transportation underground tank at Saufley Field. This storage tank contains waste oil. This non-transportation tank system is not currently regulated by FDER guidelines; however, new state, federal and/or local regulations may change their status by 1989.

Federal regulations under the Environmental Protection Agency (EPA) 40 CFR 280 regulate most underground storage systems containing petroleum products, solvents and chemicals. The federal regulations will not apply to those systems that store heating oil for consumptive use on the premises. Under 40 CFR 280 the underground storage tanks and their associated piping must be cathodically protected against corrosion, constructed of non-corrosive materials or steel clad with a non-corrosive material. The storage system construction materials and linings must be compatible with the substance stored in the tank. In addition, the underground storage system must have acceptable overfill protection, leak detection

systems and an acceptable record keeping (inventory) and systems maintenance (calibration, maintenance and repair) program.

The non-transportation storage systems at the activity that will be regulated under the EPA regulations is the waste oil tank.

Although the non-transportation tanks are not currently regulated by Chapter 17-61 FAC, FDER will report any non-compliance of 40 CFR 280 regarding underground non-transportation tanks to the EPA. The non-transportation tanks at the activity that must comply with the federal regulations for tank construction materials and cathodic protection are most tanks containing petroleum products except for those that store heating oil.

It is suggested that activity personnel keep abreast of changes to the federal and state tank regulatory programs and be aware of the implementation of any local (county, city) programs. General suggestions for non-transportation storage systems are:

- If the tank is not necessary, remove it.
- If the tank is necessary, place it above ground if possible or replace it with a double walled tank.
- It is suggested that proper inventory and reconciliation be conducted for all tank systems, and gauging for water be performed for underground tanks.

The following criteria should be applied to non-transportation related above ground tanks:

- containment must be equivalent to the capacity of the largest tank;
- keep piping above ground or where it can be visually inspected; and
- determine if any additional federal, state or local requirements apply.

The following criteria should be applied to non-transportation related underground tanks:

- acceptable tank and piping materials and construction standards must be met as stated in EPA 40 CFR 280;
- a strike plate must exist beneath the fill pipe and gauge opening;
- there must be a tank leak detection system;
- there must be a proper cathodic protection system for metal tanks and associated metal piping in contact with soil;
- proper overfill protection is required; and
- there must be a line leak detection system for associated piping.

4.0 SUMMARY OF FINDINGS AND RECOMMENDATIONS

This Storage Tank Management Plan, as presented in the TIMS data base, represents a dynamic management tool that will provide the activity and SDIV with the most current data on the physical information and proposed plans for the storage systems at the activity. The plan also recommends environmentally sound Alternate Procedures for regulated tanks as specified in Chapter 17-61.08 FAC that, once approved by FDER, should be implemented until such time as the systems are brought into compliance. Finally, the Storage Tank Management Plan has developed recommendations for final compliance actions for each regulated storage system, presented target dates for implementing the proposed actions and developed a management tool (risk rating) for prioritizing the proposed actions on the storage systems.

REFERENCES

Healy, H.G., 1980, Potentiometric Surface of the Floridan aquifer in Florida, Map Series 104: U.S. Geological Survey, Florida Department of Environmental Regulation, Bureau of Water Resources Management

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