GW - 28

WORK PLANS

SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN

FOR

NAVAJO REFINING COMPANY

ARTESIA REFINERY

ARTESIA, NEW MEXICO

Prepared By

URS CONSULTANTS
Metairie, Louisiana

APRIL 1988

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May 3, 1988

Mr. David Boyer
Oil Conservation District
State Land Office Building
Room 206
P.O. Box 2088
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

Dear Mr. Boyer:

Subject: Navajo Refining Company
Spill Prevention Control & Countermeasure Plan
URS. No. 46019.00

As we discussed, I am enclosing a copy of the SPCC plan for the Navajo refinery. As indicated in the spill plan, there are some engineering modifications which are required at the plant to provide adequate secondary containment for some of the truck racks and tanks. Navajo has hired an additional temporary staff engineer to work on upgrading these deficiencies.

If you have any questions or comments, please do not hesitate to call me.

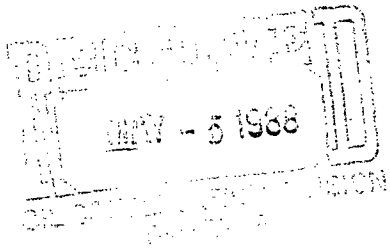
Sincerely,

URS CONSULTANTS

Sue Bottom

Sue Bottom

cc: D. Griffin



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SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN
Part I - General Information

1. Name of facility Navajo Refining Company

2. Type of facility Petroleum Refinery

3. Location of facility Artesia, Eddy County, New Mexico

4. Name and address of owner or operator:

   Name Holly Corporation
   Address 2001 Bryan Tower
   Dallas, Texas 75201

5. Designated person accountable for oil spill prevention at facility:

   Name and Title David G. Griffin, Superintendent of Environmental Affairs and Quality Control

6. Facility experienced a reportable oil spill event during the twelve months prior to January 10, 1974 (effective date of 40 CFR, Part 112). (If YES, complete Attachment #1.) NO

MANAGEMENT APPROVAL

This SPCC Plan will be implemented as herein described.

Signature _____
Name J.P. Reid

Title President - Navajo Refining Company

CERTIFICATION

I hereby certify that I have examined the facility, and being familiar with the provisions of 40 CFR, Part 112, attest that this SPCC Plan has been prepared in accordance with good engineering practices.

W.C. Chamberlain

_____
Signature of Registered Professional Engineer

(Seal)

Date _____ Registration No. _____ State _____

Oil spill control regulations have been promulgated by the Environmental Protection Agency and the State of New Mexico. A copy of these regulations is provided in Appendix A. This spill prevention control and countermeasure plan has been developed to ensure compliance with these requirements. The spill plan will be available for on-site review by regulatory personnel. It will be reviewed every two years and updated as required.

7. Potential Spills - Prediction and Control

The three major types of sources from which oil spills could occur at the refinery:

Bulk Storage Tanks
Loading/Unloading Stations
Transfer Lines and Equipment

Bulk Storage Tanks. The largest single source of a potential oil spill in the refinery is the bulk storage facilities. The most probable cause of an oil spill would be overflow from a tank due to overfilling. Tank rupture or bottom failure are also potential sources of tank leakage. The size of the spill could range from a de minimis loss to the full capacity of the tank. Bulk storage tanks range in size from 220 to 96,300 barrels. These tanks are steel structures which are inspected regularly to ensure tank integrity. They are surrounded by dikes which provide secondary containment. For a single tank located within a tank farm, the dike is capable of holding the contents of the entire tank. When several tanks are located within a tank farm, the perimeter dike is capable of holding the contents of the largest tank within the diked area.

Loading/Unloading Stations. There are a number of train and truck loading and unloading stations located throughout the refinery. A spill could occur at these locations as a result of overfilling the rail car or tank truck, valve or line drainage, rail car or tank truck rupture, improper line hook up, or transfer line over-pressurization. Leakage from hose connections at loading and unloading stations also represents a potential for spillage, although this spillage would be a de minimis loss occurring during transfer operations. The size of the spill could range from a de minimis loss to the largest compartment of the rail car, 30,000 gallons, or tank truck, 6,000 gallons. Secondary containment for loading and unloading stations is provided in two ways, by providing curbed and paved areas drained to sumps at the transfer stations which are capable of holding the largest compartment of the vessel and by providing drains in the area of the transfer station which will convey any spillage to the wastewater treatment

facilities. Nonleaking hose connections have been installed at some of the transfer stations, and sumps for hose drainage are located at all the transfer stations.

Transfer Lines and Equipment. The majority of the transfer lines are located above ground, an estimated 20% of the hydrocarbon lines at the plant are below ground. Transfer line failure could occur as a result of corrosion, over-pressurization, mechanical failure, or operator error. Human error could occur as a result of mistakenly opening the wrong valve or starting the wrong pump. The potential spill volume is highly variable. Navajo is developing a program to pressure test hydrocarbon lines to ensure mechanical integrity. Within paved and curbed process areas, spilled oil would drain to the oily sewer and be recovered in the wastewater treatment system. Within tank farm areas, spilled oil would be contained within the diked area and be collected by vacuum truck. In other areas of the plant property, control of a spill would consist of containment and clean-up at the source.

Containment by diversionary structures or equipment are used to prevent oil from reaching Eagle Draw, a normally dry tributary to the Pecos River, the nearest waterway, in the event of an oil spill at the refinery. A summary of the potential spill sources and prevention and control measures which have been instituted is provided in Table 1.

8. Oil Spill Contingency Plan

To assure prompt and proper response in the event of an oil spill, an oil spill contingency plan has been developed and is used at the refinery. A copy of the contingency plan is provided in Appendix B. The plan outlines the manpower, equipment and materials required in the event of an oil spill. The plan will require modifications periodically, as personnel change, equipment is built or modified, technologies change, etc. The plant should be reviewed every two years, and modified as required.

9. Inspections and Records

Equipment is inspected at the refinery regularly to ensure proper function and operation. Visual inspections are used on an on-going basis for signs of leakage and corrosion on and around tanks, loading and unloading stations, and above ground valving and piping. Inspections are performed by the foreman in charge of the area, and he is responsible for ensuring any corrective action which may be required is taken. Written procedures are not used for these types of inspections in that the personnel training program at the plant and actual hands-

Table 1
Potential Spills - Prevention and Control

	Major Type of Failure	Total Quantity	Containment and Control
Bulk Storage Tanks	1. Overfilling 2. Rupture 3. Bottom Failure	220 to 96,300 barrels	1. Tank Farm Dikes 2. Integrity Testing 3. Contingency Planning 4. Personnel Training
Transfer Stations	1. Overfilling 2. Valve/Line Drainage 3. Rupture 4. Improper Hook-up	6,000 to 30,000 gallons	1. Containment Sumps 2. Drainage Sewers 3. Contingency Planning 4. Personnel Training
Transfer Equipment	1. Corrosion 2. Overpressurization 3. Mechanical Failure 4. Operator Error	Variable	1. Paving and Curbing 2. Drainage Sewers 3. Tank Farm Dikes 4. Pressure Testing 5. Contingency Planning 6. Personnel Training

on experience of the foreman in charge of an area are sufficiently detailed that the responsible personnel are aware of potential problem areas.

Formal equipment inspections are also undertaken:

Bulk Storage. Ultrasonic tank shell and head thickness readings are obtained on all tanks approximately every 5 years. More frequent inspections are performed if the visual inspections reveal problem areas or there is a greater than normal potential for problems due to the characteristics of the material stored or construction materials of the tanks. Whenever a tank is cleaned and vapor freed, interior tank inspections are performed, including ultrasonic testing of tank bottom thicknesses. Tank inspection procedures are performed in accordance with API Procedures, the Guide for Inspection of Refinery Equipment, Chapter XIII - Atmospheric and Low Pressure Storage Tanks. Records of tank inspections are maintained. Results of the tank inspections along with recommendations are outlined in a memorandum which is forwarded to management, including the Supervisor of Maintenance.

Underground Lines. Navajo has prepared a master list of underground hydrocarbon lines at the plant and is planning to pressure test these lines to confirm structural integrity. Pressure testing is performed in accordance with industry standards. The results of these inspections are provided to management for their review. If any leaks are detected, corrective action will be undertaken. The line will either be repaired or replaced (with above ground lines where possible).

Safety Inspections and Checklists. On a monthly basis, facility safety inspections are performed in accordance with prescribed procedures. The First Line Supervisor or Area Foreman is required to complete a checklist for his area. In addition to confirming the proper condition of equipment, which in and of itself is a spill prevention program, he is required to determine whether proper housekeeping procedures are being used, including whether there is any evidence of oil spillage in the area.

10. Personnel Training and Spill Prevention Procedures

Personnel training is conducted to ensure proper operation and maintenance of equipment, as well as to ensure employee understanding of pollution control rules.

Employee Orientation. A Fundamentals of Operations Training Course is given to new employees. This course spans a three week period. The first ten days are four hour sessions, the

next four days are eight hour sessions, and the final day is a four hour session. This initial training involves a total of 76 hours with both classroom and on-the-job training.

During the first two weeks, the fundamentals of operations are addressed. The course involves an introduction to the training program, review of the characteristics of hydrocarbons, and detailed description of equipment operation.. Specifically addressed are positive displacement pumps, centrifugal pumps, steam turbines, heat exchangers, fired heaters, distillation, and process controllers. The duties of an operator and Navajo Safety Rules are also discussed during this time period. This training program is designed to familiarize the operator with the operation and maintenance of the equipment to ensure proper operation, which by definition will prevent oil releases. Four full days are spent in the laboratory to familiarize the operators with laboratory procedures and how laboratory analyses relate to unit operations. During the final day, there is a course review and post course test.

Safety Meetings. Safety meetings are conducted on a scheduled basis to ensure safe conditions are maintained at the refinery. During the second Thursday of each month, the Joint Safety Committee meets to discuss any problems, complaints, items for discussion, etc. The Joint Safety Committee consists of two groups of employees, an elected member from progression lines in the lab, blender, vacuum unit, alky unit, FCC unit, North Division and two from maintenance; and Supervisors from Division Management, Maintenance, Operations, Offsites and Economics & Engineering who attend the meetings on a rotating schedule. Safety Department personnel are permanent members. The Committee's responsibilities are to review accident statistics and investigations and propose corrective action, review safety work memos not corrected by the regular memo guidelines and make recommendation to the Management Safety Council, and promote safety through safety education.

The following Tuesday, a Management Safety Council Meeting is held. The Council consists of eight appointed representatives representing different disciplines in the plant, including operations, maintenance, economics & engineering personnel, safety, fire and offsites departments. The Council reviews accident statistics and recommended methods of controlling causes, defines and reviews the refinery safety and health goals, reviews proposed safety legislation which may affect the review, reviews safety training, operating or meeting programs for presentation to refinery personnel, develops safe operating guidelines for the refinery for inclusion in the Company's Safety Manual, develops safety inspection and

accident investigation programs, responds to recommendations or proposals from the Joint Safety Committee, conducts an annual review of the Emergency Preparedness Plan, reviews projects in their early stages of development for safety considerations, develops fire system improvement recommendations, and reviews existing safety problems so recommendations can be made to upper management if corrective action is needed.

Every Monday, there is a meeting of maintenance and operations personnel on the first shift. Maintenance supervisors and personnel in their group, First Line Supervisors and available personnel from their area attend the meetings. Varying topics are addressed, such as problem areas, directives from the Management Council, audio and video presentations specific to certain topics, and presentations by outside contractors regarding specific topics (such as HF handling procedures).

On a monthly basis, the fire brigade has a special meeting which involves training and practice. This is in addition to the annual training provided by the Texas A & M training center.

On a quarterly basis, all supervisors attend a safety meeting to discuss scheduled topics of concern. Topics include the work permit system, lockouts, respiratory protection, Hazardous Materials Communications, etc.

Environmental Department Training. The Environmental Department conducts training both separately and in conjunction with the Safety Department to ensure employee awareness of environmental, hazardous waste, and spill control requirements. Maintenance and laboratory personnel are given training to familiarize them with all or parts of the hazardous waste regulatory program, land treatment program, waste analysis plan, inspection program, contingency plan, and groundwater monitoring program.

PART II - DESIGN AND OPERATING INFORMATION

Navajo Refining Company, hereinafter referred to as Navajo, operates a 35,000 bbl/day petroleum refinery in Artesia, New Mexico. Crude oil is processed into asphalt, carbon black oil, fuel oil, diesel fuel, jet fuel, gasoline, and liquified petroleum gas. The refinery is divided into two major portions, the North Division and the South Division.

A. Facility Drainage

1. Drainage from Diked Storage Areas

Valves located in tank farm dikes are normally retained in the closed condition. There are two types of water which may be present in the tank farm, tank draw-off water from inside the tanks and stormwater impacting the tank farm area.

Tank Draw-Off Water. Tank draw-off water, which has been in contact with stored material, drains through piping to sumps located in the various tank farms. This oily water is then transferred to the oil/water separators and the main wastewater treatment facility.

Stormwater. Stormwater which has fallen in the tank farm areas is allowed to evaporate. In the arid Artesia climate, evaporation greatly exceeds precipitation. The average annual precipitation rate is 12.4 inches, and the average annual pan evaporation rate is 112.75 inches. Only under emergency conditions would a valve be opened to release stormwater.

2. Drainage from Land Treatment Areas

The North Colony and Truck Bypass Landfarms are used for land treatment of oily wastes. These landfarms are surrounded by perimeter dikes to retain any oily liquids or stormwater within the land treatment area.

3. Drainage from Process Areas

North Division. The process area in the North Division rests on concrete pads with a four inch high curbing around the periphery. The oily sewers in this area are designed to convey any oily waters such as spills, wash down water or contaminated runoff to the North Division API separator, and this water is then conveyed to the main wastewater treatment facility.

South Division. Most of the process area in the South Division is paved. The process area is either enclosed by curbing or by a drainage channel covered with metal grating. The sewer system is designed to convey potentially contaminated

water to the South Division oil trap and wastewater treatment facility.

4. **Drainage from Undiked Areas**

General area drainage is to the north and east towards Eagle Draw, a normally dry tributary of the Pecos River located three miles from the refinery. A drawing showing the drainage patterns in undiked areas is given in the back pocket.

5. **Wastewater Treatment Facility**

Oily wastewater is collected in the process sewers, passed through oil/water separators located in the North and South Divisions, then through another oil/water separator and a DAF unit for removal of floating and dissolved oils. The treated wastewater is then conveyed by pipeline to evaporation ponds located several miles from the refinery.

B. **Bulk Storage Tanks**

1. **Tank Information**

All tanks have been constructed of carbon steel and meet ASME standards. In general, the tanks are not equipped with fail safe engineering equipment such as high or low level alarms. The tanks are gauged once per shift. Corrosion protection is provided by painting the exterior of the tanks. Periodic shell thickness measurements are also obtained to measure tank corrosion.

2. **Secondary Containment**

A listing of the hydrocarbon storage tanks at the refinery is given in Table 2. The tank contents, dimensions and secondary containment capacity are given in this table. The list excludes pressure vessels used to store butane, propane, etc. The storage tanks are surrounded by either earthen or concrete dikes which provide secondary containment. For the most part, the tank farm dikes have 100% secondary containment. Some tank farms must be upgraded to provide adequate containment, and the containment capacity for some tank farms must be calculated. Engineering is underway to ensure all tank farms have adequate containment capacity. These dikes must be maintained to ensure sufficient containment capacity is provided on a regular basis.

3. **Tank Inspections**

Navajo has a preventative maintenance program to ensure structural integrity of the tanks. Shell thickness measurements are obtained on each tank periodically, about every 5

Table 2 - Tank Farm Containment Capacity

	Tank Information				Tank Farm Containment Information		
	Capacity (bbl)	Stored Material	Diam (ft)	Ht (ft)	Tank Farm Containment Capacity (bbl)	Volume of Largest Tank Above Dike (bbl)	Percent of Minimum
NORTH DIVISION							
Tank 6	600	Slop Oil	20	11	1,037	504	206
Tank 8	3,100	Slop Oil	28	30	64,115	52,027	123
Tank 9	3,100	Des Naphtha	28	30			
Tank 51	5,000	Des Naphtha	35	29			
Tank 52	5,000	Des Naphtha	35	29			
Tank 53	5,100	Jet A	35	30			
Tank 54	5,100	Jet A	35	30			
Tank 55	11,300	Jet A	48	36			
Tank 56	10,800	Raw Naphtha	48	36			
Tank 57	50,400	Raw Naphtha	90	48.7			
Tank 18	2,300	Slop Oil	29	24	14,622	4,296	340
Tank 60	5,100	Slurry Oil	35	30			
Tank 58	5,000	LCO	35	30	14,596	4,258	343
Tank 59	5,000	Slurry Oil	35	30			
Tank 61	10,500	LCO	50	30	———	———	———
Tank 62	10,500	Slurry Oil	50	30			
Tank 63	10,700	Slurry Oil	51	30			
Tank 400	96,300	Gas Oil	120	48	91,846	86,611	106
Tank 437	85,400	Sour Crude	120	45	109,230	77386	141

Table 2 - Tank Farm Containment Capacity
(cont'd)

	Tank Information				Tank Farm Containment Information		
	Capacity (bbl)	Stored Material	Diam (ft)	Ht (ft)	Tank Farm Containment Capacity (bbl)	Volume of Largest Tank Above Dike (bbl)	Percent of Minimum
NORTH DIVISION (cont'd)							
Tank 439	108,000	Sour Crude	130	48	112,265	101,057	111
Tank 803	200	Oily Sludge	9.5	16	2,571	1,497	172
Tank 804	200	Oily Sludge	9.5	16			
Tank 807*							
Tank 808*							
Tank 835	61,000	Sweet Crude	111	40	89,888	58,488	154
Tank 837	24,100	Star Diesel	78	30	35,391	21,190	167
Tank 838	29,400	Star Diesel	74	40	42,199	35,576	119
SOUTH DIVISION							
Tank 11	32,600	Powerformate	89	29	———	———	———
Tank 12	32,300	Powerformate	88	29			
Tank 106	24,800	Unleaded	67	40	46,373	45,751	101
Tank 431	56,500	Asphalt	109	32			
Tank 432	55,000	Asphalt	109	32			

* drains to sewer

Table 2 - Tank Farm Containment Capacity
(cont'd)

	Tank Information				Tank Farm Containment Information		
	Capacity (bbl)	Stored Material	Diam (ft)	Ht (ft)	Tank Farm Containment Capacity (bbl)	Volume of Largest Tank Above Dike (bbl)	Percent of Minimum
SOUTH DIVISION (cont'd)							
Tank 107	25,000	Alkylate	67	40	———	———	—
Tank 117	14,000	JP-4	48	48			
Tank 415	29,900	Premium	67	39			
Tank 108	22,900	Base	67	40	———	———	—
Tank 109	22,300	Base	67	40			
Tank 110	57,900	Asphalt	108	35	51,525	45,502	113
Tank 116	10,300	Butane Sphere	48	-			
Tank 438	54,200	FCC Charge	90	48			
Tank 111	9,100	Regular	49	30	74,195	67,782	109
Tank 112	10,400	Premium	49	30			
Tank 113	10,300	MTBE	48	-			
Tank 434	78,400	Super Diesel	117	42			
Tank 123	4,800	Kero/Jet A	45	17	———	———	—
Tank 124	6,200	Raw Naphtha	40	30			
Tank 127	2,900	Kero/Jet A	24	25			
Tank 413	21,900	Regular	67	39			
Tank 130	2,600	Slop Oil	33	17	8,714	2,308	378
Tank 132	2,500	Slop Oil	30	21			

Table 2 - Tank Farm Containment Capacity
(cont'd)

	Tank Information				Tank Farm Containment Information		
	Capacity (bbl)	Stored Material	Diam (ft)	Ht (ft)	Tank Farm Containment Capacity (bbl)	Volume of Largest Tank Above Dike (bbl)	Percent of Minimum
SOUTH DIVISION (cont'd)							
Tank 161*	145	TEL	6	27	———	———	———
Tank 401	53,100	FCC Gasoline	90	48	50,871	47,926	106
Tank 402	53,200	FCC Gasoline	90	48	43,556	46,679	93
Tank 13	250	Slop Oil	10	20	26,983	21,529	125
Tank 403	9,900	Asphalt	45	36			
Tank 404	9,900	Asphalt	45	36			
Tank 405	5,200	Asphalt	37	28			
Tank 406	5,400	Asphalt	38	28			
Tank 408	10,100	Cutter Stock	55	24			
Tank 409	25,100	Asphalt	67	40			
Tank 133	9,400	Gas Oil	48	29	25,953	30,944	84
Tank 135	2,600	Heavy Fuel Oil	29	22			
Tank 136	300	Pave Bond	12	15			
Tank 410	35,700	Asphalt	79	40			
Tank 411	52,100	JP-4	100	40	———	———	———
Tank 412	51,900	JP-4	100	40			
Tank 417	9,300	Unleaded	50	30	18,502	23,067	80
Tank 418	19,600	Super Diesel	67	41			
Tank 419	10,800	Jet A	53	28			

*drains to sewer

Table 2 - Tank Farm Containment Capacity
(cont'd)

	Tank Information				Tank Farm Containment Information		
	Capacity (bbl)	Stored Material	Diam (ft)	Ht (ft)	Tank Farm Containment Capacity (bbl)	Volume of Largest Tank Above Dike (bbl)	Percent of Minimum
SOUTH DIVISION (cont'd)							
Tank 420	10,400	Asphalt	50	30	37,820	8,947	423
Tank 422	10,400	Asphalt	50	30			
Tank 423	10,500	Asphalt	50	30			
Tank 424	900	Slop Asphalt	22	15			
Tank 425	1,000	Slop Asphalt	22	15			
Tank 426	1,000	Asphalt	22	15			
Tank 427	980	Slop Asphalt	22	15			
Tank 428	1,800	Asphalt	30	15			
Tank 429	1,700	Asphalt	30	14			
Tank 430	1,800	Asphalt	30	15			
Tank 433	79,900	Asphalt	117	42			
Tank 440	210	Jet A	10	15	215	182	118
Tank 441	288	Slurry	11	17	8,714	2,308	378
Tank 442	210	Recovery Well	10	15	249	171	146
Tank 444	198	Recovery Well	12	10	181	169	107
Tank 445	307	Recovery Well	12	15	341	262	130

years. Depending on the results of these inspections tanks are retained in service, repaired, taken out of service or demolished. Tank inspections are performed in accordance with API standards, and records of the inspections are kept in the Maintenance Department.

4. Internal Heating Coils

The asphalt tanks have functioning internal heating coils. The steam is condensed in the heating coils and the condensate is piped back to the boiler water treating system. The condensate return to the receiver is checked periodically for leakage. If a major steam leak were to occur, steam and water could be injected into the stored material causing foaming or boiling. If severe enough, this could potentially cause the tanks to foam over causing a spill into the secondary containment area. Normally this condition is identified as a small leak. The particular coil in question is blocked in until repair can be completed.

5. Tank Farm Drainage

There are valves in the tank farms to allow drainage of water under emergency conditions. Any emergency drainage would be monitored by tank farm personnel. Under normal conditions, the tank farm valves are locked in a closed position. Any rainwater in the area is allowed to evaporate. Given the arid climate of Artesia and the fact that pan evaporation exceeds rainfall rates by a factor of 10, draining tank farms is normally not required. In the event of a spill in a tank farm, a vacuum truck is used to collect oil and return it to the process.

C. Facility Transfer Operations

1. Corrosion Protection

The majority of the piping in the plant is above ground, although there are under ground lines. In general, underground piping is wrapped to reduce corrosion. Navajo has a committed policy to use above ground piping whenever piping is replaced. Navajo has also instituted a program to pressure test under ground lines to ensure structural integrity.

2. Pipeline Terminal Connections

If a pipeline is out of service or on standby service for an extended period of time, it is blind flanged and marked to ensure it is not accidentally used.

3. Pipe Supports

The piping is designed in accordance with good engineering practice, is well supported and no problems with abrasion have been encountered.

4. Above Ground Equipment Inspections

Operators are required to inspect above ground equipment such as valves, pipelines, flanges, catch pans, etc. to ensure it is in good working condition and not leaking. In general, process areas are paved and curbed with sewer lines to collect any oil which may spill in the area. Spillage along with process wastewater is treated in the refinery wastewater treatment facilities.

5. Vehicle Warning Procedures

All overhead pipeline racks are sufficiently high to permit normal size vehicles to pass underneath without danger of pipe damage. Low racks are sign posted, and portions of the refinery where vehicular traffic is prohibited are barricaded.

D. Transfer Facilities

There are a number of rail car and tank truck loading and unloading stations at the refinery, as discussed below. There is also an LPG rack which is not covered by this spill plan in that any spillage would evaporate. The South Division rail loading/unloading rack is not addressed because they will be taken out of service by mid-1988. The Department of Transportation requirements for tank truck and rail car shipments are outlined in Appendix C. Navajo follows these procedures when loading/unloading hydrocarbons, as outlined in Appendix D.

1. North Division - Rail Loading

The North Division rail loading station is used for CBO and diesel. In the future, LPG will be loaded and MTBE will be unloaded at this station. There are under drains at each loading location to collect any spillage. Spillage from the area is directed to two interconnected sumps with the capacity to contain the contents of the largest rail car, 30,000 gallons.

The normal procedure is to close the gates in the area to prevent traffic and put up the warning signs before material is transferred. When operations are completed, Navajo personnel ensure lines are disconnected, valves are closed, etc. before the gates are opened.

2. **North Division - CBO Truck Rack**

In the vicinity of the rail loading station, there is a truck loading rack for carbon black oil. There are two loading stations. There is no secondary containment in the immediate vicinity of the truck rack, although engineering is underway to provide adequate containment capacity.

3. **North Division - Sweet Crude Unloading 588**

There are two unloading stations for sweet crude oil. There is no secondary containment, although there is a barrel to collect hose drippings. Engineering is underway to provide adequate containment capacity.

4. **South Division - Sour Crude Unloading 551/552**

There are two unloading stations for sour crude oil. There is no secondary containment, although there is a barrel to collect hose drippings. Engineering is underway to provide adequate containment capacity.

5. **South Division - Gasoline Loading Racks**

The gasoline loading rack is paved and curbed to retain any spillage in the area. The area is sloped to drain to two interconnected sumps. Any drainage from the area is drained to the oil/water separator and the wastewater treatment facilities.

6. **South Division - Ethanol Unloading Rack**

The ethanol unloading station is not paved and curbed, and has no secondary containment. A drip proof hose is used to minimize spillage from hose draining. Engineering is underway to provide adequate containment capacity.

7. **South Division - Gas Oil Unloading Rack**

There are two unloading stations for gas oil and a third station for asphalt loading. The area is paved and curbed, sloped to drain to two sumps. A steam jet system is used to collect material and pump over to the slop oil system. Drip proof unloading spouts and drip buckets are also provided to minimize the potential for spillage.

8. **South Division - Blending Component Unloading Rack**

The unloading rack area is paved with drainage to the adjacent tank farm sump. Internal drainage is routed to the API separator.

9. South Division - Asphalt Loading Rack

There are two asphalt loading stations which are paved and curbed, and the area is sloped to drain to a sump. Any spillage would drain to the sump, and then be collected by vacuum truck. There is a third earthen loading station used in the summer months. In that only asphalt is loaded at this station and asphalt will not flow more than a few feet, the asphalt will not reach any watercourses.

E. Security

1. Fencing

To the extent possible, the refinery property is fenced. However, the plant is located partially in the middle of Artesia and there are a few city streets which run through the refinery, so it is not possible to totally enclose the plant with fences and gates. Navajo personnel are responsible for monitoring their work area, and a security guard patrols the area at night.

2. Non-operating Facilities

When tanks and pumps are not operating or in standby status, they are locked or accessible only by authorized personnel.

3. Lighting

Process areas and truck and railroad transfer stations are illuminated during periods of darkness. The lighting facilities are adequate for spill prevention and control purposes.

Appendix A

Oil Spill Control Regulations

Notification of oil spills under 1-203 should be made to OCD rather than EID.

NEW MEXICO

WATER QUALITY CONTROL COMMISSION REGULATIONS

AS AMENDED THROUGH DECEMBER 24, 1987

Water Quality Control Commission Regulations

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WATER QUALITY CONTROL COMMISSION
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WATER QUALITY CONTROL COMMISSION REGULATIONS

PART 1
General Provision and Procedures

1-100. GENERAL PROVISIONS.

1-101. DEFINITIONS.--As used in the Water Quality Control Commission Regulations:

A. "abandoned well" means a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be rehabilitated for its intended purpose or other purposes including monitoring and observation;

B. "agency" or "division" means the environmental improvement division of the New Mexico health and environment department;

C. "barrier well" means a well used to inject fluids into ground water to prevent the intrusion of saline or contaminated water into ground water of better quality;

D. "board" means the Utility Operators Certification Advisory Board;

E. "casing" means pipe or tubing of appropriate material, diameter and weight used to support the sides of a well hole and thus prevent the walls from caving, to prevent loss of drilling mud into porous ground, or to prevent fluid from entering or leaving the well other than to or from the injection zone;

F. "cementing" means the operation whereby a cementing slurry is pumped into a drilled hole and/or forced behind the casing;

G. "certification act" means the Utility Operators Certification Act, Section 61-30-1 et seq., NMSA 1978;

H. "certified operator" means a person who is certified by the commission as being qualified to supervise or operate one of the classifications of water supply systems or wastewater facilities;

I. "collapse" means the structural failure of overlying materials caused by removal of underlying materials;

J. "collection system" means pipelines or conduits, pumping stations, force mains, and all other devices, appurtenances and facilities used for collecting and conducting waste to a point of treatment and disposal;

K. "commission" means the New Mexico water quality control commission;

L. "confining zone" means a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement from an injection zone;

M. "conventional mining" means the production of minerals from an open pit or underground excavation. Underground excavations include mine shafts, workings and air vents, but does not include excavations primarily caused by in situ extraction activities.

N. "daily composite sample" means a sample collected over any twenty-four hour period at intervals not to exceed one hour and obtained by combining equal volumes of the effluent collected, or means a sample collected in accordance with federal permit conditions where a permit has been issued under the National Pollutant Discharge Elimination System or for those facilities which include a waste stabilization pond in the treatment process where the retention time is greater than twenty (20) days, means a sample obtained by compositing equal volumes of at least two grab samples collected within a period of not more than twenty-four (24) hours;

O. "director" means the director of the New Mexico environmental improvement division or the director of a constituent agency designated by the commission;

P. "discharge plan" means a description of methods and conditions, including any monitoring and sampling requirements, for the discharge of effluent or leachate which may move directly or indirectly into ground water;

Q. "disposal" means to abandon, deposit, inter or otherwise discard a fluid as a final action after its use has been achieved;

R. "distribution system" means pipelines, appurtenances, devices and facilities which carry potable water under pressure to each consumer;

S. "drainage well" means a well used to drain storm runoff into a subsurface formation;

T. "education" means academic credit received attending any public or private primary, secondary or high school, approved vocational training courses in the water supply and wastewater field, college or university;

U. "effluent disposal well" means a well which is used for the disposal of fluids which may have the potential to cause water pollution. Wells used in the following practices are not effluent disposal wells: conventional mining, old stope leaching and sand backfilling. Wells where the emplacement of fluids is limited to natural ground water seeping or flowing into conventional mine workings are not effluent disposal wells. Barrier wells, drainage wells, recharge wells, and return flow wells are not effluent disposal wells if the discharger can demonstrate that the discharge will not adversely affect the health of persons, and

1. the injection fluid does not contain a contaminant which may cause an exceedance at any place of present or reasonable foreseeable future use of any primary state drinking water maximum contaminant level as specified in the "Water Supply Regulations" adopted by the Environmental Improvement Board under the Environmental Improvement Act; or

2. the discharger can demonstrate that the injection will result in an overall or net improvement in water quality as determined by the director.

V. "experience" means actual work experience, full or part-time, in the fields of potable water supply or wastewater treatment. Work experience in a related field may be accepted at the discretion of the commission;

W. "experimental technology" means a technology which has not been proven feasible under the conditions in which it is being tested;

X. "fluid" means material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state;

Y. "ground water" means interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply;

Z. "hazard to public health" exists when water which is used or is reasonably expected to be used in the future as a human drinking water supply exceeds at the time and place of such use, one or more of the numerical standards of Subsection 3-103.A, or the naturally occurring concentrations, whichever is higher, or if any toxic pollutant affecting human health is present in the water. In determining whether a discharge would cause a hazard to public health to exist, the director shall investigate and consider the purification and dilution reasonably expected to occur from the time and place of discharge to the time and place of withdrawal for use as human drinking water;

AA. "injection" means the subsurface emplacement of fluids through a well;

BB. "injection zone" means a geological formation, group of formations, or part of a formation receiving fluids through a well;

CC. "in situ extraction well" means a well which injects fluids for mineral extraction, except 1) conventional mines, 2) old stope leaching, 3) the extraction of oil, natural gas, or gas extracted from coal gasification, 4) wells for which the discharger can demonstrate use as part of an experimental technology;

DD. "old stope leaching" means the circulation of waters through the mined areas of conventional mines with or without the addition of chemicals, for the purpose of extraction of minerals;

EE. "operational area" means a geographic area defined in a project discharge plan where a group of wells or well fields in close proximity comprise a single in situ extraction well operation;

FF. "operator" means any person employed by the owner as the person responsible for the operation of all or any portion of a water supply system or wastewater facility. Not included in this definition are such persons as directors of public works, city engineers, city managers, or other officials or persons whose duties do not include actual operation or direct supervision of water supply systems or wastewater facilities;

GG. "owner" means the person or persons having the responsibility of managing or maintaining a water supply system or a wastewater facility;

HH. "packer" means a device lowered into a well to produce a fluid-tight seal within the casing;

II. "person" means the state or any agency, institution, commission, municipality, or other political subdivision thereof, federal agency, public or private corporation, individual, partnership, association or other entity, and includes any officer or governing or managing body of any institution, political subdivision, agency or public or private corporation;

JJ. "petitioner" means a person seeking a variance from a regulation of the Commission pursuant to Section 74-6-4(G) NMSA 1978;

KK. "plugging" means the act or process of stopping the flow of water, oil or gas into or out of a geological formation, group of formations or part of a formation through a borehole or well penetrating these geologic units;

LL. "population served" means actual or estimated maximum number of persons served by the water supply system or wastewater facility;

MM. "project discharge plan" means a discharge plan which describes the operation of similar in situ extraction wells or well fields within one or more individual operational areas;

NN. "recharge well" means a well used to inject fluids for the replenishment of ground water, including use to reclaim or improve the quality of existing ground water, or to eliminate subsidence associated with the overdraft of fresh water;

OO. "refuse" includes food, swill, carrion, slops and all substances from the preparation, cooking and consumption of food and from the handling, storage and sale of food products, the carcasses

of animals, junked parts of automobiles and other machinery, paper, paper cartons, tree branches, yard trimmings, discarded furniture, cans, oil, ashes, bottles and all unwholesome material;

PP. "return flow well" means a well used to return to the supply aquifer, or to other ground water, the water used for heating or cooling for any purpose provided that the water does not receive any additional chemical or biological water contaminants other than heat or the absence thereof;

QQ. "sand backfilling" means the injection of a mixture of water and sand, mill tailings or other solids into underground conventional mines;

RR. "sewer system" means pipelines, conduits, pumping stations, force mains, or other structures, devices, appurtenances or facilities used for collecting or conducting wastes to an ultimate point for treatment or disposal;

SS. "sewerage system" means a system for disposing of wastes, either by surface or underground methods, and includes sewer systems, treatment works, disposal wells and other systems;

TT. "TDS" means total dissolved solids as determined by the "calculation method" (sum of constituents), by the "residue on evaporation method at 180°" of the "U.S. Geological Survey Techniques of Water Resource Investigations," or by conductivity, as the director may determine;

UU. "toxic pollutant" means a water contaminant or combination of water contaminants in concentration(s) which, upon exposure, ingestion, or assimilation either directly from the environment or indirectly by ingestion through food chains, will unreasonably threaten to injure human health, or the health of animals or plants which are commonly hatched, bred, cultivated or protected for use by man for food or economic benefit. As used in this definition injuries to health include death, histiopathologic change, clinical symptoms of disease, behavioral abonormalities, genetic mutation, physiological malfunctions or physical deformations in such organisms or their offspring. In order to be considered a toxic pollutant a contaminant must be one or a combination of the potential toxic pollutants listed below and be at a concentration shown by scientific information currently available to the public to have potential for causing one or more of the effects listed above.

Any water contaminant or combination of the water contaminants in the list below creating a lifetime risk of more than one cancer per 100,000 exposed persons is a toxic pollutant.

acrolein
acrylonitrile
aldrin
benzene
benzidine
carbon tetrachloride
chlordane
chlorinated benzenes
    monochlorobenzene
    hexachlorobenzene
    pentachlorobenzene
    1,2,4,5-tetrachlorobenzene
chlorinated ethanes
    1,2-dichloroethane
    hexachloroethane
    1,1,2,2-tetrachloroethane
    1,1,1-trichloroethane
    1,1,2-trichloroethane
chlorinated phenols
    2,4-dichlorophenol
    2,4,5-trichlorophenol
    2,4,6-trichlorophenol
chloroalkyl ethers
    bis (2-chloroethyl) ether
    bis (2-chloroisopropyl) ether
    bis (chloromethyl) ether
chloroform
DDT
dichlorobenzene
dichlorobenzidine
1,1-dichloroethylene
dichloropropenes
dieldrin
2,4-dinitrotoluene
diphenylhydrazine
endosulfan
endrin
ethylbenzene
halomethanes
    bromodichloromethane
    bromomethane

- chloromethane
- dichlorodifluoromethane
- dichloromethane
- tribromomethane
- trichlorofluoromethane

heptachlor
hexachlorobutadiene
hexachlorocyclohexane (HCH)
- alpha-HCH
- beta-HCH
- gamma-HCH
- technical HCH

hexachlorocyclopentadiene
isophorone
nitrobenzene
nitrophenols
- 2,4-dinitro-o-cresol
- dinitrophenols

nitrosamines
- N-nitrosodiethylamine
- N-nitrosodimethylamine
- N-nitrosodibutylamine
- N-nitrosodiphenylamine
- N-nitrosopyrrolidine

pentachlorophenol
phenol
phthalate esters
- dibutyl phthalate
- di-2-ethylhexyl phthalate
- diethyl phthalate
- dimethyl phthalate

polychlorinated biphenyls (PCB's)
polynuclear aromatic hydrocarbons (PAH)
- anthracene
- 3,4-benzofluoranthene
- benzo(k) fluoranthene
- fluoranthene
- fluorene
- phenanthrene
- pyrene

tetrachloroethylene
toluene
toxaphene
trichloroethylene
vinyl chloride

xylenes

- o-xylene
- m-xylene
- p-xylene

1,1-dichloroethane
ethylene dibromide (EDB)
cis-1,2-dichloroethylene
trans-1,2-dichloroethylene
naphthalene
1-methylnaphthalene
2-methylnaphthalene
benzo-a-pyrene

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VV. "training" means the non-academic training in the field of water supply or wastewater;

WW. "training credit" means the amount of credit earned by a participant in a training program;

XX. "treatment works" means any plant or other works used for the purpose of treating, stabilizing or holding wastes;

YY. "wastes" means sewage, industrial wastes, or any other liquid gaseous or solid substance which will pollute any waters of the state;

ZZ. "wastewater facility" means a system of structures, equipment and processes designed tc collect and treat domestic and industrial wastes and dispose of the effluents from a public system;

AAA. "water" means all water including water situated wholly or partly within or bordering upon the state, whether surface or subsurface, public or private, except private waters that do not combine with other surface or subsurface water;

BBB. "water contaminant" means any substance which alters the physical, chemical or biological qualities of water;

CCC. "water supply system" means a system of pipes, structures and facilities through which potable water is obtained, treated and distributed to the public;

DDD. "watercourse" means any river, creek, arroyo, canyon, draw, or wash, or any other channel having definite banks and beds with visible evidence of the occasional flow of water;

EEE. "well" means a bored, drilled or driven shaft, or a dug hole, whose depth is greater than the largest surface dimension;

FFF. "well stimulation" means a process used to clean the well, enlarge channels, and increase pore space in the interval to be injected, thus making it possible for fluids to move more readily into the injection zone. Well stimulation includes, but is not limited to, (1) surging, (2) jetting, (3) blasting, (4) acidizing, (5) hydraulic fracturing.

1-200. PROCEDURES.

1-201. NOTICE OF INTENT TO DISCHARGE.

A. Any person intending to make a new water contaminant discharge or to alter the character or location of an existing water contaminant discharge, unless the discharge is being made or will be made into a community sewer system or subject to the Liquid Waste Disposal Regulations adopted by the New Mexico Environmental Improvement Board, shall file a notice with the Water Pollution Control Bureau of the Environmental Improvement Division. However, notice regarding discharges from facilities for the production, refinement and pipeline transmission of oil and gas, or products thereof, shall be filed instead with the Oil Conservation Commission.

B. Notices shall state:

1. the name of the person making the discharge;

2. the address of the person making the discharge;

3. the location of the discharge;

4. an estimate of the concentration of water contaminants in the discharge; and

5. the quantity of the discharge.

1-202. FILING OF PLANS AND SPECIFICATIONS--SEWERAGE SYSTEMS.

A. Any person proposing to construct a sewerage system or proposing to modify any sewerage system in a manner that will change substantially the quantity or quality of the discharge from the system shall file plans and specifications of the construction or modification with the Water Pollution Control Bureau of the Environmental Improvement Division. Modifications having a minor effect on the character of the discharge from sewerage systems shall be reported as of January 1st and June 30th of each year to the Water Pollution Control Bureau.

B. Plans, specifications and reports required by this section, if related to facilities for the production, refinement and pipeline transmission of oil and gas, or products thereof, shall be filed instead with the Oil Conservation Commission.

C. Plans and specifications required to be filed under this section must be filed prior to the commencement of construction.

1-203. NOTIFICATION OF DISCHARGE--REMOVAL.

A. With respect to any discharge from any facility of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, the following notifications and corrective actions are required;

1. As soon as possible after learning of such a discharge, but in no event more than twenty-four (24) hours thereafter, any person in charge of the facility shall orally notify the Chief, Ground Water Bureau, Environmental Improvement Division, or his counterpart in any constituent agency delegated responsibility for enforcement of these rules as to any facility subject to such delegation. To the best of that person's knowledge, the following items of information shall be provided:

a. the name, address, and telephone number of the person or persons in charge of the facility, as well as of the owner and/or operator of the facility;

b. the name and address of the facility;

c. the date, time, location, and duration of the discharge;

d. the source and cause of discharge;

e. a description of the discharge, including its chemical composition;

f. the estimated volume of discharge; and

g. any actions taken to mitigate immediate damage from the discharge.

2. When in doubt as to which agency to notify, the person in charge of the facility shall notify the Chief,

Ground Water Bureau, Environmental Improvement Division. If that division does not have authority pursuant to Commission delegation, the division shall notify the appropriate constituent agency.

3. Within one week after the discharger has learned of the discharge, the facility owner and/or operator shall send written notification to the same division official, verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification.

4. The oral and written notification and reporting requirements contained in the three preceding paragraphs and the paragraphs below are not intended to be duplicative of discharge notification and reporting requirements promulgated by the Oil Conservation Commission (OCC) or by the Oil Conservation Division (OCD); therefore, any facility which is subject to OCC or OCD discharge notification and reporting requirements need not additionally comply with the notification and reporting requirements herein.

5. As soon as possible after learning of such a discharge, the owner/operator of the facility shall take such corrective actions as are necessary or appropriate to contain and remove or mitigate the damage caused by the discharge.

6. If it is possible to do so without unduly delaying needed corrective actions, the facility owner/operator shall endeavor to contact and consult with the Chief, Ground Water Bureau, Environmental Improvement Division or appropriate counterpart in a delegated agency, in an effort to determine the division's views as to what further corrective actions may be necessary or appropriate to the discharge in question. In any event, no later than fifteen (15) days after the discharger learns of the discharge, the facility owner/operator shall send to said Bureau Chief a written report describing any corrective actions taken and/or to be taken relative to the discharge. Upon a written request and for good cause shown, the Bureau Chief may extend the time limit beyond fifteen (15) days.

7. The Bureau Chief shall approve or disapprove in writing the foregoing corrective action report within thirty (30) days of its receipt by the division. In the event that the report is not satisfactory to the division, the Bureau Chief shall specify in writing to the facility owner/operator any shortcomings in the report or in the corrective actions already taken or proposed to be taken relative to the discharge, and shall give the facility owner/operator a reasonable and clearly specified time within which to submit a modified corrective action report. The Bureau Chief shall

approve or disapprove in writing the modified corrective action report within fifteen (15) days of its receipt by the division.

8. In the event that the modified corrective action report also is unsatisfactory to the division, the facility owner/operator has five (5) days from the notification by the Bureau Chief that it is unsatisfactory to appeal to the division director. The division director shall approve or disapprove the modified corrective action report within five (5) days of receipt of the appeal from the Bureau Chief's decision. In the absence of either corrective action consistent with the approved corrective action report or with the decision of the director concerning the shortcomings of the modified corrective action report, the division may take whatever enforcement or legal action it deems necessary or appropriate.

B. Exempt from the requirements of this section are continuous or periodic discharges which are made:

1. in conformance with water quality control commission regulations and rules, regulations or orders of other state or federal agencies; or

2. in violation of water quality control commission regulations but pursuant to an assurance of discontinuance or schedule of compliance approved by the commission or one of its duly authorized constituent agencies.

C. As used in this section:

1. "discharge" means spilling, leaking, pumping, pouring, emitting, emptying, or dumping into water or in a location and manner where there is a reasonable probability that the discharged substance will reach surface or subsurface water;

2. "facility" means any structure, installation, operation, storage tank, transmission line, motor vehicle, rolling stock, or activity of any kind, whether stationary or mobile;

3. "oil" means oil of any kind or in any form including petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes.

4. "operator" means the person or persons responsible for the overall operation of a facility; and

5. "owner" means the person or persons who own a facility, or part of a facility.

area, [redacted]). If direct reporting to the NRC is not practicable, reports may be made to the Coast Guard or EPA predesignated On-Scene Coordinator (OSC) for the geographic area where the discharge occurs. All such reports shall be promptly relayed to the NRC. If it is not possible to notify the NRC or the predesignated OCS immediately, reports may be made immediately to the nearest Coast Guard unit, provided that the person in charge of the vessel or onshore or offshore facility notifies the NRC as soon as possible. The reports shall be made in accordance with such procedures as the Secretary of Transportation may prescribe. The procedures for such notice are set forth in U.S. Coast Guard regulations, 33 CFR Part 153, Subpart B and in the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300, Subpart E. (Approved by the Office of Management and Budget under the control number 2050-0046)

§ 110.11 Discharge at deepwater ports.

(a) Except as provided in paragraph (b) below, for purposes of section 18(m)(3) of the Deepwater Port Act of 1974, the term "discharge" shall include but not be limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping into the marine environment of quantities of oil that:

(1) Violate applicable water quality standards, or

(2) Cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

(b) For purposes of section 18(m)(3) of the Deepwater Port Act of 1974, the term "discharge" excludes:

(1) Discharges of oil from a properly functioning vessel engine, (including an engine on a public vessel), but not discharges of such oil accumulated in a vessel's bilges (unless in compliance with MARPOL 73/78, Annex I); and

(2) Discharges of oil permitted under MARPOL 73/78, Annex I.

PART 112—OIL POLLUTION PREVENTION

Sec.

AUTHORITY: Secs. 311(j)(1)(C), 311(j)(2), 501(a), Federal Water Pollution Control Act (sec. 2, Pub. L. 92-500, 86 Stat. 816 et seq. (33 U.S.C. 1251 et seq.)); sec. 4(b), Pub. L. 92-500, 86 Stat. 897; 5 U.S.C. Reorg. Plan of 1970 No. 3 (1970), 35 FR 15623, 3 CFR 1966-1970 Comp.; E.O. 11735, 38 FR 21243, 3 CFR.

SOURCE: 38 FR 34165, Dec. 11, 1973, unless otherwise noted.

§ 112.1 General applicability.

(a) This part establishes procedures, methods and equipment and other requirements for equipment to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines.

(b) Except as provided in paragraph (d) of this section, this part applies to owners or operators of non-transportation-related onshore and offshore facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing or consuming oil and oil products, and which, due to their location, could reasonably be expected to discharge oil in harmful quantities, as defined in Part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines.

(c) As provided in section 313 (86 Stat. 875) departments, agencies, and instrumentalities of the Federal government are subject to these regulations to the same extent as any person, except for the provisions of § 112.6.

(d) This part does not apply to:

(1) Facilities, equipment or operations which are not subject to the jurisdiction of the Environmental Protection Agency, as follows:

(i) Onshore and offshore facilities, which, due to their location, could not reasonably be expected to discharge oil into or upon the navigable waters of the United States or adjoining shorelines. This determination shall be based solely upon a consideration of the geographical, locational aspects of the facility (such as proximity to navigable waters or adjoining shorelines, land contour, drainage, etc.) and shall exclude consideration of man-made features such as dikes, equipment or other structures which may serve to restrain, hinder, contain, or otherwise prevent a discharge of oil from reaching navigable waters of the United States or adjoining shorelines; and

(ii) Equipment or operations of vessels or transportation-related onshore and offshore facilities which are subject to authority and control of the Department of Transportation, as defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency, dated November 24, 1971, 36 FR 24000.

(2) Those facilities which, although otherwise subject to the jurisdiction of the Environmental Protection Agency, meet both of the following requirements:

(i) The underground buried storage capacity of the facility is 42,000 gallons or less of oil, and

(ii) The storage capacity, which is not buried, of the facility is 1,320 gallons or less of oil, provided no single container has a capacity in excess of 660 gallons.

(e) This part provides for the preparation and implementation of Spill Prevention Control and Countermeasure Plans prepared in accordance with § 112.7, designed to complement existing laws, regulations, rules, standards, policies and procedures pertaining to safety standards, fire prevention and pollution prevention rules, so as to form a comprehensive balanced Federal/State spill prevention program to minimize the potential for oil discharges. Compliance with this part does not in any way relieve the owner or operator of an onshore or an offshore facility from compliance with other Federal, State or local laws.

[38 FR 34165, Dec. 11, 1973, as amended at 41 FR 12657, Mar. 26, 1976]

§ 112.2 Definitions.

For the purposes of this part:

(a) "Oil" means oil of any kind or in any form, including, but not limited to petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes other than dredged spoil.

(b) "Discharge" includes but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping. For purposes of this part, the term "discharge" shall not include any discharge of oil which is authorized by a permit issued pursuant to section 13 of the River and Harbor Act of 1899 (30 Stat. 1121, 33 U.S.C. 407), or sections 402 or 405 of the FWPCA Amendments of 1972 (86 Stat. 816 et seq., 33 U.S.C. 1251 et seq.).

(c) "Onshore facility" means any facility of any kind located in, on, or under any land within the United States, other than submerged lands, which is not a transportation-related facility.

(d) "Offshore facility" means any facility of any kind located in, on, or under any of the navigable waters of the United States, which is not a transportation-related facility.

(e) "Owner or operator" means any person owning or operating an onshore facility or an offshore facility, and in the case of any abandoned offshore facility, the person who owned or operated such facility immediately prior to such abandonment.

(f) "Person" includes an individual, firm, corporation, association, and a partnership.

(g) "Regional Administrator" means the Regional Administrator of the Environmental Protection Agency, or his designee, in and for the Region in which the facility is located.

(h) [redacted]ortation-related" and "non-t[redacted]ation-related" as applied to [redacted]shore or offshore facility, are defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency, dated November 24, 1971, 36 FR 24080.

(i) "Spill event" means a discharge of oil into or upon the navigable waters of the United States or adjoining shorelines in harmful quantities, as defined at 40 CFR Part 110.

(j) "United States" means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Canal Zone, Guam, American Samoa, the Virgin Islands, and the Trust Territory of the Pacific Islands.

(k) The term "navigable waters" of the United States means "navigable waters" as defined in section 502(7) of the FWPCA, and includes:

(1) All navigable waters of the United States, as defined in judicial decisions prior to passage of the 1972 Amendments to the FWPCA (Pub. L. 92-500), and tributaries of such waters;

(2) Interstate waters;

(3) Intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes; and

(4) Intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce.

(l) "Vessel" means every description of watercraft or other artificial contrivance used, or capable of being used as a means of transportation on water, other than a public vessel.

§ 112.3 Requirements for preparation and implementation of Spill Prevention Control and Countermeasure Plans.

(a) Owners or operators of onshore and offshore facilities in operation on or before the effective date of this part that have discharged or, due to their location, could reasonably be expected to discharge oil in harmful quantities, as defined in 40 CFR Part 110, into or upon the navigable waters of the United States or adjoining shorelines, shall prepare a Spill Prevention Control and Countermeasure Plan (hereinafter "SPCC Plan"), in writing and in accordance with § 112.7. Except as provided for in paragraph (f) of this section, such SPCC Plan shall be prepared within six months after the effective date of this part and shall be fully implemented as soon as possible, but not later than one year after the effective date of this part.

(b) Owners or operators of onshore and offshore facilities that become operational after the effective date of this part, and that have discharged or could reasonably be expected to discharge oil in harmful quantities, as defined in 40 CFR Part 110, into or upon the navigable waters of the United States or adjoining shorelines, shall prepare an SPCC Plan in accordance with § 112.7. Except as provided for in paragraph (f) of this section, such SPCC Plan shall be prepared within six months after the date such facility begins operations and shall be fully implemented as soon as possible, but not later than one year after such facility begins operations.

(c) Owners or operators of onshore and offshore mobile or portable facilities, such as onshore drilling or workover rigs, barge mounted offshore drilling or workover rigs, and portable fueling facilities shall prepare and implement an SPCC Plan as required by paragraphs (a), (b) and (d) of this section. The owners or operators of such facility need not prepare a new SPCC Plan each time the facility is moved to a new site. The SPCC Plan may be a general plan, prepared in accordance with § 112.7, using good engineering practice. When the mobile or portable facility is moved, it must be located and installed using the spill prevention practices outlined in the SPCC Plan for the facility. No mobile or portable facility subject to this regulation shall operate unless the SPCC Plan has been implemented. The SPCC Plan shall only apply while the facility is in a fixed (non-transportation) operating mode.

(d) No SPCC Plan shall be effective to satisfy the requirements of this part unless it has been reviewed by a Registered Professional Engineer and certified to by such Professional Engineer. By means of this certification the engineer, having examined the facility and being familiar with the provisions of this part, shall attest that the SPCC Plan has been prepared in accordance with good engineering practices. Such certification shall in no way relieve the owner or operator of an onshore or offshore facility of his duty to prepare and fully implement such Plan in accordance with § 112.7, as required by paragraphs (a), (b) and (c) of this section.

(e) Owners or operators of a facility for which an SPCC Plan is required pursuant to paragraph (a), (b) or (c) of this section shall maintain a complete copy of the Plan at such facility if the facility is normally attended at least 8 hours per day, or at the nearest field office if the facility is not so attended, and shall make such Plan available to the Regional Administrator for on-site review during normal working hours.

(f) Extensions of time.

(1) The Regional Administrator may authorize an extension of time for the preparation and full implementation of an SPCC Plan beyond the time permitted for the preparation and implementation of an SPCC Plan pursuant to paragraph (a), (b) or (c) of this section where he finds that the owner or operator of a facility subject to paragraphs (a), (b) or (c) of this section cannot fully comply with the requirements of this part as a result of either nonavailability of qualified personnel, or delays in construction or equipment delivery beyond the control and without the fault of such owner or operator or their respective agents or employees.

(2) Any owner or operator seeking an extension of time pursuant to paragraph (f)(1) of this section may submit a letter of request to the Regional Administrator. Such letter shall include:

(i) A complete copy of the SPCC Plan, if completed;

(ii) A full explanation of the cause for any such delay and the specific aspects of the SPCC Plan affected by the delay;

(iii) A full discussion of actions being taken or contemplated to minimize or mitigate such delay;

(iv) A proposed time schedule for the implementation of any corrective actions being taken or contemplated, including interim d[redacted] completion of tests or studies, installation and operation of any necessary equipment or other preventive measures.

In addition, such owner or operator may present additional oral or written statements in support of his letter of request.

(3) The submission of a letter of request for extension of time pursuant to paragraph (f)(2) of this section shall in no way relieve the owner or operator from his obligation to comply with the requirements of § 112.3 (a), (b) or (c). Where an extension of time is authorized by the Regional Administrator for particular equipment or other specific aspects of the SPCC Plan, such extension shall in no way affect the owner's or operator's obligation to comply with the requirements of § 112.3 (a), (b) or (c) with respect to other equipment or other specific aspects of the SPCC Plan for which an extension of time has not been expressly authorized.

[38 FR 34165, Dec. 11, 1973, as amended at 41 FR 12657, Mar. 26, 1976]

§ 112.4 Amendment of SPCC Plans by Regional Administrator.

(a) Notwithstanding compliance with § 112.3, whenever a facility subject to § 112.3 (a), (b) or (c) has: Discharged more than 1,000 U.S. gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in a single spill event, or discharged oil in harmful quantities, as defined in 40 CFR Part 110, into or upon the navigable waters of the United States or adjoining shorelines in two spill events, reportable under section 311(b)(5) of the FWPCA, occurring within any twelve month period, the owner or operator of such facility shall submit to the Regional Administrator, within 60 days from the time such facility becomes subject to this section, the following:

(1) Name of the facility;

(2) Name(s) of the owner or operator of the facility;

(3) Location of the facility;

(4) Date and year of initial facility operation;

(5) Maximum storage or handling capacity of the facility and normal daily throughput;

(6) Description of the facility, including maps, flow diagrams, and topographical maps;

(7) A complete copy of the SPCC Plan with any amendments;

(8) The cause(s) of such spill, including a failure analysis of system or subsystem in which the failure occurred;

(9) The corrective actions and/or countermeasures taken, including an adequate description of equipment repairs and/or replacements;

(10) Additional preventive measures taken or contemplated to minimize the possibility of recurrence;

(11) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or spill event.

(b) Section 112.4 shall not apply until the expiration of the time permitted for the preparation and implementation of an SPCC Plan pursuant to § 112.3 (a), (b), (c) and (f).

(c) A complete copy of all information provided to the Regional Administrator pursuant to paragraph (a) of this section shall be sent at the same time to the State agency in charge of water pollution control activities in and for the State in which the facility is located. Upon receipt of such information such State agency may conduct a review and make recommendations to the Regional Administrator as to further procedures, methods, equipment and other requirements for equipment necessary to prevent and to contain discharges of oil from such facility.

(d) After review of the SPCC Plan for a facility subject to paragraph (a) of this section, together with all other information submitted by the owner or operator of such facility, and by the State agency under paragraph (c) of this section, the Regional Administrator may require the owner or operator of such facility to amend the SPCC Plan if he finds that the Plan does not meet the requirements of this part or that the amendment of the Plan is necessary to prevent and to contain discharges of oil from such facility.

(e) When the Regional Administrator proposes to require an amendment to the SPCC Plan, he shall notify the facility operator by certified mail addressed to, or by personal delivery to, the facility owner or operator, that he proposes to require an amendment to the Plan, and shall specify the terms of such amendment. If the facility owner or operator is a corporation, a copy of such notice shall also be mailed to the registered agent, if any, of such corporation in the State where such facility is located. Within 30 days from receipt of such notice, the facility owner or operator may submit written information, views, and arguments on the amendment. After considering all relevant material presented, the Regional Administrator shall notify the facility owner or operator of any amendment required or shall rescind the notice. The amendment required by the Regional Administrator shall become part of the Plan 30 days after such notice, unless the Regional Administrator, for good cause, shall specify another effective date. The owner or operator of the facility shall implement the amendment of the Plan as soon as possible, but not later than six months after the amendment becomes part of the Plan, unless the Regional Administrator specifies another date.

(f) An owner or operator may appeal a decision made by the Regional Administrator requiring an amendment to an SPCC Plan. The appeal shall be made to the Administrator of the United States Environmental Protection Agency and must be made in writing within 30 days of receipt of the notice from the Regional Administrator requiring the amendment. A complete copy of the appeal must be sent to the Regional Administrator at the time the appeal is made. The appeal shall contain a clear and concise statement of the issues and points of fact in the case. It may also contain additional information from the owner or operator, or from any other person. The Administrator or his designee may request additional information from the owner or operator, or from any other person. The Administrator or his designee shall render a decision within 60 days of receiving the appeal and shall notify the owner or operator of his decision.

[38 FR 34165, Dec. 11, 1973, as amended at 41 FR 12658, Mar. 26, 1976]

§ 112.5 Amendment of Spill Prevention Control and Countermeasure Plans by owners or operators.

(a) Owners or operators of facilities subject to § 112.3 (a), (b) or (c) shall amend the SPCC Plan for such facility in accordance with § 112.7 whenever there is a change in facility design, construction, operation or maintenance which materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shore lines. Such amendments shall be fully implemented as soon as possible, but not later than six months after such change occurs.

(b) Notwithstanding compliance with paragraph (a) of this section, owners and operators of facilities subject to § 112.3 (a), (b) or (c) shall complete a review and evaluation of the SPCC Plan at least once every three years from the date such facility becomes subject to this part. As a result of this review and evaluation, the owner or operator shall amend the SPCC Plan within six months of the review to include more effective prevention and control technology if: (1) Such technology will significantly reduce the likelihood of a spill event from the facility, and (2) if such technology has been field-proven at the time of the review.

(c) No amendment to an SPCC Plan shall be effective to satisfy the requirements of this section unless it has been certified by a Professional Engineer in accordance with § 112.3(d).

§ 112.6 Civil penalties for violation of oil pollution prevention regulations.

Owners or operators of facilities subject to § 112.3 (a), (b) or (c) who violate the requirements of this Part 112 by failing or refusing to comply with any of the provisions of § 112.3, § 112.4 or § 112.5 shall be liable for a civil penalty of not more than $5,000 for each day such violation continues. Civil penalties shall be imposed in accordance with procedures set out in Part 114 of this Subchapter D.

(Secs. 311(j), 501(a), Pub. L. 92-500, 86 Stat. 868, 885 (33 U.S.C. 1321(j), 1361(a)))

[39 FR 31602, Aug. 29, 1974]

§ 112.7 Guidelines for the preparation and implementation of a Spill Prevention Control and Countermeasure Plan.

The SPCC Plan shall be a careful, thought-out plan, prepared in accordance with good engineering practice and which has the full approval of management at a level with authority to commit the necessary resources. If the plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, these items should be discussed in separate paragraphs, and the details of installation and operational start-up should be explained separately. The complete SPCC Plan shall follow the sequence outlined below, and include a discussion of the facility's conformance with the appropriate guidelines listed:

(a) A facility which has experienced one or more spill events within twelve months prior to the effective date of this part should include a written description of each such spill, corrective action taken and plans for preventing recurrence.

(b) Where experience indicates a reasonable potential for equipment failure (such as tank overflow, rupture, or leakage), the plan should include a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each major type of failure.

(c) Appropriate containment and/or diversionary structures or equipment to prevent discharged oil from reaching a navigable water course should be provided. One of the following preventive systems or its equivalent should be used as a minimum:

(1) Onshore facilities:

(i) Dikes, berms or retaining walls sufficiently impervious to contain spilled oil;

(ii) Curbing;

(iii) Culverting, gutters or other drainage systems;

(iv) Weirs, booms or other barriers;

(v) Spill diversion ponds;

(vi) Retention ponds;

(vii) Sorbent materials

(2) Offshore facilities.

(i) Cur[illegible] pans;
(ii) Sun[illegible] collection systems.
(d) Whe[illegible] determined that the installation of structures or equipment listed in § 112.7(c) to prevent discharged oil from reaching the navigable waters is not practicable from any onshore or offshore facility, the owner or operator should clearly demonstrate such impracticability and provide the following:

(1) A strong oil spill contingency plan following the provision of 40 CFR Part 109.

(2) A written commitment of manpower, equipment and materials required to expeditiously control and remove any harmful quantity of oil discharged.

(e) In addition to the minimal prevention standards listed under § 112.7(c), sections of the Plan should include a complete discussion of conformance with the following applicable guidelines, other effective spill prevention and containment procedures (or, if more stringent, with State rules, regulations and guidelines):

(1) *Facility drainage (onshore); (excluding production facilities).* (i) Drainage from diked storage areas should be restrained by valves or other positive means to prevent a spill or other excessive leakage of oil into the drainage system or inplant effluent treatment system, except where plan systems are designed to handle such leakage. Diked areas may be emptied by pumps or ejectors; however, these should be manually activated and the condition of the accumulation should be examined before starting to be sure no oil will be discharged into the water.

(ii) Flapper-type drain valves should not be used to drain diked areas. Valves used for the drainage of diked areas should, as far as practical, be of manual, open-and-closed design. When plant drainage drains directly into water courses and not into wastewater treatment plants, retained storm water should be inspected as provided in paragraphs (e)(2)(iii) (B), (C) and (D) of this section before drainage.

(iii) Plant drainage systems from undiked areas should, if possible, flow into ponds, lagoons or catchment basins, designed to retain oil or return it to the facility. Catchment basin should not be located in areas subject to periodic flooding.

(iv) If plant drainage is not engineered as above, the final discharge of all in-plant ditches should be equipped with a diversion system that could, in the event of an uncontrolled spill, return the oil to the plant.

(v) Where drainage waters are treated in more than one treatment unit, natural hydraulic flow should be used. If pump transfer is needed, two "lift" pumps should be provided, and at least one of the pumps should be permanently installed when such treatment is continuous. In any event, whatever techniques are used facility drainage systems should be adequately engineered to prevent oil from reaching navigable waters in the event of equipment failure or human error at the facility.

(2) *Bulk storage tanks (onshore); (excluding production facilities).* (i) No tank should be used for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature, etc.

(ii) All bulk storage tank installations should be constructed so that a secondary means of containment is provided for the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation. Diked areas should be sufficiently impervious to contain spilled oil. Dikes, containment curbs, and pits are commonly employed for this purpose, but they may not always be appropriate. An alternative system could consist of a complete drainage trench enclosure arranged so that a spill could terminate and be safely confined in an inplant catchment basin or holding pond.

(iii) Drainage of rainwater from the diked area into a storm drain or an effluent discharge that empties into an open water course, lake, or pond, and bypassing the in-plant treatment system may be acceptable if:

(A) The bypass valve is normally sealed closed.

(B) Inspection of the run-off rain water ensures compliance with applicable water quality standards and will

not cause a harmful discharge as defined in 40 CFR Part 110.

(C) The bypass valve is opened, and resealed following drainage under responsible supervision.

(D) Adequate records are kept of such events.

(iv) Buried metallic storage tanks represent a potential for undetected spills. A new buried installation should be protected from corrosion by coatings, cathodic protection or other effective methods compatible with local soil conditions. Such buried tanks should at least be subjected to regular pressure testing.

(v) Partially buried metallic tanks for the storage of oil should be avoided, unless the buried section of the shell is adequately coated, since partial burial in damp earth can cause rapid corrosion of metallic surfaces, especially at the earth/air interface.

(vi) Aboveground tanks should be subject to periodic integrity testing, taking into account tank design (floating roof, etc.) and using such techniques as hydrostatic testing, visual inspection or a system of non-destructive shell thickness testing. Comparison records should be kept where appropriate, and tank supports and foundations should be included in these inspections. In addition, the outside of the tank should frequently be observed by operating personnel for signs of deterioration, leaks which might cause a spill, or accumulation of oil inside diked areas.

(vii) To control leakage through defective internal heating coils, the following factors should be considered and applied, as appropriate.

(A) The steam return or exhaust lines from internal heating coils which discharge into an open water course should be monitored for contamination, or passed through a settling tank, skimmer, or other separation or retention system.

(B) The feasibility of installing an external heating system should also be considered.

(viii) New and old tank installations should, as far as practical, be fail-safe engineered or updated into a fail-safe engineered installation to avoid spills. Consideration should be given to providing one or more [illegible] following devices:

(A) High liquid level alarms with an audible or visual signal at a constantly manned operation or surveillance station; in smaller plants an audible alarm may suffice.

(B) Considering size and complexity of the facility, high liquid level pump cutoff devices set to stop flow at a predetermined tank content level.

(C) Direct audible or code signal communication between the tank gauger and the pumping station.

(D) A fast response system for determining the liquid level of each bulk storage tank such as digital computers, telepulse, or direct vision gauges or their equivalent.

(E) Liquid level sensing devices should be regularly tested to insure proper operation.

(ix) Plant effluents which are discharged into navigable waters should have disposal facilities observed frequently enough to detect possible system upsets that could cause an oil spill event.

(x) Visible oil leaks which result in a loss of oil from tank seams, gaskets, rivets and bolts sufficiently large to cause the accumulation of oil in diked areas should be promptly corrected.

(xi) Mobile or portable oil storage tanks (onshore) should be positioned or located so as to prevent spilled oil from reaching navigable waters. A secondary means of containment, such as dikes or catchment basins, should be furnished for the largest single compartment or tank. These facilities should be located where they will not be subject to periodic flooding or washout.

(3) *Facility transfer operations, pumping, and in-plant process (onshore); (excluding production facilities).* (i) Buried piping installations should have a protective wrapping and coating and should be cathodically protected if soil conditions warrant. If a section of buried line is exposed for any reason, it should be carefully examined for deterioration. If corrosion damage is found, additional examination and corrective action should be taken as indicated by the magnitude of the damage. An alternative would

be [redacted]uent use of exposed pipe[redacted] galleries.

(ii) W[redacted]pipeline is not in service, or in standby service for an extended time the terminal connection at the transfer point should be capped or blank-flanged, and marked as to origin.

(iii) Pipe supports should be properly designed to minimize abrasion and corrosion and allow for expansion and contraction.

(iv) All aboveground valves and pipelines should be subjected to regular examinations by operating personnel at which time the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces should be assessed. In addition, periodic pressure testing may be warranted for piping in areas where facility drainage is such that a failure might lead to a spill event.

(v) Vehicular traffic granted entry into the facility should be warned verbally or by appropriate signs to be sure that the vehicle, because of its size, will not endanger above ground piping.

(4) *Facility tank car and tank truck loading/unloading rack (onshore).* (i) Tank car and tank truck loading/unloading procedures should meet the minimum requirements and regulation established by the Department of Transportation.

(ii) Where rack area drainage does not flow into a catchment basin or treatment facility designed to handle spills, a quick drainage system should be used for tank truck loading and unloading areas. The containment system should be designed to hold at least maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded in the plant.

(iii) An interlocked warning light or physical barrier system, or warning signs, should be provided in loading/unloading areas to prevent vehicular departure before complete disconnect of flexible or fixed transfer lines.

(iv) Prior to filling and departure of any tank car or tank truck, the lowermost drain and all outlets of such vehicles should be closely examined for leakage, and if necessary, tightened, adjusted, or replaced to prevent liquid leakage while in transit.

(5) *Oil production facilities (onshore)*—(i) *Definition.* An onshore production facility may include all wells, flowlines, separation equipment, storage facilities, gathering lines, and auxiliary non-transportation-related equipment and facilities in a single geographical oil or gas field operated by a single operator.

(ii) *Oil production facility (onshore) drainage.* (A) At tank batteries and central treating stations where an accidental discharge of oil would have a reasonable possibility of reaching navigable waters, the dikes or equivalent required under § 112.7(c)(1) should have drains closed and sealed at all times except when rainwater is being drained. Prior to drainage, the diked area should be inspected as provided in paragraphs (e)(2)(iii) (B), (C), and (D) of this section. Accumulated oil on the rainwater should be picked up and returned to storage or disposed of in accordance with approved methods.

(B) Field drainage ditches, road ditches, and oil traps, sumps or skimmers, if such exist, should be inspected at regularly scheduled intervals for accumulation of oil that may have escaped from small leaks. Any such accumulations should be removed.

(iii) *Oil production facility (onshore) bulk storage tanks.* (A) No tank should be used for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage.

(B) All tank battery and central treating plant installations should be provided with a secondary means of containment for the entire contents of the largest single tank if feasible, or alternate systems such as those outlined in § 112.7(c)(1). Drainage from undiked areas should be safely confined in a catchment basin or holding pond.

(C) All tanks containing oil should be visually examined by a competent person for condition and need for maintenance on a scheduled periodic basis. Such examination should include the foundation and supports of tanks that are above the surface of the ground.

(D) New and old tank battery installations should, as far as practical, be fail-safe engineered or updated into a fail-safe engineered installation to prevent spills. Consideration should be given to one or more of the following:

(*1*) Adequate tank capacity to assure that a tank will not overfill should a pumper/gauger be delayed in making his regular rounds.

(*2*) Overflow equalizing lines between tanks so that a full tank can overflow to an adjacent tank.

(*3*) Adequate vacuum protection to prevent tank collapse during a pipeline run.

(*4*) High level sensors to generate and transmit an alarm signal to the computer where facilities are a part of a computer production control system.

(iv) *Facility transfer operations, oil production facility (onshore).* (A) All above ground valves and pipelines should be examined periodically on a scheduled basis for general condition of items such as flange joints, valve glands and bodies, drip pans, pipeline supports, pumping well polish rod stuffing boxes, bleeder and gauge valves.

(B) Salt water (oil field brine) disposal facilities should be exained often, particularly following a sudden change in atmospheric temperature to detect possible system upsets that could cause an oil discharge.

(C) Production facilities should have a program of flowline maintenance to prevent spills from this source. The program should include periodic examinations, corrosion protection, flowline replacement, and adequate records, as appropriate, for the individual facility.

(6) *Oil drilling and workover facilities (onshore).* (i) Mobile drilling or workover equipment should be positioned or located so as to prevent spilled oil from reaching navigable waters.

(ii) Depending on the location, catchment basins or diversion structures may be necessary to intercept and contain spills of fuel, crude oil, or oily drilling fluids.

(iii) Before drilling below any casing string or during workover operations, a blowout prevention (BOP) assembly and well control system should be installed that is [redacted]ontrolli[redacted] any well head [redacted]...is expec[redacted] ed to be encount[redacted]...le that BO[redacted] assembly is on the ...ell. Casing a[redacted] BOP installations should be in accor[redacted] ance with State regulatory agency r[redacted] quirements.

(7) *Oil drilling, production, or wor[redacted] over facilities (offshore).* (i) Definitio[redacted] "An oil drilling, production or wo[redacted] kover facility (offshore)" may includ[redacted] all drilling or workover equipmen[redacted] wells, flowlines, gathering lines, pla[redacted] forms, and auxiliary nontransport[redacted] tion-related equipment and facilitie[redacted] in a single geographical oil or gas fie[redacted] operated by a single operator.

(ii) Oil drainage collection equip[redacted] ment should be used to prevent an[redacted] control small oil spillage aroun[redacted] pumps, glands, valves, flanges, expan[redacted] sion joints, hoses, drain lines, separa[redacted] tors, treaters, tanks, and allied equip[redacted] ment. Drains on the facility should b[redacted] controlled and directed toward a cen[redacted] tral collection sump or equivalent co[redacted] lection system sufficient to preven[redacted] discharges of oil into the navigabl[redacted] waters of the United States. Wher[redacted] drains and sumps are not practicabl[redacted] oil contained in collection equipmen[redacted] should be removed as often as neces[redacted] sary to prevent overflow.

(iii) For facilities employing a sump[redacted] system, sump and drains should b[redacted] adequately sized and a spare pump o[redacted] equivalent method should be available to remove liquid from the sump and assure that oil does not escape. A regular scheduled preventive maintenance inspection and testing program should be employed to assure reliable operation of the liquid removal system and pump start-up device. Redundant automatic sump pumps and control devices may be required on some installations.

(iv) In areas where separators and treaters are equipped with dump valves whose predominant mode of failure is in the closed position and pollution risk is high, the facility should be specially equipped to prevent the escape of oil. This could be accomplished by extending the flare line to a diked area if the separator is near shore, equipping it with a high liquid level sensor that will automatically shut-in wells producing to th-

separ[illegible]llel redundant dump valves [illegible] feasible alternatives to preven[illegible]charges.

(v) At[illegible]ospheric storage or surge tanks should be equipped with high liquid level sensing devices or other acceptable alternatives to prevent oil discharges.

(vi) Pressure tanks should be equipped with high and low pressure sensing devices to activate an alarm and/or control the flow or other acceptable alternatives to prevent oil discharges.

(vii) Tanks should be equipped with suitable corrosion protection.

(viii) A written procedure for inspecting and testing pollution prevention equipment and systems should be prepared and maintained at the facility. Such procedures should be included as part of the SPCC Plan.

(ix) Testing and inspection of the pollution prevention equipment and systems at the facility should be conducted by the owner or operator on a scheduled periodic basis commensurate with the complexity, conditions and circumstances of the facility or other appropriate regulations.

(x) Surface and subsurface well shut-in valves and devices in use at the facility should be sufficiently described to determine method of activation or control, e.g., pressure differential, change in fluid or flow conditions, combination of pressure and flow, manual or remote control mechanisms. Detailed records for each well, while not necessarily part of the plan should be kept by the owner or operator.

(xi) Before drilling below any casing string, and during workover operations a blowout preventer (BOP) assembly and well control system should be installed that is capable of controlling any well-head pressure that is expected to be encountered while that BOP assembly is on the well. Casing and BOP installations should be in accordance with State regulatory agency requirements.

(xii) Extraordinary well control measures should be provided should emergency conditions, including fire, loss of control and other abnormal conditions, occur. The degree of control system redundancy should vary with hazard exposure and pro[illegible] consequences of failure. It is re[illegible] mended that surface shut-in systems have redundant or "fail close" valving. Subsurface safety valves may not be needed in producing wells that will not flow but should be installed as required by applicable State regulations.

(xiii) In order that there will be no misunderstanding of joint and separate duties and obligations to perform work in a safe and pollution free manner, written instructions should be prepared by the owner or operator for contractors and subcontractors to follow whenever contract activities include servicing a well or systems appurtenant to a well or pressure vessel. Such instructions and procedures should be maintained at the offshore production facility. Under certain circumstances and conditions such contractor activities may require the presence at the facility of an authorized representative of the owner or operator who would intervene when necessary to prevent a spill event.

(xiv) All manifolds (headers) should be equipped with check valves on individual flowlines.

(xv) If the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves associated with that individual flowline, the flowline should be equipped with a high pressure sensing device and shut-in valve at the wellhead unless provided with a pressure relief system to prevent over pressuring.

(xvi) All pipelines appurtenant to the facility should be protected from corrosion. Methods used, such as protective coatings or cathodic protection, should be discussed.

(xvii) Sub-marine pipelines appurtenant to the facility should be adequately protected against environmental stresses and other activities such as fishing operations.

(xviii) Sub-marine pipelines appurtenant to the facility should be in good operating condition at all times and inspected on a scheduled periodic basis for failures. Such inspections should be documented and maintained at the facility.

(8) *Inspections and records.* Inspections required by this part should be in accordance with written procedures developed for the facility by the owner or operator. These written procedures and a record of the inspections, signed by the appropriate supervisor or inspector, should be made part of the SPCC Plan and maintained for a period of three years.

(9) *Security (excluding oil production facilities).* (i) All plants handling, processing, and storing oil should be fully fenced, and entrance gates should be locked and/or guarded when the plant is not in production or is unattended.

(ii) The master flow and drain valves and any other valves that will permit direct outward flow of the tank's content to the surface should be securely locked in the closed position when in non-operating or non-standby status.

(iii) The starter control on all oil pumps should be locked in the "off" position or located at a site accessible only to authorized personnel when the pumps are in a non-operating or non-standby status.

(iv) The loading/unloading connections of oil pipelines should be securely capped or blank-flanged when not in service or standby service for an extended time. This security practice should also apply to pipelines that are emptied of liquid content either by draining or by inert gas pressure.

(v) Facility lighting should be commensurate with the type and location of the facility. Consideration should be given to: (A) Discovery of spills occurring during hours of darkness, both by operating personnel, if present, and by non-operating personnel (the general public, local police, etc.) and (B) prevention of spills occurring through acts of vandalism.

(10) *Personnel, training and spill prevention procedures.* (i) Owners or operators are responsible for properly instructing their personnel in the operation and maintenance of equipment to prevent the discharges of oil and applicable pollution control laws, rules and regulations.

(ii) Each applicable facility should have a designated person who is accountable for oil spill prevention and who reports to line management.

(iii) Owners or operators should schedule and conduct spill prevention briefings for thei[illegible]ng personne[illegible] at intervals freq[illegible]ugh to assur[illegible] adequate understand[illegible]g of the SPC[illegible] Plan for that facility. Such briefing[illegible] should highlight and describe know[illegible] spill events or failures, malfunctionin[illegible] components, and recently develope[illegible] precautionary measures.

Appendix—Memorandum of Unde[illegible] standing Between the Secretary o[illegible] Transportation and the Adminis[illegible] trator of the Environmental Pro[illegible] tection Agency

Section II—Definitions

The Environmental Protection Agenc[illegible] and the Department of Transportatio[illegible] agree that for the purposes of Executiv[illegible] Order 11548, the term:

(1) "Non-transportation-related onshor[illegible] and offshore facilities" means:

(A) Fixed onshore and offshore oil wel[illegible] drilling facilities including all equipmen[illegible] and appurtenances related thereto used i[illegible] drilling operations for exploratory or deve[illegible] opment wells, but excluding any termina[illegible] facility, unit or process integrally associate[illegible] with the handling or transferring of oil i[illegible] bulk to or from a vessel.

(B) Mobile onshore and offshore oil we[illegible] drilling platforms, barges, trucks, or othe[illegible] mobile facilities including all equipment an[illegible] appurtenances related thereto when suc[illegible] mobile facilities are fixed in position for th[illegible] purpose of drilling operations for explorato[illegible] ry or development wells, but excluding an[illegible] terminal facility, unit or process integrall[illegible] associated with the handling or transferrin[illegible] of oil in bulk to or from a vessel.

(C) Fixed onshore and offshore oil pro[illegible] duction structures, platforms, derricks, and[illegible] rigs including all equipment and appurte[illegible] nances related thereto, as well as complete[illegible] wells and the wellhead separators, oil sepa[illegible] rators, and storage facilities used in the pro[illegible] duction of oil, but excluding any termina[illegible] facility, unit or process integrally associated[illegible] with the handling or transferring of oil i[illegible] bulk to or from a vessel.

(D) Mobile onshore and offshore oil pro[illegible] duction facilities including all equipment[illegible] and appurtenances related thereto as well[illegible] as completed wells and wellhead equipment[illegible] piping from wellheads to oil separators, oil[illegible] separators, and storage facilities used in the[illegible] production of oil when such mobile facilities[illegible] are fixed in position for the purpose of oil[illegible] production operations, but excluding any[illegible] terminal facility, unit or process integrally[illegible] associated with the handling or transferring[illegible] of oil in bulk to or from a vessel.

(E) ...ing facilities including all equipme... and appurtenances related thereto as well as in-plant processing units, storage units, piping, drainage systems and waste treatment units used in the refining of oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(F) Oil storage facilities including all equipment and appurtenances related thereto as well as fixed bulk plant storage, terminal oil storage facilities, consumer storage, pumps and drainage systems used in the storage of oil, but excluding inline or breakout storage tanks needed for the continuous operation of a pipeline system and any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(G) Industrial, commercial, agricultural or public facilities which use and store oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(H) Waste treatment facilities including in-plant pipelines, effluent discharge lines, and storage tanks, but excluding waste treatment facilities located on vessels and terminal storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels and associated systems used for off-loading vessels.

(I) Loading racks, transfer hoses, loading arms and other equipment which are appurtenant to a nontransportation-related facility or terminal facility and which are used to transfer oil in bulk to or from highway vehicles or railroad cars.

(J) Highway vehicles and railroad cars which are used for the transport of oil exclusively within the confines of a nontransportation-related facility and which are not intended to transport oil in interstate or intrastate commerce.

(K) Pipeline systems which are used for the transport of oil exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce, but excluding pipeline systems used to transfer oil in bulk to or from a vessel.

(2) "Transportation-related onshore and offshore facilities" means:

(A) Onshore and offshore terminal facilities including transfer hoses, loading arms and other equipment and appurtenances used for the purpose of handling or transferring oil in bulk to or from a vessel as well as storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels, but excluding terminal waste treatment facilities and terminal oil storage facilities.

(B) Transfer hoses, loading arms and other equipment appurtenant to a nontransportation-related facility which is used to transfer oil in bulk to or from a vessel.

(C) Interstate and intrastate onshore and offshore pipeline systems including pumps and appurtenances related thereto as well as in-line or breakout storage tanks needed for the continuous operation of a pipeline system, and pipelines from onshore and offshore oil production facilities, but excluding onshore and offshore piping from wellheads to oil separators and pipelines which are used for the transport of oil exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce or to transfer oil in bulk to or from a vessel.

(D) Highway vehicles and railroad cars which are used for the transport of oil in interstate or intrastate commerce and the equipment and appurtenances related thereto, and equipment used for the fueling of locomotive units, as well as the rights-of-way on which they operate. Excluded are highway vehicles and railroad cars and motive power used exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended for use in interstate or intrastate commerce.

PART 113—LIABILITY LIMITS FOR SMALL ONSHORE STORAGE FACILITIES

Subpart A—Oil Storage Facilities

Sec.

AUTHORITY: Sec. 311(f)(2), 86 Stat. 867 (33 U.S.C. 1251 (1972)).

SOURCE: 38 FR 25440, Sept. 13, 1973, unless otherwise noted.

Subpart A—Oil Storage Facilities

§ 113.1 Purpose.

This subpart establishes size classifications and associated liability limits for small onshore oil storage facilities with fixed capacity of 1,000 barrels or less.

§ 113.2 Applicability.

This subpart applies to all onshore oil storage facilities with fixed capacity of 1,000 barrels or less. When a discharge to the waters of the United States occurs from such facilities and when removal of said discharge is performed by the United States Government pursuant to the provisions of subsection 311(c)(1) of the Act, the liability of the owner or operator and the facility will be limited to the amounts specified in § 113.4.

§ 113.3 Definitions.

As used in this subpart, the following terms shall have the meanings indicated below:

(a) "Aboveground" storage facility means a tank or other container, the bottom of which is on a plane not more than 6 inches below the surrounding surface.

(b) "Act" means the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1151, et seq.

(c) "Barrel" means 42 United States gallons at 60 degrees Fahrenheit.

(d) "Belowground" storage facility means a tank or other container located other than as defined as "Aboveground".

(e) "Discharge" includes, but is not limited to any spilling, leaking, pumping, pouring, emitting, emptying or dumping.

(f) "Onshore Oil Storage Facility" means any facility (excluding motor vehicles and rolling stock) of any kind located in, on, or under, any land within the United States, other than submerged land.

(g) "On-Scene Coordinator" is the single Federal representative designated pursuant to the National Oil and Hazardous Substances Pollution Contingency Plan and identified in approved Regional Oil and Hazardous Substances Pollution Contingency Plans.

(h) "Oil" means oil of any kind or in any form, including but no limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

(i) "Remove" or "removal" means the removal of the oil from the water and shorelines or the taking of such other actions as the Federal On-Scene Coordinator may determine to be necessary to minimize or mitigate damage to the public health or welfare, including but not limited to, fish, shellfish, wildlife, and public and private property, shorelines, and beaches.

Additionally, the terms not otherwise defined herein shall have the meanings assigned them by section 311(a) of the Act.

§ 113.4 Size classes and associated liability limits for fixed onshore oil storage facilities, 1,000 barrels or less capacity.

Unless the United States can show that oil was discharged as a result of willful negligence or willful misconduct within the privity and knowledge of the owner or operator, the following limits of liability are established for fixed onshore facilities in the classes specified:

(a) Aboveground storage.

Size class	Capacity (barrels)	Limit (dollars)
I	Up to 10	4 000
II	11 to 170	50 000
III	171 to 500	150 000
IV	501 to 1,000	200 000

(b) Belowground storage.

Size class	Capacity (barrels)	Limit (dollars)
I	Up to 10	5 200
II	11 to 170	78 000
III	171 to 500	195 000
IV	501 to 1,000	260 000

§ 113.5 Exclusions.

This subpart does not apply to:

(a) Those facilities whose average daily oil throughout is more than their fixed oil storage capacity.

(b) Vehicles and rolling stock.

§ 113.6 Effect on other laws.

Nothing herein shall be construed to limit the liability of any facility under State or local law or under any Federal law other than section 311 of the Act, nor shall the liability of any facility for any charges or damages under State or local law reduce its liability to the Federal Government under section

Appendix B

Oil Spill Contingency Plan

Oil Spill
Contingency Plan

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Oil Spill Contingency Plan

I. Purpose

Navajo has established guidelines for the orderly handling and reporting of emergency situations which may occur or could foreseeably develop. The plan is designed to minimize hazards to human health or the environment from oil spills, fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water. The provisions of this plan will be carried out immediately whenever there is a fire, explosion or release of oil, hazardous waste or hazardous waste constituents which could threaten human health or the environment.

II. Basic Considerations

A major emergency is defined as any spill, explosion, fire, material release or natural disaster (hurricane, tornado, flood, etc.) which has or threatens to destroy plant property, impair plant operations or result in a discharge of waste materials into the environment and is beyond the capability of on-duty personnel to control. A major emergency may originate from on-plant activity such as spills, fires, explosions, contractor work, chemical reaction, chemical release, etc., or off-plant activity such as an aircraft crash on plant property, fire from neighboring property, or natural disaster. A major emergency may occur at any time. For this reason, pre-planned drills are conducted periodically for each shift so that personnel are thoroughly familiar with the procedures involved. The first consideration must always be the protection and sustaining of human life. Consequently, evacuating injured from the emergency zone to a safe area and securing medical treatment must always be a priority action. The same high priority must be given to protecting occupants in the areas surrounding the plant if any emergency occurs onsite which would threaten them.

III. Coordination with Local Authorities

A. Arrangements

Navajo has made appropriate arrangements with local authorities considering the type of wastes handled and the potential need for services. Copies of the contingency plan have been distributed to the Artesia Police Department, Volunteer Fire Department, and General Hospital. The Navajo emergency response team and Artesia police and fire departments are familiar with the layout of the Navajo facilities, the locations of areas within the plant where personnel normally work, the location of plant entrances and internal access roads and possible evacuation routes. Navajo shares a common radio frequency with the police and fire departments. The police and fire departments having primary emergency response roles and those offering support services include the following:

Local Authorities	Primary Responsibility	Support Services
Police Departments	State Police 746-6113	City of Artesia 746-2704 Eddy County Sheriff 887-7551
Fire Departments	Artesia Volunteer 746-9562	
Emergency Response	National Response Center (800)424-8802	Red Cross 746-2252 NMEID, Hazardous Waste Hotline 827-9329

The State Police, the National Response Center and the New Mexico Environmental Improvement Division are familiar with general properties of hazardous wastes. The knowledge gained through their training programs together with Navajo's knowledge of the properties of oily refinery wastes should provide the information necessary to make informed decisions regarding the nature and associated hazards of waste materials.

Artesia General Hospital may provide emergency medical treatment. Navajo has made arrangments with the hospital to familarize them with the properties of hazardous wastes handled onsite and the types of injuries which would result from energency situations, such as fires or explosions.

B. Evacuation Plan

An evauation plan has been developed for the Navajo Refinery to effect safe and efficient removal of all onsite personnel from the facility. This plan consists of detailed procedures which will be implemented when, based on the observations of the Emergency Coordinator, evacuation is necessary to prevent undue exposure of personnel to hazardous or potentially hazardous circumstances. Such established procedures will be followed as closely as possible, however in specific emergency situations, the Emergency Coordinator may deviate from these procedures to provide a more effective plan for bringing the situation under control. The emergency plan is provided in Attachment A.

The planned routes for evacuation and emergency vehicles are shown in Figure I. Sufficient aisle space is maintained at the refinery to allow unobstructed movement of personnel, fire protection equipment and decontamination equipment to any area of the Navajo Plant.

IV. Emergency Organization

The personnel assigned to emergency staff positions have been identified by job description. A primary and at least one alternate coordinator for each function have been assigned as shown in Table I. Emergency coordinators have the ultimate responsibility to implement the contingency plan. Designated emergency coordinators are qualified and competent Navajo employees who are familiar with the Navajo facility operations, waste handling and management practices, locations of waste treatment, storage and disposal areas and recordkeeping requirements. Furthermore,

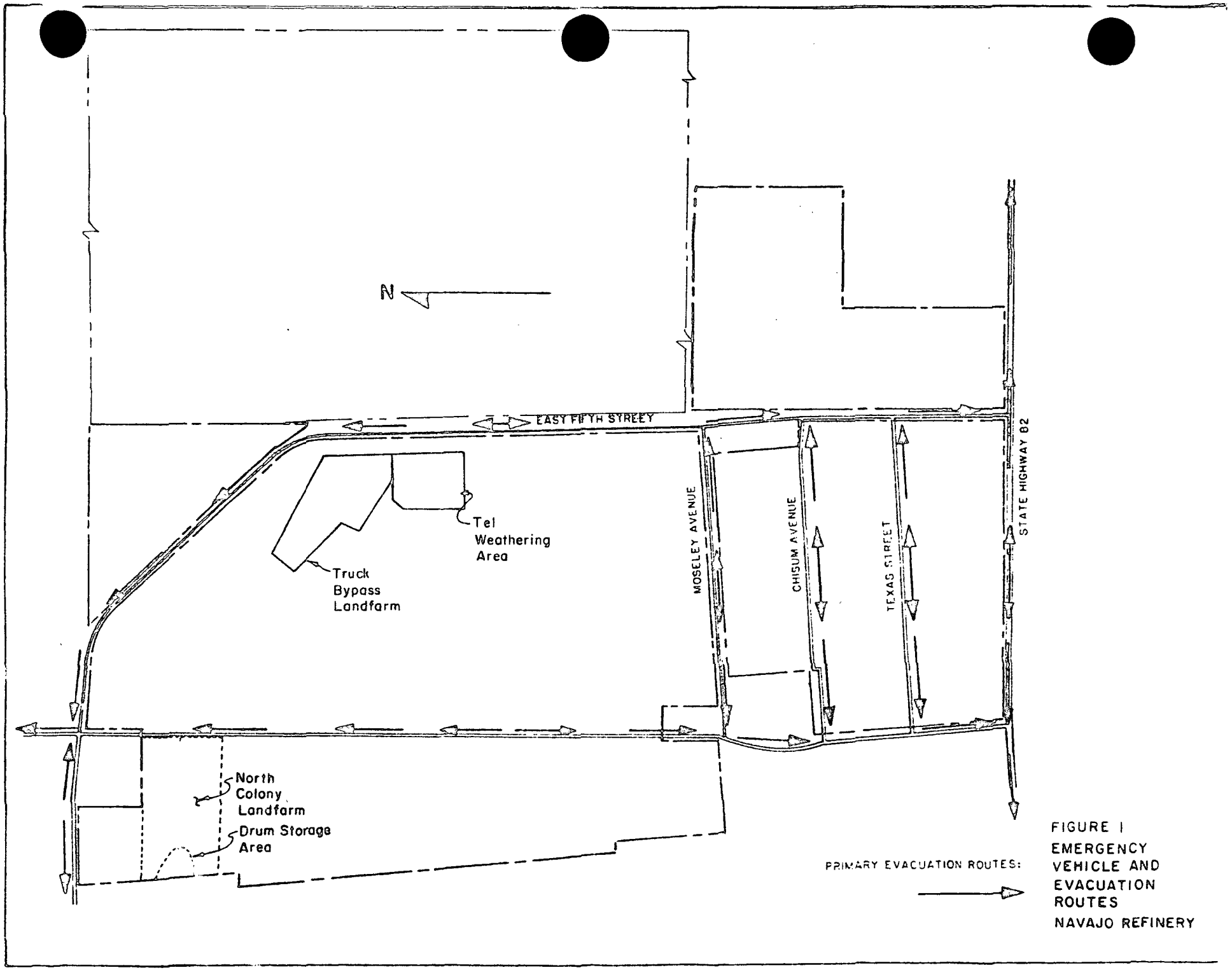


FIGURE 1
EMERGENCY VEHICLE AND EVACUATION ROUTES
NAVAJO REFINERY

Table I

Emergency Organization Staffing

Emergency Coordinator

Primary	Alternate
Dewey Stevenson Vice President of Refinery 2310 Cerro Road Artesia, New Mexico 88210 (504) 748-3526	Matt Clifton Manager of Economics & Engineering 1608 West Dallas Avenue Artesia, New Mexico 88210 (505) 746-2533

North Emergency Supervisor

Primary	Alternate
Clarence Juarez North Division Foreman Route 1, Box 196F Artesia, New Mexico 88210 (505) 748-3163	Don Geddes Operations Superintendent 2720 West Menefee Artesia, New Mexico 88210 (505) 746-9013

South Emergency Supervisor

Primary	Alternate
James Bradley South Division Foreman Route 1, Box 202 H Artesia, New Mexico 88210 (505) 746-4759	John Laurent Assistant Process Superintendent 1819 West Sears Avenue Artesia, New Mexico 88210 (505) 748-2830

persons designated as emergency coordinators have the authority to commit the resources necessary to implement the contingency plan.

A. General Responsibilities of Emergency Staff

1. Emergency Coordinator

The Emergency Coordinator organizes, coordinates and directs all emergency control activities prior to, during and after an emergency until relatively normal conditions are restored. He is usually stationed at a central location where he maintains control and coordinates activities between groups.

2. North Emergency Supervisor

The North Emergency Supervisor is responsible for coordinating all emergency response activities in the north division of the refinery. If an emergency situation arises in the north division of the plant, he is responsible for supervising fire fighting, rescue activities, plant security, operation of the communications and alarm systems, detection and assessment of special chemical hazards, and decontamination of personnel and equipment, if required. The primary North Emergency Supervisor is the North Division foreman.

3. South Emergency Supervisor

The South Emergency Supervisor is responsible for coordinating all emergency response activities in the south division of the refinery. If an emergency situation arises in the south division of the plant, he is responsible for supervising fire fighting, rescue activities, plant security, operation of the communications and alarm systems, detection and assessment of special chemical hazards and decontamination of personnel and equipment, if required. The primary South Emergency Supervisor is the South Division foreman.

B. Specific Responsibilities of Emergency Coordinator

Whenever there is an imminent or actual emergency situation, the Emergency Coordinator (or his designee when the Emergency Coordinator is on call) is responsible

for ensuring that internal facility alarms or communication systems are activated to notify facility personnel of the emergency, and appropriate State and/or local agencies with designated response roles are notified if their help is needed. If there is a release, fire, or explosion, the Emergency Coordinator will immediately identify the character, source, amount, and areal extent of any released materials. He will do this by visual observation, a review of the waste characterization depth and known chemical properties. The Emergency Coordinator will also assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment will consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat induced explosions).

If the Emergency Coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment outside the facility, he will report his findings as follows. If it is determined that evacuation of local areas may be advisable, he will notify the Artesia Police Department (746-2404) and be available to help appropriate officials decide whether local areas should be evacuated. Second, he will provide the State Police (746-6113), the National Response Center ((800)424-8802), and New Mexico Environmental Improvement Division (Hazardous Waste Hotline (827-9329)) with the following information:

1. His name and telephone number;
2. Identify the Navajo facility at 501 East Main Street, Artesia;
3. State the time and type of incident (e.g., release, fire);
4. Identify the type and quantity of material(s) involved, to the extent known;
5. Specify the extent of injuries, if any; and
6. Identify the possible hazards to human health or the environment outside the facility.

During an emergency, the Emergency Coordinator will take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur,

or spread to other hazardous waste at the facility. These measures include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers. If the facility stops operations in response to a fire, explosion or release, the Emergency Coordinator will monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, as appropriate.

After an emergency, the Emergency Coordinator will make provisions for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or other material that results from a release, fire, or explosion at the facility. The Emergency Coordinator will ensure that in the affected area(s) of the facility, no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed. He will also ensure that all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed. The Emergency Coordinator will ensure the New Mexico Environmental Improvement Division Protection Agency, and appropriate local and federal authorities are notified that cleanup of hazardous wastes and residues resulting from the emergency event has been completed and the emergency equipment has been decontaminated and is ready for service before operations are resumed in the affected area(s) of the facility.

The Emergency Coordinator will document the incident in the operating record by noting the time, date, and details of the incident which required implementation of the contingency plan. A written report describing the incident will be submitted to the NMEID within 15 days after the incident. The report will include:

1. Name, address, and telephone number of the Navajo facility;
2. Date, time, and type of incident (e.g., fire, explosion);
3. Name and quantity of material(s) involved;
4. The extent of injuries, if any;

5. An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

6. Estimated quantity and disposition of recovered material that resulted from the incident.

V. Emergency Equipment

An integral part of Navajo contingency planning pertains to installation, maintenance and inspection of emergency and safety equipment. Navajo maintains a number of fire control equipment, spill control and cleanup equipment and safety/first aid stations. The locations of the emergency and safety equipment are presented in Figure 2.

A. Communications and Alarm System

An internal communication and alarm system for notification and instruction of Navajo personnel in case of emergency has been installed and is maintained in operating condition. Communications equipment consists of a plant telephone network and a two-way radio system, and is available for use on a 24-hour basis. Two-way radios are carried by the maintenance and operating personnel engaged in activities at the land treatment facilities. In an emergency, these radios are used to contact supervisory personnel who would in turn trigger the central alarm system and/or fire siren. Backup communications systems include spare two-way radios. A supply of fresh batteries is continuously maintained at the facility.

The central alarm system can be activated from the laboratory or the control rooms. Activation of the central alarm system sounds an alarm in the control rooms and office building. A fire siren which is audible throughout the refinery and adjacent area can be activated from the laboratory or Thermafor catalytic cracking unit, fluid catalytic cracking unit, and alkylation/crude control rooms. Navajo personnel have been trained to initiate specific emergency response activities according to the type of alarm signal sounded.

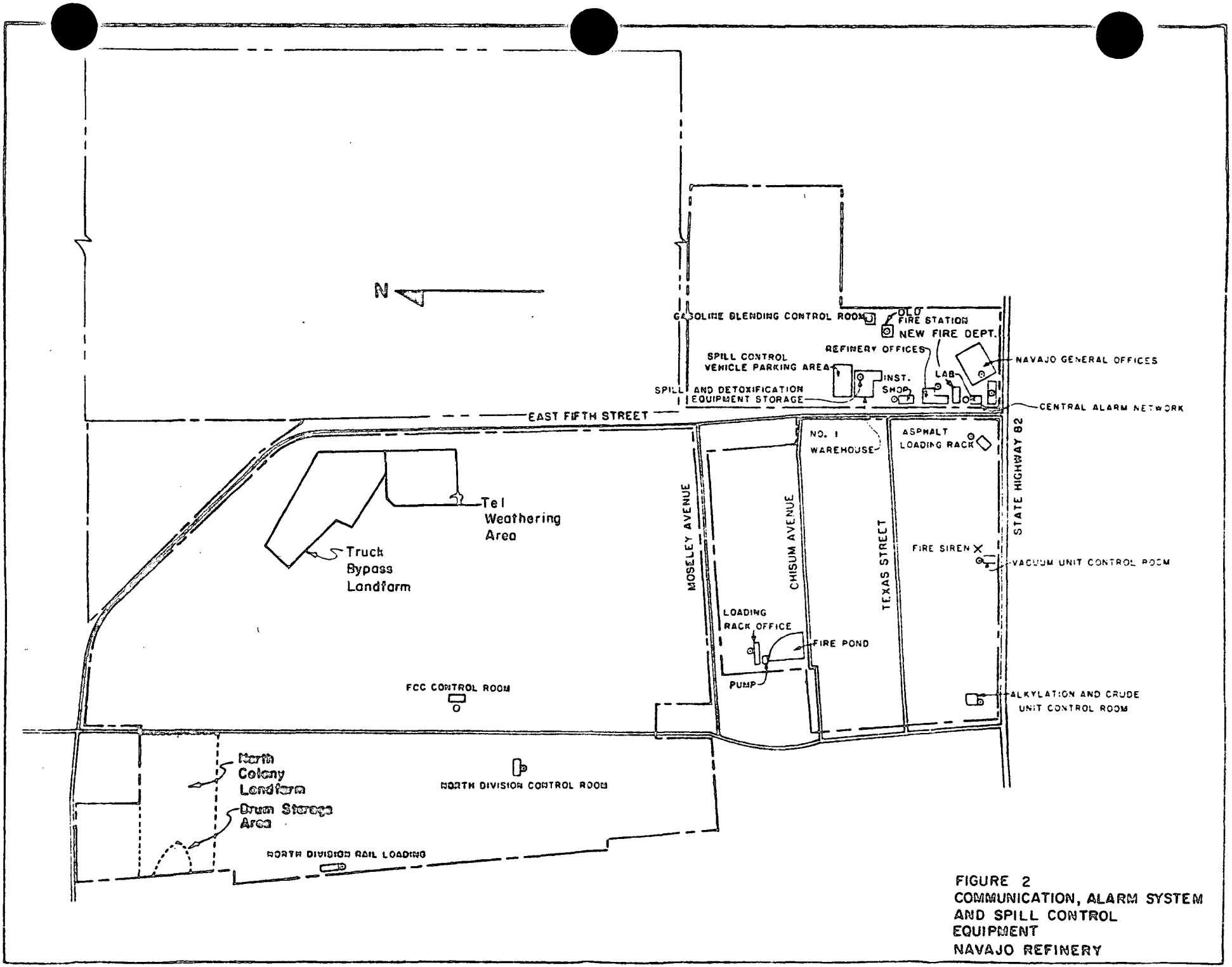


FIGURE 2
COMMUNICATION, ALARM SYSTEM
AND SPILL CONTROL
EQUIPMENT
NAVAJO REFINERY

B. Fire and Explosion Response Equipment

Navajo maintains a variety of fire and explosion emergency response equipment onsite to respond effectively to emergency situations. Three fire trucks are housed at the Navajo plant fire station located north of the general offices. The fire trucks are kept ready for use, and trained Navajo personnel are available to operate these vehicles on a 24-hour basis. There is a 1952 model International with a 500 gpm pumping capacity, a 1980 model Ford with a 250 gpm pumping capacity, and a 1987 National Foam truck with a pumping capacity of 1250 gpm.

The refinery fire water system can supply up to 8,000 gpm from two fire water ponds at a delivery pressure of 100-150 psi. A diesel driven pump is utilized to deliver water to the fire water system. This pump is equipped with an automatic start system tied into the alarm system. Navajo also has other pumps available for service in emergency situations. Fireplugs and fire monitors are located throughout the refinery, close to each tank or process unit. The fire monitors consist of an aboveground framework with nozzles which can deliver water in any direction. Additional fire protection materials and equipment are available at numerous locations throughout the refinery. A list of the locations of these materials and equipment, including protective suits, hoses, fire retardant chemicals, foam generators, pumps, and other miscellaneous equipment is included in Table 2.

C. Spill Control Equipment

Navajo maintains a variety of equipment which can be used to control and contain of hazardous waste spills which may occur onsite. The spill response equipment is primarily located at the Number 1 Warehouse where it is readily accessible in the event of a spill. Equipment used to control and contain spills include commercial absorbent materials, a vacuum truck, a lugger bucket truck, several pick-up trucks, pneumatic, steam and electric pumps, hand tools (i.e., shovels, wipers, brooms, etc.) and protective gear such as suits, boots, gloves, face shields and respiratory protection equipment.

Table 2

Fire/Explosion Emergency Response Equipment

Location	Item
Main Fire Station	1 fire pumper truck hose 1 foam generator foam supply dry chemical powder supply nitrogen bottle supply aluminized fire suits compressed air bottles 1 Scott air pack
Number 1 Fire Station	steam fire water pump 2 hose carts 1 350# dry chemical unit 1 150# dry chemical unit 1 CO_2 extinguisher 2 foam generators 85 buckets foam 2½" hose on reel 1½" hose on reel and nozzles
Number 2 Fire Station	1 foam generator hose cart with 2½" hose on reel nozzles buckets of foam
Number 3 Fire Station	1 foam generator hose joints hose nozzle
TCC Control Room West	1 350# dry chemical unit 1 150# dry chemical unit
Propane Rack	3 CO_2 extinguishers
Key Stop Loading Rack	four-wheel trailer 2 350# dry chemical units fire hose fire nozzles several 30# chemical extinguishers
Merox Unit	2 150# dry chemical units
TCC/Crude Cooling Towers	electric firewater pump
Number 2 Warehouse	two-wheeled trailer 1 hydraulic foam tower

Table 2

Fire/Explosion Emergency Response Equipment
(continued)

Location	Item
Bullet Tanks	1 350# dry chemical unit several CO_2 extinguishers
Tanks 114 & 115	1 350# dry chemical unit
South Tank Farm East	1 foam station foam generator hose buckets of foam
Pump House	steam firewater pump electric firewater pump foam supply 1 large bottle of nitrogen 1 stretcher
Pump House West Fire Station	1 150# dry chemical unit
Pump House West	1 foam station foam generator fire hose 25 buckets of foam
Control Room East Fire Station	1 350# dry chemical unit 350 ft fire hose on reel
LCO/Desulfurizer	1 350# dry chemical unit
Fire Station Shelter	four wheel trailer pump
Change Room North	hose cart Portable foam generator 1 hose reel 7 joints of hose

D. Inspections and Maintenance

All emergency response equipment, including communications and alarm systems, fire and explosion control equipment, spill control equipment, and decontamination equipment are inspected on a regular basis. This equipment is inspected by the Safety Department to ensure all equipment is in stock, operational, and able to effectively respond to emergency situations. Maintenance on these items is perfomed on an as needed basis based on the results of the routine inspections.

VI. Control Measures

Navajo has implemented a variety of control measures to minimize the opportunity for an emergency situation to occur. These conditions include routine inspections, monitoring, training, maintenance and strict adherence to standard operating procedures at all times. The control measures used to prevent various emergency situations and discussed briefly below.

A. Prevention of Fires and Explosions

1. Prevention of Waste Ignition

The wastes which are routinely generated and disposed of at Navajo are classified as hazardous due to the characteristic of toxicity. However, Navajo may, in isolated instances, generate and dispose of wastes which are classified as ignitable. In this situation, Navajo uses extreme care in the transportation and disposal of these wastes. Techniques used to prevent ignition of these wastes include separation and protection of these wastes from all sources of ignition, storage in sealed containers not subject to radiant heat, and separation from sources of shock or impact. During disposal activities, these wastes are applied to the land treatment plot in such a manner that the resulting waste no longer exhibits the characteristic of ignitability. These measures minimize the opportunity for fires or explosions.

2. General Fire Control Measures

Preventing and extinguishing fires is the responsibility of the Emergency Response Department under the overall direction of the Fire Chief. As part of the Navajo safety training program, persons charged with operating fire equipment during emergencies receive training in the operation and maintenance of fire protection equipment. Navajo annually sends selected employees to the Texas A & M Fire Fighting School to receive further fire fighting training. Navajo's trained and fully equipped fire fighting team also holds monthly training exercises. Additionally, Navajo and the City of Artesia are finalizing plans for a fire training area where further training of Navajo personnel and members of the Artesia Volunteer Fire Department will be given. Direct contact with outside fire fighting assistance may be made using the Emergency Call List shown in Table 3 in that there is a cooperative agreement for assistance from the Artesia Volunteer Fire Department.

As indicated on Figure 2, three fire trucks are housed at the Navajo Plant fire station located north of the General Offices. The fire trucks are kept ready for use, and trained Navajo personnel are available to operate these vehicles on a 24-hour basis. There is a 1952 model International with a 500 gpm pumping capacity, a 1980 model Ford with with a 250 gpm pumping capacity and a 1987 National Foam truck with 1250 gpm pumping capacity.

The locations of fire loops and fireplugs in the vicinity of the landfarms are shown on Figure 2. The fire water system can supply up to 8,000 gpm from the fire pond at a delivery pressure of 100-150 psi. A diesel driven pump is utilized to deliver water to the fire water system. This pump is equipped with an automatic start system tied into the Navajo alarm system. Navajo also has other pumps available for service in emergency situations. Fireplugs and fire monitors are located throughout the refinery, close to each tank or process unit. The fire monitors consist of an aboveground framework with nozzles which can deliver water in any direction. Additional fire protection materials and equipment are available at numerous locations throughout the plant.

Table 3

Emergency Call List

National Response Center	(800)424-8802
Ambulance	748-1011
Civil Defense	746-2704
Fire Department	746-2701
Southwestern Public Service	746-9805
Hospital - Artesia General	748-3333
New Mexico Environmental Improvement Division	827-9329
Mayor - City Offices	746-2122
Police (City of Artesia)	746-2404
Red Cross	746-2252
State Police	746-6113
Sheriff (Eddy County)	887-7551
Weather Service	646-2642
Environmental Protection Agency	214-655-6444
EPA Emergency Response Number (24 Hour)	214-655-2222
US Coast Guard 8th District (New Orleans)	504-527-6296

The dependable operation of all fire fighting equipment is assured by a system of audits and checks. Navajo maintains operating instructions and inspection logs for the fire prevention and extinguishing systems.

B. Prevention of Hazardous Waste Releases

1. Prevention of Sudden Releases

The greatest potential for a sudden hazardous waste release occurs when waste material is removed from the point of generation and transported to the waste management area. For this reason, specific operational protocol have been established to minimize the opportunity for waste spillage. The waste is removed from the point of generation and transported to the disposal site with a vacuum truck or lugger bucket. Prior to initiating any waste removal operation, the vehicle is thoroughly inspected and the safe and proper operation of the vacuum system and tank is confirmed by testing. The truck is then parked in the designated area and removal waste from the point of generation is begun. The operator remains with the vehicle at all times during the transfer operation and provides continual supervision, thereby reducing the chance of an accidental spill. Once the truck is loaded, the transfer operation is terminated and all drains and connections are inspected to prevent leakage while in transit. The material is transported along a designated transport route to the waste management area, where it is applied to the landfarm.

2. Prevention of Non-sudden Releases

Prevention of non-sudden hazardous waste releases is a key aspect of Navajo's land treatment program. Navajo routinely conducts inspections of the active landfarm plots to ensure they are operating efficiently and effectively. Any unusual odors, moisture conditions or hot spots are immediately reported to the Emergency Coordinator so the appropriate response options can be taken. Further, Navajo's unsaturated zone monitoring program and groundwater monitoring and detection program ensure that any release of hazardous constituents will be detected in a timely manner and the appropriate response action initiated.

C. Prevention of Oil Spills

The design and operation of the refinery, as outlined in the Spill Prevention Control and Countermeasure Plan are geared to prevent oil spills from occurring. Spill prevention includes design components (diked tank farms, curbed process areas, etc.) and maintenance components (ultrasonic tank shell thickness measurements, testing, etc.) Other critical items are safety awareness and personnel training.

Navajo has developed various emergency response procedures to react to emergencies. The specific response activities differ according to the types of emergency situations which could arise.

D. Oil Spill Response Activities

Actions to control, contain, remove, and clean-up oil spills are to begin when an oil spill is observed. Different courses of action are required depending on the location or source of the spill.

1. Spillage in a Fully Diked or Curbed Area

The individual discovering the spill should notify his immediate supervisor. The first Navajo employee on the scene will assess the size of the spill and attempt to halt any further spillage. If the conditions warrant, the Supervisor will arrange for a vacuum truck or similar recovery device to clean-up the spill. The oil will be removed from the diked area, as quickly as possible, e.g., by putting the suction hose of the vacuum pump directly into the dike area. Clean-up will be continued until all of the oil has been removed. If oil escapes the diked area, the plan for controlling spills in undiked areas will be implemented.

2. Spillage in Undiked or Uncurbed Area

The Refinery Manager or Pipeline Manager will obtain men and equipment from the Refinery to control and clean-up the oil spill. The spread of the oil will be controlled by constructing make-shift dikes of dirt and/or hay (stray). If risk of fire exists, the Refinery Manager or Pipeline Manager will notify local fire and police

departments. Hay will be spread in the area to absorb patches of oil on the ground. If oil contained in the make-shift dikes is of sufficient quantity, the Refinery Manager or Pipeline Manager will arrange for a vacuum truck or similar recovery device to clean-up the oil. The pools of oil will be removed by using the suction hose of the vacuum equipment. Clean-up of the area will continue by using the vacuum equipment or sorbent material such as hay until all of the oil has been removed. Other sources of manpower and equipment will be deployed at the discretion of the Refinery Manager or Pipeline Manager. If oil escapes into navigable waters or a tributary of navigable waters, the following plan for controlling spills in navigable waters will be implemented.

3. Spillage into Navigable Waters or Tributaries

The individual discovering the spill should immediately notify the Refinery Manager or Pipeline Manager. The first Navajo representative will assess the size of the spill and attempt to halt any further spillage by any means available. The Refinery Manager or Pipeline Manager will dispatch men and equipment from the Refinery to assist in the spill control and clean-up operations. Depending on the nature and extent of the spill, the Refinery Manager or Pipeline Manager will arrange for other equipment and manpower from outside service contractors. The spread of oil will be controlled by deploying oil booms and/or mops in the waterway to contain or divert the oil for collection. The Refinery Manager or Pipeline Manager will notify appropriate Federal, State and local agencies as required. Oil collected in the booms will be removed from the water surface by vacuum equipment or similar skimming device. The recovered oil will be trucked away for proper disposal. Clean-up activity will continue until all of the oil has been removed.

4. Manpower and Equipment

If there is a need to use operating personnel, oil spill control and clean-up should take priority over other activities or operations. Ideally, to avoid manpower conflicts

between spill emergencies and normal operations, the oil spill clean-up should be assigned manpower commitments which are essentially independent of, or do not impact on, the normal activities of the facility. The minimum manpower needed during an oil spill emergency are the Refinery Manager or Pipeline Manager, and at least two refinery maintenance personnel or two pipeline maintenance personnel. Any additional manpower needs dictated by the situation will be provided.

The following equipment is available in a spill emergency.

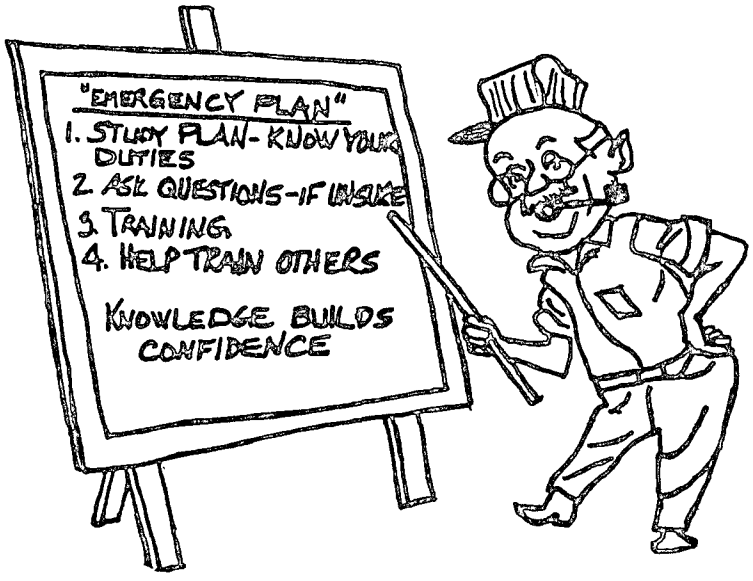
Six - Pickup trucks
One - Vacuum truck
One - Lugger Bucket Truck
Two - Electric Pumps
One - Steam Pump
Misc - bales of straw

The following equipment may be available in an emergency situation. The necessary arrangements should be made in advance to facilitate use of the equipment.

Skimmers, booms, boats	Bovaird Supply Co. Artesia (505) 746-2718

ATTACHMENT A

Emergency Plan



EMERGENCY PLAN

NAVAJO REFINING COMPANY

EMERGENCY PLAN

If an emergency such a a fire, explosion or other unforseen events occur in the refinery area, the refinery alarm will be sounded.

FIRE ALARM SYSTEM DETAILS:

(1) Boxes with a push button labeled "Fire Alarm" are located in all control rooms, gasoline and LPG loading rack, asphalt loading rack and the laboratory.

(2) The following locations have high frequency beeping tone alarms that indicate initiation of an alarm from some point listed in number (1) above.

(a) Control Rooms (including Pipeline)
(b) Gasoline & LPG Loading Rack
(c) Laboratory

(3) The main office alarm signal (tone) is chimes. The Maintenance Shop alarm signal is by Claxton type bell.

EXPLANATION OF THE INPLANT ALARM SYSTEM:

In the event of an emergency situation or fire, an employee should push the fire alarm button immediately. Pushing the alarm button at any location will sound all alarms. Lights in the Lab will indicate the location of the emergency and if the diesel fire pump is running.

NOTE: The inplant alarm system does not activate the siren alarm system.

The siren alarm system is activated by Plectron.

In only one (1) location (east inner wall of the TCC Switchgear Room), a push button labeled "continuous", can be pressed to run the siren on a continuous blast of three minutes. No alarms will sound. This is only for use by Company officers as coordinated with Community Officials. The continuous mode may also be activated via Plectron by the Artesia Fire Department, as part of the severe weather alert system.

EMERGENCY TELEPHONE SYSTEM:

In the event of a power failure, all inplant alarms work as described with the exception of the Maintenance Shop Claxton type bell, and the all zone telephone paging system. The siren alarm does not

operate during a power failure; if needed, *the boiler whistle shall be blown in sequences of three (3) short blasts until help arrives.

* NOTE: The boiler whistle is not normally a part of the Alarm System.

In the event a power failure occurs at the same time as an emergency, such that the telephones do not operate, there are ten (10) telephones equipped to call out and accept incoming calls. These phones are:

Extension	Location	Number On Which The PF Telephone Can Be Reached During a Power Failure
202	Tech Service Sec.	748-3319
204	FCC Unit	748-3317
229	No. 1 Tester	
230	Laboratory	748-3311
231	TCC Unit	748-3318
232	North Plant	748-3315
252	Alky Unit	748-3316
253	Asphalt Rack	
256	Marketing Offices	748-3312
267	Pipeline Operator	748-3314
274	Crude Oil Trucking	748-3310
277	Mechanical Offices	748-3313

COMMENTS TO ALL PERSONNEL

LOCATION OF FIREWATER MAIN:

Key map (55-184-24B) shows the location of the refinery firewater mains and the sectional valves for both the North and South Divisions.

PERSONNEL IDENTIFICATION:

Each employee will be provided with an identification tag, which is to be placed on the left front bumper of their vehicle. Please remove tags from vehicles no longer in your possession.

The refinery fire brigade members and key personnel have been issued license plates for the front of their vehicles. The Artesia Police Department and the refinery guards will allow cars with these tags to pass through blockades.

ALL PERSONNEL:

If your job description in the Emergency Plan does not require your response, do not go to scene and congest with unnecessary vehicles or personnel.

Personnel required to respond shall park vehicles remote from the scene, and insure that access ways, hydrants, and monitors are kept clear.

Vehicles are parked at the shed, south of the Blender, and north of the Maintenance Shop; except those being used by Operations. Keys to the vehicles are removed. Duplicate keys are in the Lab, in case of emergency.

NOTE: Obey traffic regulation when responding.

ON DUTY MAINTENANCE PERSONNEL:

When you hear an alarm or are notified of an emergency, secure yoru work area and proceed to the Warehouse - unless:

(a) You have been assigned other emergency plan duties.
(b) You are in an area of direct involvement, in which case you should assist with initial emergency activities unitl relieved by the Fire Brigade.

Do not call the shuttle truck for transportation.

OFF DUTY PERSONNEL:

Personnel not on shift should report to their respective work areas when an alarm sounds. If not needed at their area, they are to then report to the unassigned pool at the main Warehouse (Coordinator).

GENERAL:

W. J. GRAY IS THE ONLY ONE AUTHORIZED TO RELEASE ANY INFORMATION TO THE NEWS MEDIA, CONCERNING THE EVENTS OF ANY EMERGENCY.

Radio Station KSVP will be used during any emergency for notifying the public of the emergency situation and personnel.

Telephone calls that are not absolutely necessary, should be avoided. Example: Calling wife to tell her you are alright.

SPECIAL INSTRUCTIONS FOR LAB PERSONNEL

NIGHT - WEEKEND - HOLIDAY:

During these times it is mandatory that the #1 Tester stay in the Lab at all times.

When the alarm sounds and the #2 Tester is out of the Lab (gathering samples, etc.) the #1 Tester shall immediately assume the #2 Tester emergency assignments. He shall continue these assignments until relieved by the #2 Tester. At this time he shall proceed to the fire station and take the second pumper to the scene. The first pumper is already at the scene via the Blender B Operator.

If the #2 Tester is in the field and hears the alarm, or is notified, he shall immediately return to the Lab and relieve the #1 Tester.

#2 Tester shall remain at the phone until Switchboard Operator relieves him. The #2 Tester will monitor Channel 4 during the emergency.

In all cases during emergencies, Channel 4, which is the Maintenance channel will be used for communications. All traffic should be cleared from this chanel.

Channel No. 1 - FCC Unit
Channel No. 2 - North Division
Channel No. 3 - South Division
Channel No. 4. - Emergency (Maintenance)

NOTIFICATION PROCEDURE

DAYTIME - DURING WORK WEEK:

(1) After verification by radio, Lab personnel will dial the all zone telephone page number (701), and announce twice, "Emergency alarm light at __name__ unit."

(2) Lab personnel will then dial the first emergency group call #00 (dial 207, wait for beeps, then dial 00, wait for beeping to stop) and announce twice, "Emergency alarm light at __name__ location."

(3) Fire Chief (or alternate) will evaluate manpower required at the scene. If the full fire brigade is deemed necessary, the Fire Chief (or alternate) will contact the Communications Leader via portable radio. The Communications Leader will advise the Lab personnel to initiate the Plectron Emergency Alarm. The Maintenance and office fire brigade members are already notified, via the inplant alarm system. If the Plectron Alarm System fails the #2 Tester shall instruct the Switchboard Operator to call Roster "C", (Operational Personnel - Fire Brigade Members).

NIGHT - WEEKEND - HOLIDAY - NOON HOUR:

(1) After initiation of the inplant alarm system, the employee who sounded the alarm shall announce over the operating channel, twice, "Emergency at __name__ location."

(2) After verification by radio, Lab personnel will initiate the Plectron Alarm System as per procedure posted in Lab.

(3) Lab personnel (#2 Tester) will dial the all zone telephone page number (701) and announce twice, "Emergency alarm light at __name__ location."

(4) A 10-Man group from the fire brigade has been designated as the "First Alarm Standby Response Team". This group will be required by Shift Supervisors in the event of spills, fired heater tube failure, or other such occurrences that exhibit characteristics that may ultimately result in fire.

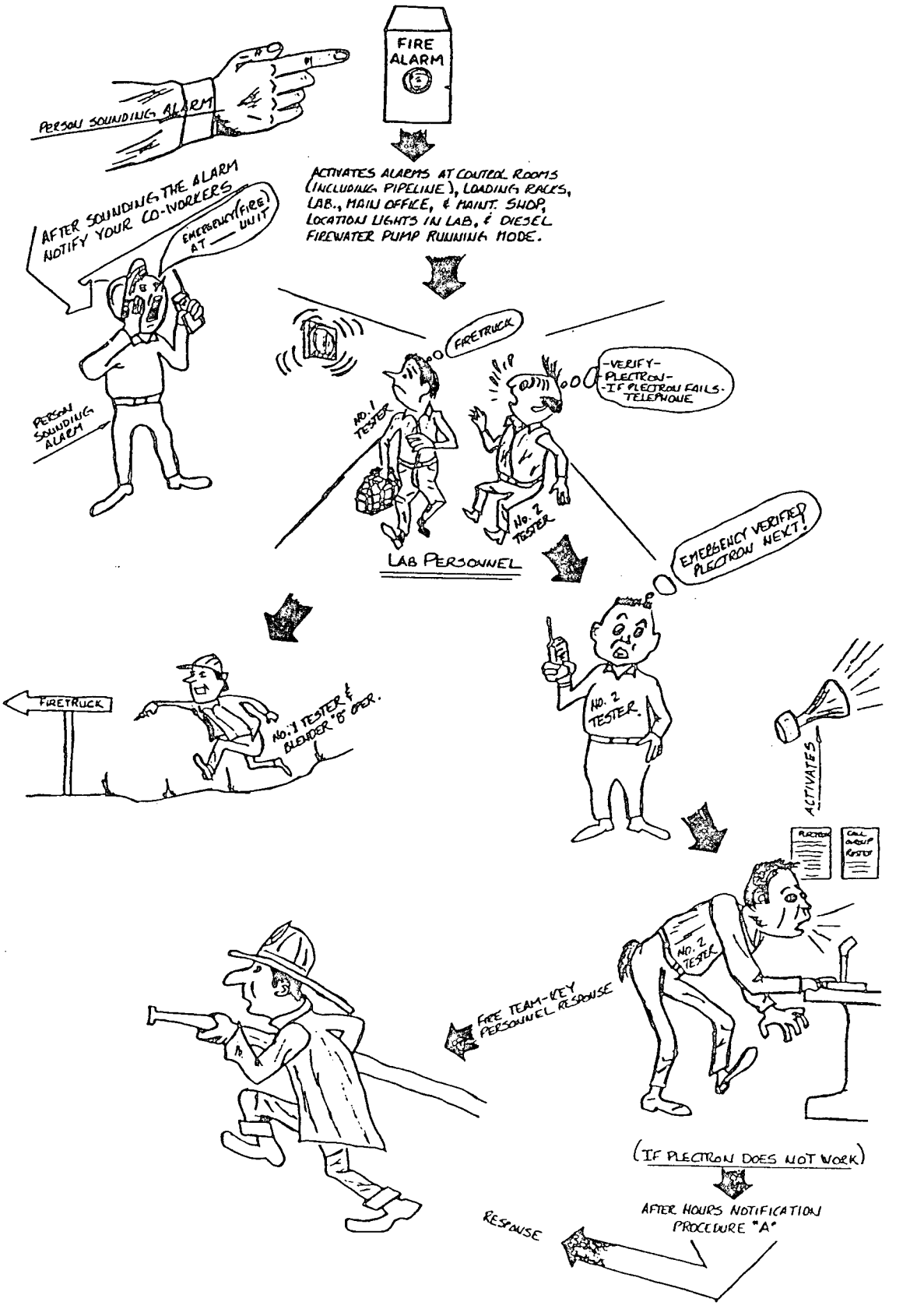
To request this group:

a. Call the Lab, (Ext. 230)
b. Ask for "First Alarm Standby Response Team"
c. Give location of incident.

The Lab will notify the team via Plectron Alarm System.

(5) If Artesia Fire Department activates Navajo's siren, in the continuous mode, the Lab personnel will activate Plectron and make the

LAB PERSONNEL



severe weather announcement. Message: Severe weather siren has been activated by the Artesia Fire Department.

(6) In event the Plectron System fails, the #2 Tester shall immediately go to "After Hours Notification - Procedure A".

NOTE: When the call to the Communications Leader or alternate is made, tell him the following:

"There is an emergency at the __name__ Unit. The Plectron System DID NOT, repeat DID NOT WORK. Initiate your telephone notification procedure."

(7) All personnel involved in initiating "After Hours Notification - Procedure A", will be provided with telephone call lists. These lists will be periodically updated by the Fire Department. This supplement is not included in this manual.

EMERGENCY PLAN - JOB DESCRIPTION

#1 TESTER & BLENDER B OPERATOR - DAY OR NIGHT:

(1) Upon notification of an emergency, and as soon as you can safely leave your operational duties, proceed to the fire station and take both fire trucks to the scene of the emergency.

(2) Transport fire brigade personnel to the emergency scene if they are in the area or are seen enroute.

(3) Fire brigade personnel may elect to take the fire trucks if they arrive at the fire station at the same time as the #1 Tester and Blender B Operator. In this case the #1 Tester and/or Blender B Operator may be released to return to their operational duties.

(4) Upon arrival at the emergency scene, park the truck at a hydrant 100' from the emergency on the upwind side, if possible.

(5) Fire brigade personnel will be responsible for the operation of the fire truck, however assist in hooking up hose lines unitl relieved by fire brigade personnel.

EMERGENCY PLAN - JOB DESCRIPTION

PROCESS SUPERINTENDENT - DAY OR NIGHT:

Mobil Radio Unit #174

(1) Report to the scene of the emergency.

(2) Evaluate the situation from an operational standpoint.

(3) Initiate appropriate action to eliminate the fuel source.

(4) Inform status to:

a. Emergency Coordinator
b. Fire Chief
c. Mechanical Superintendent
d. Product Movement Superintendent

(5) Report to Emergency Coordinator after satisfying operational status.

EMERGENCY PLAN - JOB DESCRIPTION

FIRE CHIEF - DAY OR NIGHT:

Portable Radio Number 11

(1) Report to the scene of emergency.

(2) Evaluate the situation as the fire or the potential.

(3) Initiate appropriate action for monitor streams, handline streams, and/or foam streams. Management has authorized the Fire Chief to make these decisions; Operations & Maintenance personnel shall respond as necessary.

(4) Inform status to:

a. Emergency Coordinator
b. Communications Leader
c. Process Superintendent
d. Mechanical Superintendent
e. Product Movement Superintendent (if applicable)

EMERGENCY PLAN - JOB DESCRIPTION

FIRE BRIGADE PERSONNEL:

(1) Operators on duty response - (bunker out as soon as possible).

a. If the emergency is in your unit, secure operational controls.
b. Position arriving pumpers and direct fire control activities until arrival of fire department.

(2) If the emergency is not in your unit, and additional fire brigade members are required, proceed to the scene as soon as relief can be arranged.

(3) Off duty response - other fire brigade personnel:

a. Report to your bunker gear location, bunker out and proceed to the scene of the emergency.

EMERGENCY PLAN - JOB DESCRIPTION

COMMUNICATIONS LEADER - DAYTIME DURING WORKWEEK - OFF HOURS VIA PLECTRON:

Portable Radio Number 10

(1) Notify Guards.

(2) Stand by for communications at scene.

POWER FAILURE

NIGHT - WEEKEND - HOLIDAY - NOON HOUR (IF NOTIFIED OF PLECTRON FAILURE VIA TELEPHONE:)

(1) Initiate call to Caller Number 1, or alternate.

(2) Initiate call to Caller Number 2, or alternate.

(3) Call Section Roster "B" and the guards.

(4) If Caller Number 1 or Caller Number 2, or their alternates, cannot be contacted, call the personnel under their sections (X & Y), or arrange for communications via other means.

(5) Pick up portable radio number 10 and report to the scene.

EMERGENCY PLAN - JOB DESCRIPTION

TECHNICAL SERVICE SECRETARY - CALLER #1:
ALTERNATE: Swtichboard Operator

TECHNICAL SERVICE SECRETARY - CALLER #2:
ALTERNATE: Marketing Secretary/Receptionist

Caller #1 - Call Section "X" from home.

Caller #2 - Call Section "Y" from home.

After completing call list, both callers report to Refinery Control Center (Main Office). The first caller to arrive, check in with the #2 Tester in the Lab to let him know you are going to operate the switchboard.

DUTIES UPON ARRIVAL:

(1) Operate the swtichboard.

(2) Assist in keeping a log of activities. This should include a roster of personnel, the number and type of additional equipment ordered, the quantity and type of additional equipment from outside agencies, and a listing of outside agencies contacted.

GUARDS - JOB DESCRIPTION

Guards are listed on telephone call list, (Roster "B"); see supplement.

NUMBER ONE (1):

Report to intersection of Highway 82 (East Main) and East Fifth Street, to direct or stop traffic as needed. (Note: Between Main Office and Ashpalt Rack).

NUMBER TWO (2):

Report to intersection of East Fifth Street and entrance to FCCU, South of Holly Energy, North or crude tank 437, to direct or stop traffic.

NUMBER THREE (3):

Report to intersection of Highway 82 and Freeman Street to direct or stop traffic as needed.

NUMBER FOUR (4):

Report to the intersection of Freeman and Mosely Avenue, to direct or stop traffic.

INSTRUCTIONS TO GUARDS:

(1) Guards will wear Orange vest and White hard hats, which have been provided by the Company. Guards are to be provided with special flashlights, which they are to keep in good operating condition. Stop signs are located in these vicinities for placement in the roadway.

(2) Unless personnel are identified or have the proper insignia on their vehicles, do not let them pass through to the emergency scene.

EMERGENCY PLAN - JOB DESCRIPTION

DIVISION FOREMAN (UNIT INVOLVED):

(1) Report to the scene of the emergency.

(2) Evaluate situation and report status to Process Superintendent or Assistant Process Superintendent.

(3) Assist Shift Foreman in controlling fuel sources and gaining process controls.

DIVISION FOREMAN (UNIT NOT INVOLVED):

(1) Report to respective control room.

(2) Assist operator in process controls.

EMERGENCY PLAN - JOB DESCRIPTION

PRODUCT MOVEMENT SUPERINTENDENT:

(1) Report to the scene of the emergency.

(2) Evaluate the situation as to action required by your department, (coordinate with Process Superintendent).

(3) Inform status to:

a. Emergency Coordinator
b. Fire Chief
c. Mechanical Superintendent

(4) Report to Emergency Coordinator after satisfying operational status.

EMERGENCY PLAN - JOB DESCRIPTION

SHIFT FOREMAN:

Portable Radio - Call Shift Foreman

(1) Report to the scene of the emergency.

(2) Assist Division Foreman and Operators in eliminating fuel sources and gaining process controls.

EMERGENCY PLAN - JOB DESCRIPTION

ELECTRICAL/INSTRUMENT FOREMAN:

Portable Radio Number 2

DAYTIME:

(1) Report to the scene if not in the area of direct involvement.

(2) Isolate any circuits involved. (Communicate with Shift Foreman and Operations.)

(3) Report status to Mechanical Superintendent or Emergency Coordinator.

NIGHT & WEEKENDS:

(1) Report to the scene of the emergency and the Emergency Scene Coordinator.

(2) Isolate any circuits involved. (Communicate with Shift Foremen and Operations.)

(3) Report status to Mechanical Superintendent or Emergency Coordinator.

EMERGENCY PLAN - JOB DESCRIPTION

ELECTRICIAN - DAYTIME:

(1) Report to the scene, if not in the area of direct involvement.

(2) Report to the Electrical/Instrumentation Foreman.

(3) Isolate circuits as directed by Foreman and/or Operations.

(4) Report status to Electrical/Instrumentation Foreman or the Emergency Scene Coordinator.

NIGHT & WEEKENDS:

(1) Respond to the scene of the emergency.

(2 Report to the Electrical/Instrumentation Foreman or Emergency Coordinator.

EMERGENCY PLAN - JOB DESCRIPTION

EMERGENCY COORDINATOR - GENERAL MANAGER REFINING - DAY OR NIGHT:

(1) Supervision and coordination of the various emergency organizations within the plant.

(2) Respond initially to the scene of the emergency. Navajo Engine #1, (Mini-Pumper) will serve as Field Control Center.

(3) Receive status reports from:

a. Fire Chief
b. Process Superintendent
c. Mechanical Superintendent
d. Product Movement Superintendent
e. Other Personnel
f. Request Artesia Fire Department during major incidents.

(4) Relay status to higher management if necessary.

(5) If the emergency is minor, communications can be conducted from the Field Control Center (Mini-Pumper).

(6) If the emergency is assessed to be serious in nature, command of the Field Control Center may be turned over to the Maintenance Superintendent or other qualified individual.

(7) The Emergency Control Center will then be established in the * Engineering Conference Room. The Emergency Coordinator should then direct activities from there. The Emergency Coordinator should keep the Emergency control Center advised of his location and activity, should he have to leave the Emergency Control Center.

(8) An Emergency Control Center will be staffed initially by the:

a. Emergency Coordinator
b. Communications Leader
c. Manager Technical Services
d. Safety Supervisor
e. Special Projects
f. Technical Service Secretaries
g. Other management personnel if they can satisfy their emergency scene duties.

(9) Responding outside agencies should report to the Emergency Control Center.

* Alternate Location is Maintenance Conference Room.

EMERGENCY PLAN - JOB DESCRIPTION

MECHANICAL SUPERINTENDENT:

Mobil Radio Unit Number 168

(1) Report to the scene of the emergency.

(2) Evaluate the situation as to Mechanical problems.

(3) Initiate appropriate action to secure involved equipment.

(4) Inform status to:

a. Emergency Coordinator
b. Fire Chief
c. Process Superintendent
d. Product Movement Superintendent (if applicable)

(5) Report to Emergency Coordinator after satisfying operational status.

EMERGENCY PLAN - JOB DESCRIPTION

ASSISTANT MECHANICAL SUPERINTENDENT - DAY OR NIGHT:

Portable Radio Number 8

(1) Report to fire station and transport fire brigade personnel to the emergency scene.

(2) Report to the warehouse.

(3) Be prepared to dispatch equipment or personnel as directed.

EMERGENCY PLAN - JOB DESCRIPTION

FIRST AID LEADER (LAB SUPERVISOR) - DAY OR NIGHT:

(1) Report to scene, bring first aid case. Supervise first aid operations and work with City Fire Department personnel and doctors, (if on scene).

ALTERNATE LEADER:

(1) Report to scene, administer First aid as required

First Aid Leader and/or Alternate shall use Lab pickup (Unit 161) for their transportation.

EMERGENCY PLAN - JOB DESCRIPTION

CENTRAL RADIO STATION OPERATOR:

Base Radio - KLB-579

(1) Report to transmitter located in the Maintenance Department Clerks' office and operate it throughout the emergency, or until relieved.

EMERGENCY PLAN - JOB DESCRIPTION

TRANSPORTATION FOREMAN:

Portable Radio Number 9

(1) Report to Fire Station.

a. Arrange transportation for Fire Brigade personnel.
b. Be prepared to transport five gallon foam containers at Fire Station, and portable wheeled monitors.

(2) Stand by to handle any additional transportation requirements. During off hours, call out appropriate drivers.

(3) Advise drivers as to location to report to; day or night.

(4) Communicate with Assistant Mechanical Superintendent and Mechanical Coordinator.

Shuttle Truck - upon notification of emergency - return to warehouse.

Transport Fire Brigade personnel as required.

EMERGENCY PLAN - JOB DESCRIPTION

MECHANIC FOREMAN:

Portable Radio Number 3

Day:

(1) Report to Warehouse.

(2) Transport Pump Mechanic to diesel fire pump at gas rack pond, South Plant fire pump, North Plant fire pump, and Big Pond Pumphouse. Monitor operations of fire pumps with mechanics.

(3) Stand by to assist in bringing other pumps on line if necessary.

Night:

(1) Pick up Portable Radio #3.

(2) Call personnel to man pumps.

(3) Report to diesel fire pump (Big Pond).

(4) Monitor operating status.

(5) Stand by to assist in bringing other pumps on line if necessary.

In all cases - notify Mechanical Superintendent of status.

EMERGENCY PLAN - JOB DESCRIPTION

COORDINATOR:

Portable Radio Number 7

(1) Report to Fire Station, transport Fire Brigade members to scene.

(2) Report back to Warehouse.

(3) Assist the Assistant Mechanical Superintendent in coordinating personnel and equipment.

(4) Assume Assistant Mechanical Superintendent's duties in his absence.

EMERGENCY PLAN - JOB DESCRIPTION

PF-WELDER FOREMAN:

Portable Radio Number 6

(1) Make a driving perimeter tour of the North Plant to pick up personnel and return to Warehouse.

(2) Be prepared to dispatch PF &/or W personnel if necessary.

EMERGENCY PLAN - JOB DESCRIPTION

WAREHOUSE FOREMAN - DAY OR NIGHT:

(1) Report to Warehouse for general issue and supply duties, tool repair, etc.

(2) Take charge of purchasing procedures if Purchasing Agent is not available.

EMERGENCY PLAN - JOB DESCRIPTION

SAFETY SUPERVISOR:

Portable Radio Number 4

(1) Report to the Emergency Coordinator at the emergency scene, or at Main Control Center.

(2) Assist in relaying status from department to Emergency Coordinator or assume other duties as directed by Emergency Coordinator.

EMERGENCY PLAN - JOB DESCRIPTION

REFINING SPECIAL PROJECTS:

(1) Report to the Emergency Coordinator at the emergency scene.

EMERGENCY PLAN - JOB DESCRIPTION

CPI - YARD FOREMAN:

Portable Radio Number 1

(1) Report to the Warehouse.

(2) Select 10 personnel, and report to the scene of the emergency.

(3) Stand by Navajo Engine #1 (Mini-Pumper) to assist Fire Brigade Chief. Assist in hose lays and other duties, as directed by Fire Chief.

EMERGENCY PLAN - JOB DESCRIPTION

CONTRACT FOREMAN:

Portable Radio Number 12

(1) Make a driving perimeter tour of the South Plant to pick up personnel and return to the Warehouse.

EMERGENCY PLAN - JOB DESCRIPTION

MANAGER OF TECHNICAL SERVICES:

(1) Report to Emergency Control Center at Main Office.

(2) Be prepared to assist Emergency Coordinator with technical information concerning plant diagrams, pumping capacities, flow rates, and flows within the plant; including sub-surface injection access points.

EMERGENCY PLAN - JOB DESCRIPTION

N.D. CONTROL ROOM - BOARD MAN:

(1) Start the electric firewater pump with the button on the Control Room wall. Do not shut pump down until requested to do so by the Fire Chief.

EMERGENCY PLAN - JOB DESCRIPTION

S.D. BOILER FIREMAN:

(1) Start steam turbine firewater pump. Operate with steam valve wide open. Do not shut pump down until requested to do so by the Fire Chief.

Refer to flow diagram for "maximum flow" to fire pump.

"PROCEDURE A"

AFTER HOURS NOTIFICATION

LAB #2 TESTER - EXT. 230

(1) Immediately call the Communications Leader or his Alternate:

COMMUNICATIONS LEADER	-	Don Prout	8-3887
Alternate	-	Jacob Wilson	365-2959

If no answer, call Caller No. 1 and Caller No. 2, or their alternates:

CALLER NO. 1	-	Patti Beasley	8-3161
Alternate	-	Gerene Fanning	6-6858
CALLER NO. 2	-	Suzette Gray	8-3774
Alternate	-	Sandra Earl	6-3487

Message: "This is __name__, at the Lab. There is an emergency at __name__ Unit. The Plectron System did not (repeat) did not work, initiate your telephone notification procedure."

(2) Call "Roster A".

Allow the telephone to ring five (5) times. If no answer, go to the next number. Do not call an alternate if you have already contacted the primary person.

ROSTER "A"

PRIORITY CALL ACCORDING TO STATUS OF THEIR UNIT

			EXT	HOME PHONE
1.	ON DUTY BLENDER B OPERATOR & #1 TESTER		242	
2.	PROCESS SUPERINTENDENT	D. G. Geddes	244	6-9013
	Alternate	John Laurent	333	8-2830
3.	FIRE CHIEF	R. F. Worthington	334	6-2533
	Alternate	Charles Floore	262	8-2104
4.	COMMUNICATIONS LEADER	D. C. Prout	294	8-3887
	Alternate	J. W. Wilson	272	365-2959
5.	N.D. FOREMAN	C. W. Juarez	250	8-3163
	Alternate	F. D. Guinan	205	6-4559
	S.D. FOREMAN	J. E. Bradley	248	6-4759
	Alternate	I. A. Lard	205	6-3960
	FCCU FOREMAN	W. O. Crosson	204	6-9557
	Alternate	F. D. Guinan	205	6-4559
	UTILITY FOREMAN	W. D. Fowler	227	6-6360
	Alternate	W. H. Sallee	232	365-2322
	PROD. MOVEMENT SUPT.	W. D. Gleghorn	236	8-2631
	Alternate	Charlie Buck	242	6-9503
6.	INST/ELECT FOREMAN	S. J. Fanning	262/240	8-2018
	Alternate	P. D. Klontz	262/240	6-6115
7.	EMERGENCY COORDINATOR	D. O. Stevenson	226	8-3526
	Alternate	Matt Clifton	233	8-9791
8.	MECHANICAL SUPT.	C. R. Tice	268	6-6076
	Alternate	J. D. Hilliard	243	6-4117
9.	FIRST AID LEADER	C. W. Ebarb	215	6-6731
	Alternate	Paul Hudson	257	6-4410
10.	CEN. RADIO STA. OPR.	A. O. Hernandez	277	6-3618
	Alternate	Linda Donaghe	217	6-2803
11.	TRANSPORTATION FOREMAN	J. A. Rivera	282	365-2149
	Alternate	Greek Economides	216	6-3894
12.	MECHANIC FOREMAN	P. B. Boyce	240	6-6497
	Alternate	Jerry Wallace	246	6-2722
13.	MECHANICAL COORD.	D. E. Fuller	327	6-2197
14.	PF/W/CPI FOREMAN	J. D. Wagner	282	6-4538
15.	WAREHOUSE FOREMAN	M. H. Madrid	254	8-1074
	Alternate	D. L. Harcrow	246	8-6424
16.	SAFETY SUPERVISOR	J. N. Pollock	206	6-6904
17.	REF. SPECIAL PROJECTS	E. H. Dunn	273	6-6647
18.	PURCHASING AGENT	W. S. Truett	225	6-4774
	Alternate	C. H. Price		8-1074

ROSTER "C"

OPERATIONAL PERSONNEL - FIRE BRIGADE MEMBERS

1.	Ben Huerta	6-3843
2.	Byron Ironmonger	6-3392
3.	Freddie Jrarez	6-3156
4.	Kenny Lopez	6-6107
5.	Jeff Martin	8-3981
6.	Dwane Parrish, Jr.	6-4651
7.	Robert Sims	1-752-3333
8.	Ricky Swafford	6-6746
9.	Robert Torrez	8-2032
10.	Gerald Vance	6-6397
11.	Jack Vermillion, Jr.	484-3347
12.	Tate Branch	365-2128
13.	Andy Bloomer	8-3202
14.	Bobby Cooper	8-2274
15.	Felix Fierro, Jr.	6-4866
16.	Gerard Karr	365-2977
17.	Tom Navarette	6-9775
18.	Orlando Talamante	8-3832

"PROCEDURE A"

AFTER HOURS NOTIFICATION

COMMUNICATIONS LEADER - ALTERNATE

COMMUNICATIONS LEADER	-	Don Prout	8-3887
Alternate	-	Jacob Wilson	365-2959

(1) Notify Caller No. 1 and Caller No. 2 or their alternate:

CALLER NO. 1	-	Patti Beasley	8-3161
Alternate	-	Gerene Fanning	6-6858
CALLER NO. 2	-	Suzette Gray	8-2912
Alternate	-	Sandra Earl	6-3487

MESSAGE: "This is __name__. There is an emergency at the __name__ Unit. Initiate your telephone notification procedure." REPEAT.

(2) Call Roster "B":

a. Fire Team
b. Guards

MESSAGE: "This is __name__. There is an emergency at the __name__ Unit." REPEAT.

ROSTER "B"

AFTER HOURS NOTIFICATION

COMMUNICATIONS LEADER - Don Prout - 8-3887
ALTERNATE - Jacob Wilson - 365-2959

1.	Bobby Branch	6-6457
2.	Bobby Cooper	8-2274
3.	Johnny Dew	8-2982
4.	Mike Donaldson	6-9766
5.	Robert Duncan	8-2185
6.	Felix Fierro, Jr.	6-4866
7.	Charles Floore	8-2104
8.	Rick Howes	8-2328
9.	Ben Huerta	6-3843
10.	Byron Ironmonger	6-3392
11.	David Bolding	365-2223

GUARDS

Harry Price	6-6103
David Griffin	8-3473
Irvin Smith	457-2220
Joe Akins	6-4842

ALTERNATE GUARD - Jim Schuetz 6-3086

MESSAGE: "This is name . There is an emergency at the name Unit". REPEAT.

"SECTION X"

AFTER HOURS NOTIFICATION

CALLER NO. 1 - Patti Beasley - 8-3161
ALTERNATE - Gerene Fanning - 6-6858

1.	Freddy Juarez	6-6039
2.	Armand Karr	6-6068
3.	Gerard Karr	6-3657
4.	Zeke Sherman	8-3005
5.	Kenny Lopez	6-6107
6.	Jeff Martin	8-3981
7.	Randall Menefee	6-4627
8.	Tom Navarette	6-9775
9.	Dwane Parrish, Jr.	6-4651
10.	Willie Pinson	8-3120
11.	Bill Privetts	6-9719

MESSAGE: "This is name . There is an emergency at the name Unit." REPEAT.

"SECTION Y"

AFTER HOURS NOTIFICATION

CALLER NO. 2 - Suzette Gray - 8-2912
ALTERNATE - Sandra Earl - 6-3487

1.	Bobby Sims	1-752-3333
2.	Ricky Swafford	6-6746
3.	Orlando Talamante	8-3832
4.	Robert Torrez	8-2032
5.	Gerald Vance	6-6397
6.	Jack Vermillion, Jr.	484-3347
7.	Jimmy Walker	6-2590
8.	Andy Bloomer	8-3202
9.	Tate Branch	365-2128

MESSAGE: "This is name . There is an emergency at the name Unit." REPEAT.

Appendix C

D.O.T. Requirements for Truck and Rail Shipments

DEPARTMENT OF TRANSPORATION (D.O.T.)

REQUIREMENTS FOR TANK TRUCK SHIPMENTS

Introduction

The purpose of the Department of Transportation's (D.O.T.) regulations for the shipment of hazardous materials is to unsure that a standard of safety is used in their handling. The safety aspect in this area can not be over emphasized. Cargo tanks should be inspected prior to loading for defects or damage that might potentially cause leaks, accidents, or any other unsafe condition. These vehicles travel over miles of highway and through many heavily populated areas. The care taken loading may prevent an accident or loss of material that could be hazardous to anyone in its area.

I. GENERAL REQUIREMENTS

A. Inspection For Defects Or Damage

1. Check for large dents or torn pieces of metal.
2. Check for missing parts, i.e., outlet plugs, hatches, etc.
3. Check the running gear and the landing gear for defects.
4. Check for any other condition which might cause concern.
5. If any condition checked is found defective contact the Area Supervisor.

B. Inspections Prior to Loading

1. Have the driver spot the tank in the proper loading position.
2. Have the driver place the tractor transmission in reverse.

3. Have the driver set the emergency hand brake.

4. Remove the keys from the ignition switch.

   a. If the truck pump is to be used Steps 3 and 5 will have to be deleted.

5. The cab of the tractor and the sleeper, if so equipped, must not be occupied during loading.

6. Chock wheels.

   a. Install the chocks on the drivers side of the vehicle so that they may be easily seen.

   b. Place the chocks firmly against the front and back of the wheel so as to prevent movement in either direction.

   c. Always place the chocks against the outside set of wheels. They would be hard to see if placed against the inside set and might be forgotten.

7. Ground Clamp

   a. Connect ground clamp between the loading rack and the cargo tank body.

      (1) It should not be attached directly to the dome cover or dome opening.

   b. The person loading a cargo tank should make sure that his body is grounded to the tank body before any work is done on or adjacent to the dome opening.

(1) This can be done by removing a glove and touching the metal tank body away from the opening.

8. External Markings

a. Cargo tanks carring regulated materials must be placarded as follows:

COMMODITY	TYPE OF MARKING OR PLACARD
Flammable liquid, 1000 pounds or more gross weight; flammable solid, 1000 pounds or more gross weight.	FLAMMABLE (Red letters on white background).
Oxidizing material, 1000 pounds or more gross weight.	OXIDIZERS (Yellow letters on black background).
Non-flammable compressed gas, 1000 pounds or more gross weight.	COMPRESSED GAS (Green letters on white background).
Corrosive liquid, 1000 pounds or more gross weight	CORROSIVES (Blue letters on white background).
Flammable compressed gas, 1000 pounds or more gross weight.	FLAMMABLE GAS (Red letters on white background).

b. These placards must be displayed on the front, back and both sides of the cargo tank. The front placard may be displayed on the front of the tractor or on the front end of the tank in an easily visible location.

c. Trailers carrying flammable compressed gas must also have the shipping name of the gas either painted on the tank in the same area as the commodity placards or may use a second placard with the name on it.

(1) The name must appear in letters at least 6 inches high.

9. Check all closures to make sure they can be sealed.

II. OPEN DOME CARGO TANKS

A. Prior To Loading

1. Make sure dome closure gasket and tightening mechanism are in good condition.

2. Make sure the bottom outlet valves are closed.

III. PRESSURE TYPE CARGO TANKS

A. Prior To Loading

1. Check tank pressure to make sure it does not have excessive pressure on it.

2. Check fittings and packings for leaks.

IV. LOADING

A. Open Dome Type

1. Periodically during the loading operation inspections for leaks should be made.

2. The dome opening must be protected from sparks or other sources of ignition.

B. Pressure Type

1. Check periodically for leaks.

a. Loading line connections

b. Gauging device packing

c. Outlet valves and their packing

d. Any other potential source of leaks

2. Periodically check the tank pressure to make sure it is not building excessive pressure.

3. It is of particular importance in loading pressure type cargo tanks that they are not overfilled.

V. PRIOR TO RELEASE FOR SHIPMENT

A. Open Dome Type and Pressure Type

1. Fill out all necessary shipping papers and make sure the driver has signed the carrier's certificate.

2. Check that sufficient outage was maintained.

DEPARTMENT OF TRANSPORTATION (DOT)

REQUIREMENTS FOR RAIL CAR SHIPMENTS

Introduction

The safety aspects of rail car handling is one area of the loading procedures which cannot be emphasized enough. Rail cars are always potentially hazardous if they are not inspected, loaded, and prepared for shipment properly. Consequently, all loading personnel should be well trained and extremely diligent in the handling of rail cars.

The question of what is considered "safe" regarding the handling of rail cars is not something that can be answered simply. Tank cars are much more complicated pieces of equipment than it might seem. To assist in answering the question on what is considered "safe", the Department of Transportation (DOT) has published a set of detailed regulations which set forth tank car safety standards. The DOT loading requirements are for everyone's protection. The company supports these regulations and insists that all loading personnel be thoroughly trained and qualified on the requirements and that the requirements be rigorously followed.

A. GENERAL RACK REQUIREMENTS

1. Place stop signs 30 feet ahead of all tank cars on the Racks.
2. Brakes
   a. Set the brake on the car securely. This is the first action to be taken since it will prevent the car from movement during all future steps.

b. Normally you can tell if the brakes are good on a car by the way the brake handwheel tightens up. If the handwheel tightens up soundly and securely, then the brakes are normally good.

c. As an additional check on the brakes, look at the brake shoes to determine if they have adequate contact surface remaining.

d. If there is any questions about the brakes being adequate, contact the Area Supervisor.

3. Chocks

a. Next, chock the tank car using metal chocks.

b. Chock each car or each connected "string" of cars using two chocks. If there are three or four cars connected in a "string", this means that it is permissible to use only two chocks for the string. Each car does not have to be chocked individually when connected in a string.

c. Place the two chocks firmly against the tank car wheels to prevent the car's movement in either direction. That is, place the chocks in opposite directions.

d. Do not place either chock between the two front or two rear wheels. It is difficult to see under the tank car springs and would be difficult to determine if the chocks were placed correctly.

4. Removing Chocks

a. After loading has been completed and after all connections have been broken, the rack should be prepared for pulling.

b. Remove all chocks from under the cars except leave one chock on each spur on each end of the rack. This chock should be set in such a direction as to prevent any car from moving away from the rack. If a spur ends at the end of a rack and if a bumper is installed, then it is premissible to not leave a chock on that end of the spur.

c. When chocks are removed, place them back away from the tracks.

B. GENERAL INSPECTION OF ALL TANK CARS PRIOR TO LOADING

1. Inspect pressure vessels for end damage or side swipes. Do not load cars having dents larger than 8" x 8" in area or 1/4" deep.

2. Inspect tank bands and report deficiencies.

3. Inspect couplers and striker plates for cracks or excessive wear. Consult the Supervisor where there is a question of whether or not to load a car.

4. Inspect for damage and weld failure on bolster bottom plates, bolster web, end cover plate, tank cardle, and rod and slub draft sil. Report defects to the Supervisor.

4. Removing Chocks

a. After loading has been completed and after all connections have been broken, the rack should be prepared for pulling.

b. Remove all chocks from under the cars except leave one chock on each spur on each end of the rack. This chock should be set in such a direction as to prevent any car from moving away from the rack. If a spur ends at the end of a rack and if a bumper is installed, then it is premissible to not leave a chock on that end of the spur.

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2. Inspect tank bands and report deficiencies.

3. Inspect couplers and striker plates for cracks or excessive wear. Consult the Supervisor where there is a question of whether or not to load a car.

4. Inspect for damage and weld failure on bolster bottom plates, bolster web, end cover plate, tank cardle, and rod and slub draft sil. Report defects to the Supervisor.

5. Inspect the tank car handrails. Load the car if it is safe to do so and note the deficiency on the loading ticket.

6. Check any product stencilling on the tank car. If a car is stencilled for one specific product, only that product can be shipped in the car unless the stencilling is changed.

7. Visually inspect the placard holders. The holders must be present on all cars to be loaded with "flammable" products. (See Section "D", Item 9.)

8. Visually check both the last tank shell test date and the safety valve test date. The tank must have been tested within the last 10 years and the safety valve within the last five years. Some open dome cars manufactured within the last five years. Some have less stringent testing requirements. For clarification, the table listed below shows the required testing frequency for the different model cars.

   If a tank car has not been tested within the prescribed intervals, it must be "bad ordered" and not loaded.

	Models	Tank	Safety Valve
Pressure Cars	DOT-105A300W DOT-104A400W DOT-112A340W DOT-112A400W	10	5
Open Dome Cars	DOT-103 DOT-103L-W DOT-111A60AL-W	10	10
	DOT-103W DOT-104W	10 (if over 22 yrs. since mfg.)	10
	DOT-111A60-W-1 DOT-111A100-W-1 DOT-111A100-W-3	20 (if less than 22 years since mfg.)	10

C. SPECIFIC REQUIREMENTS FOR OPEN DOME TANK CARS PRIOR TO AND DURING UNLOADING

1. Remove undercap or outlet plug and leave off during the entire filling period.
2. Operate the internal and external (if so equipped) foot valves to insure that they are operable and in good condition.
3. No leakage from the outlet pipe is acceptable. If there is leakage, the car must be unloaded and "bad ordered" for repair.
4. If a car is equipped with both an internal and an external foot valve, a handle and lock-down bracket for the external valve are not required.
5. A handle and lock-down bracket are required, however, if the external valve is the only outlet valve.

D. SPECIFIC REQUIREMENTS FOR OPEN DOME TANK CARS PRIOR TO SHIPMENT

1. A good dome cover gasket must be used on each car.
2. Dome cover nuts must be tightened wrench tight.
3. Scales must be in place.
4. All bolts in the blank on the eduction line must be installed and tight.
5. The pressuring line must be blocked and plugged.
6. All "U" bolts must be installed in the housing covers.
7. All outlet valves must be closed securely.
8. All undercaps and/or plugs must be in place and tightened before the car is shipped.

9. DANGER Placards must be in the placard holder on the two ends and two sides of each tank-car containing flammable product. Should a placard holder be missing or defective, tape a DANGER placard securely to the tank shell or the running board on the appropriate end or side of the car.

E. SPECIFIC REQUIREMENTS FOR PRESSURE CARS CARS PRIOR TO SHIPMENT

1. Check all fittings to insure that they are in good condition and not leaking.
2. Insure taht all plugs are present and attached by chain to the tank car.
3. Check for leaks throughtout the loading period.
4. Fill all tank cars to the proper outage. DO NOT OVERFILL CARS! Liquids must have space to expand if warmed up by sunlight or ambient temperature.

F. SPECIFIC REQUIREMENTS FOR PRESSURE CARS PRIOR TO SHIPMENT

1. Prior to shipment insure that all plugs are installed wrench tight. Do not ship a car unless all plugs are in place.
2. Never permit a car with a leak to be shipped.
3. Insure that the tank car is not overfilled.
4. Insure that four preprinted placards are installed prior to shipment on all tank cars of products classified as "flammable."
5. Insure that the dome cover is secured in place with a pin and keeper.
6. Insure that all seals are in place.

Appendix D

Navajo Truck and Rail Procedures

2/1/87

Procedure for Unloading Train Cars

Strict adherence to the procedure and safety precautions embodies in this write up, will assure unloading in a quick, safe, and orderly manner. Only trained employees should load or unload tank cars containing flammable liquids. These employees should understand the danger of possible fire and explosion, and of asphyxiation from breathing flammable vapors.

The following are some of the precautions to be followed during unloading of tank cars:

I. Employees shall have complete knowledge of the material or product handling.

   A. Review the Material Safety Data Sheet (MSDS for the product handling.

II. Usage of the protective equipment required while unloading tank cars.

   A. Goggles, face shield or combination of both when leaks or spills occur.

   B. Chemical gloves.

   C. Chemical resistant coat, pants and boots when a leak or spill occurs, and when cleaning up spills.

   D. Review the MSDS and wear respiratory equipment when required. Respirators will be required during leaks or spills to prevent the breathing of vapors. Employees shall have training in the use of respiratory equipment and have someone standing by at all times when respirators are in use.

III. Safety Equipment.

   A. Signs. 12"x15" Stop - Tank Car Connected 25 ft. ahead of the car towards main line.

   B. Barricades - to isolate area and to help prevent switch crew from entering the area until finished.

   C. Chocks or wheel blocks - in place before any connections are made.

   D. Spark resistant tools.

   E. Grounding equipment and verification of the grounding equipment. There should be a light or some means of verification showing that the equipment and tank car are grounded.

   F. Fire extinguishers available at the unloading spot and pump area. Employees trained in their use.

   G. Have a steam hose hooked up near by in case its necessary to disperse vapors during a large leak or spill.

IV. Safety Procedures.

A. Stay up wind at all times possible.

B. Report leaks or spills to the foreman.

C. Report defective equipment to the foreman.

D. Double check block valves on the train car, being sure they are holding.

E. Connections are good - tight and not leaking.

F. Condition of the hoses used and that they are the right type hoses for the material unloading. Put all the hoses in the racks when finished.

G. Cover up spills and leaks with dry sand or dirt. Added disposal may be necessary, so be sure to notify the foreman of the spill or leak.

* H. Stop unloading during electrical storms.

I. Check domes and block valves for trapped pressure and know the procedure to relieve the pressure.

J. Know the added precautions necessary for handling products during cold weather.

K. Keep loose tools and equipment removed from the working surfaces.

L. Change placaid to the right nomenclature for the condition of the tank car - empty or full.

V. Emergency procedure to follow during a release of material. (Get Help!)

A. Shut down pump.

B. Block in all valves.
1. Wear safety equipment if leak or spill is such that it is unsafe to block in valves.
2. Notify foreman or other operators to stand by while attempting to block in valves, if a large release of liquids or vapors occurs. Disperse vapors with steam if necessary.

C. Have a complete knowledge of the fire extinguishers and equipment at the unloading spot.

D. Know the first aid procedure required for the material handling. The MSDS has this information.

E. Have the area cleaned up before starting to unload again.

F. Know the proper means of disposing of the liquid and ground that has been exposed to the products.
   1. Use dry sand or dirt to cover the spill.
   2. Prevent any liquid from entering any public sewer system by daming up the spill. By daming up the spill helps confine the liquid to a small area which can be cleaned up easier.
   3. Contact foreman about any leak or spill so that the proper people can be notified to clean up and dispose of the product or material.

VI. Added precautions for bottom unloading.

A. Make sure the tank outlet valves are closed before the outlet chamber cap or plug is removed.

B. Use a pail or catch tub under the outlet chamber to catch any possible liquid. (Double check outlet valves before starting to remove cap or plug.)

C. During cold weather check valves and fittings for cracks due to freezing. After checking apply small amounts of steam to thaw out lines or fittings if necessary.

D. Make sure all connections are tight on the hoses used and those at the pump location. Pumps and hoses used should be checked frequently for any defects.

E. Before disconnecting hoses or fittings, double check to make sure the car is empty and there is no pressure on the line.

Earl H. Dunn

Chairman, Management
Safety Council

EHD/pb

Navajo Truck and Train Rack Safety

I. General Information

II. Bottom Loading Rack

III. Field Naphtha Rack

IV. Overhead Loading Rack

V. Driver Certification

VI. Loading Racks
- A. Availability and Understanding of Loading Instructions
- B. Identification of Product in Each Header

VII. Tank Cars
- A. Fire
- B. Hazardous Materials at Derailment
- C. Handling

I.

NAVAJO TRUCK AND TRAIN RACK SAFETY

General Information

Navajo Refining Company reserves the right to prohibit loading of trailers deemed unsafe. All persons seeking product must have proper loading instructions and be approved by a Navajo operator or the loading supervisor. Upon entering the terminal, the following steps must be taken to obtain products. These procedures will be posted conspicuously throughout the terminal.

A. Observe "SPEED LIMIT SIGNS" throughout the Navajo terminal.

B. Any area within the fenced-in perimeter of the property is considered a NO-SMOKING area. The terminal office is the only area in which smoking will be permitted.

C. On entering the terminal, stop at the office and leave your paper work for processing. Proceed to the posted sign and stop. There will be only one (1) truck in each lane under the loading rack at a time. If the rack is not in use, position your truck on the rack for loading.

D. Under no circumstances will anyone be permitted to load with the truck engine running. Load only one (1) product and only one (1) compartment at a time. Do not have two or more loading spouts in service.

E. The hood of the truck is not to be opened while under the loading rack.

F. Keep foot traffic to a minimum on the loading rack.

G. The hatch MUST BE OPEN when loading Naphtha.

H. Drivers are to clean up any spills. Spills must be washed into the sump. Notify the rack attendant or operator of any spill.

I. Under no circumstances will jumper cables be used to start vehicles in the loading rack area. Stalled vehicles must be pulled away from the rack.

J. No truck will back out from under any loading rack.

K. D.O.T. regulation 2.7:

"No tank motor vehicle may be left unattended at any time during loading or unloading (177.834"i")."

No driver or passengers are allowed to remain in vehicle while tank is being loaded. Those who are loading are to stay on meter side of the trailer.

L. Gloves are not to be used on meters, ticket printers, set stop counters electrical switches, or inline block valves. Gloves may be used on trailers and loading adapters. Drivers will be expected to clean up any mess made due to the use of gloves

M. Drivers whose trailers are not equipped with dry connect fittings are welcome to use the 3" to 4" adapter. Retains are to be caught and disposed of and spills are to be washed into the sump.

The above and following instructions must be adhered to by all drivers loading at this terminal. Any violation could result in a serious accident which could not only affect your life and property, but those of others.

If you have any problems loading, let us know. This list contains several instructions intended for safer loading. Drive carefully, we would like to have you back.

BOTTOM LOADING RACK

1. Position truck at appropriate location upon the signal from the rack attendant. When the truck is in position for loading, STOP ENGINE, set brakes, and switch off all electrical devices.

2. Attach static cable to a clean, unpainted metal part of the trailer. DO NOT open any fill hatches until after the static cable is attached to the trailer.

3. Hook up bottom loading coupling. Be sure internal valves are operating correctly and are open.

4. Open hatch of compartment, inspect compartment for retains and cleanliness.

5. Insert the meter ticket face down, bottom end first. Rotate handle toward you to record meter readings.

6. Set meter for the capacity of the compartment to be loaded. DO NOT overset set-stop counters more than one (1) barrel. Oversetting the meter is required to obtain tenths of a barrel.

7. Turn electrical switch on.

8. Open line block valve.

9. Activate the meter by pulling the handle located on the meter.

10. The block valve may be used to secure positive meter shud down.

11. In the event of an emergency, push the release button on the handle at the meter. Also turn the master electrical switch located on the rack, or close the line block valve.

12. When flow stops, remove bottom loading coupling and close hatch. For other compartments to receive same product, repeat Items 3, 6, 9, and 12.

AFTER TRAILER IS FULLY LOADED

13. Close block valve and turn main electrical off.

14. Remove bottom loading coupling and close top hatch and fasten.

15. Remove static cable.

16. Remove meter ticket and take it to the rack attendant. DO NOT remove the meter ticket until all the above has been completed.

4.

FIELD NAPHTHA RACK

1. When the truck is in position for loading, STOP ENGINE, set brakes and switch off all electrical devices.

2. Attach static cable to a clean, unpainted metal part of the trailer. DO NOT open any fill hatches until after the static cable is attached to the trailer.

3. Hook up bottom loading coupling. Be sure internal valves are operating correctly and are open.

4. Open hatch of compartment, inspect compartment for retains and cleanliness. THE HATCH WILL BE LEFT OPEN WHEN LOADING NAPHTHA.

5. Insert meter ticket face down, bottom end first. Rotate handle towards you to record meter readings.

AFTER TRAILER IS FULLY LOADED

7. Close top hatch and fasten.

8. Remove bottom loading coupling.

9. Remove static cable.

10. Remove meter ticket, record meter readings on load sheet. If the opening meter reading does not correspond with the previous closing reading, notify the office.

11. The first three copies of the meter ticket remain at the field naptha rack. Copy number four (4) goes to the customer, copy number five (5) is the driver's copy.

5. OVERFILL LOADING RACK

1. Position truck at appropriate location upon the signal from the rack attendant. When the truck is in position for loading, STOP ENGINE, set brakes, and switch all electrical devices off.

2. Lower ramp onto trailer. DO NOT DROP.

3. Attach static cable to a clean, unpainted metal part of the trailer. DO NOT open any fill hatches until after the static cable is attached to the trailer.

4. Open hatch of compartment, inspect compartment for retains and cleanliness.

5. Open line block valve. Loading spout must be submerged by at least 6" of product before opening valve to full capacity.

6. In the event of an emergency, push the release button on the set-stop counter. Close block valve.

7. When flow stops, remove loading spout and close hatch. For other compartments to receive same product, repeat Items 4, 8, 9, and 10.

AFTER TRAILER IS FULLY LOADED

8. Close block valve.

9. Remove loading spout.

10. Close top hatch and fasten.

11. Remove static cable, and raise ramp.

6.

DRIVER CERTIFICATION

THIS IS TO CERTIFY THAT I HAVE READ AND UNDERSTAND THE OPERATIONS FOR LOADING AT NAVAJO REFINING COMPANY TERMINAL AT ARTESIA, NEW MEXICO. I WILL ABIDE BY THESE INSTRUCTIONS AT ALL TIMES AND REPORT ANY ACTION OR SITUATION THAT IS UNSAFE.

COMPANY_____

DATE _____

(print) DRIVER'S NAME_____

DRIVER'S SIGNATURE_____

THIS CERTIFIES THAT DRIVER SIGNED ABOVE AND IS AUTORIZED TO LOAD AT THE COMPANY TERMINAL.

(1)_____OVERHEAD LOADING RACK

(2)_____BOTTOM LOADING RACK

(3)_____FIELD LOADING NAPHTHA RACK

(4)_____JP-4 LOADING RACK

TRAINING PERSONNEL

_____

LOADING SUPERVISOR

LOADING RACKS

1. Availability and Understanding of Loading Instructions for all Products Handled at Rack.

   A. Because of their nature, many products have special loading precautions or techniques which must be followed to insure safety during the loading operation. These include, for example, extension of fill pipes to the bottom of the tank when top loading, starting and finishing loading at reduced rates, and provision of relaxation time when filters are present in the loading lines. _____

   _____

2. Identification of Product in Each Header or Loading Arm.

   A. Each header or loading arm should be marked to show the product it contains.

3. Grounding Equipment.

   A. Static wire available for the grounding of each truck.

   _____

   _____

   _____

The component parts of loading racks are covered in other sections. This section covers those items peculiar to loading racks.

When accidents or fires occur in connections with the transportation of dangerous articles in tank cars, the immediate aim of those in charge is to prevent injury and loss of life and to prevent, as far as practical, property losses. To do this intelligently, it is necessary to know what materials are involved and to have some knowledge of their properties. In the handling of accidents, the methods used will depend on the immediate existing local conditions.

FLAMMABLE LIQUIDS-The records clearly indicate that when freight trains are involved in collisions or derailments, the losses in death, injuries and property damage are usually greatest when tank cars containing flammable liquids and placarded "DANGEROUS" are involved. This is due to the fact that a very large percentage of these cars contain liquids which have a flash point of 0 degree F or lower and all contain liquids which have a flash point of 80 degrees or lower. Even the smallest of these cars, once they are damaged and start to lose their contents, will provide fuel sufficient to maintain a fierce fire once ignited. The possibilities for ignition are greatest in liquids having low flash points, for the reason that the lower the flash point, the greater the probability that the temperature of the liquid or the atmospheric temperature at the time of accident occurs will be materially higher than the flash point of the liquid. The higher the temperature, the greater the amount of vapor formed and the greater the hazard. The name of the contents is shown on the placard and on waybills.

WHEN FIRE OCCURS IMMEDIATELY IN A DERBY, LITTLE CAN BE DONE OTHER THAN TO:

A. Pull away any other cars that are moveable and not burning.

B. Dig holes or throw up earthen dikes in the path of burning liquid to limit the fire area and thus protect other cars or adjacent property against the fire damage.

C. Smother the fire on surface of liquid with sand or dirt, or wet blankets. Use a foam or cabon dioxide fire extinguisher if available. Water is not likely to quench such a fire.

It is more likely to float the liquid and spread the fire. Fire may be controlled to protect property, but should not be completely extinguished until all spilled material has been burned.

No attempt should be made to puncture or rupture the shell of a tank car involved in a fire. This is unwarranted and dangerous and is likely to increase rather than decrease the seriousness of the situation since any opening made in a tank will only serve to liberate more flammable liquid and extend the fire.

When vapors are burning at the safety valves, do not extinguish the flame until all other fires in the wreck have been extinguished. Otherwise, the leakage from the valves may spread over a large area and become ignited by a fire in some other part of the wreck, thus causing a sudden violent flash of fire which may do greater damage. It is safe to let the vapor burn at the valves or point of leakage. The burning at the valves will stop of its own accord when pressure is reduced.

WHEN FIRE DOES NOT OCCUR IMMEDIATELY IN A WRECK, the hazards involved in handling the situation are greater than when fire does occur immediately. This is because the vapor given off by a liquid leaking from the tank card placarded "DANGEROUS" will spread over a greater area than the liquid; will travel faster than the liquid will flow, especially with the wind: cannot be confined; will ignite upon contact with any spark or flame; and, will burn with great rapidity, violence and intense heat back to the liquid surface from which the vapor originated. After such a flash of fire, the vapor burns above the surface of the liquid, thus confining the hazard to a visible area.

A. Do not permit liquid to drain into sewers or water sources since vapors arising from it may become ignited at some point far distant from the wreck and cause serious property damage. Water thus contaminated may also cause injury to livestock.

B. Move the least damaged cars to safety, avoiding sudden shocks or jars that might produce sparks or friction. No unnecessary attempt should be made to transport a damaged tank car from which flammable liquid is leaking. Safety in short movements may be secured by attaching a vessel under small leaks to prevent the spread of flammable liquid over the tracks. Cover tracks at intervals behind the car with fresh earth to prevent fire from overtaking the car.

C. Only as a last resort to meet an emergency should a wrecked car be moved by dragging. When possible, this should be done on a bed of foam, and in any event, all persons should be kept at a safe distance.

10.

When chains or wire cables are used to hoist tank cars, wooden blocks or other padding should be placed between them and the car to prevent slipping which might produce friction sparks. When leaks are expected in handling, empty the car first by transfer of contents to another car or container.

D. Do not allow trains to pass on adjoining tracks, especially on the same or lower level, as long as liquid is leaking or exposed in quantity.

WHEN IT IS NECESSARY TO TRANSFER FLAMMABLE LIQUIDS FROM A TANK CAR AT THE SCENE OF A WRECK. Depending on the location of the wrecked car, its condition, and the nature of its contents, the liquids will be transferred by using air pressure to force the liquid out of the wrecked tank car or by using a vacuum truck to suck the liquid out of the tank car. If the car is leaking and air pressure cannot be used or if the vacuum truck will not lift the liquid, the liquid should be caught in drums or barrels. Regardless of the method used, certain preliminary operations must be performed before the necessary connections for unloading can be made.

1. The tank must be carefully hoisted or jacked, avoiding sudden shocks or jars, into a position where the manhole cover and safety valve are above surface of the liquid in the tank.

2. To minimize the possibility of static electric sparks being produced during the operation of transferring a flammable liquid from one tank car to another, it is advisable to electrically interconnect, by means of a positive and substantial metallic bond, the two tanks, the pump and the piping used in connection with the transfer of the liquid.

3. One safety valve must be opened by engaging a pointed bar or a claw bar with the eyelet or knob on the top of the valve and prying downward against the outer edge of the spring case. The opening and closing of the valve at short intervals will usually release all accumulated interior gas pressure. If, however, pressure continues to exist on account of the high temperature and vapor pressure of the liquid, frequent opening of the valve will cause a dangerous amount of vapor to collect outside the car and venting must be deferred until the temperature and pressure are reduced by allowing the car to stand overnight or by allowing the contents to be cooled.

4. After pressure is released, the manhole cover seal should be broken and cover removed as follows:

   (a) All nuts must be unscrewed one complete turn, and if there is any sound of escaping vapor, the operation must be stopped, the cover screwed down tightly again, and interior pressure relieved as prescribed above before again attempting to remove the cover.

WHEN THE CAR IS unloaded through the bottom outlet valve, the manhole cover must be adjusted as follows:

(-) The manhole cover must be put in place but not entirely screwed down in order that air may enter the tank through the vent holes in the threaded flange of the cover. A small wooden block should be placed under one edge of the cover.

5. Having removed the manhole cover to reach the bottom outlet valve in case the tank is to be unloaded through the bottom, or to insert an unloading pipe or hose if the tank is to be unloaded through the top, it is essential that before attempting to make connections to the bottom-discharge outlet the valve control should be manipulated to determine that the valve in the bottom of the tank is tightly closed.

IMMEDIATE HANDLING OF CARS OF HAZARDOUS MATERIALS AT DERAILMENT - Where a freight car carrying hazardous materials is involved in a derailment, the ranking employee at the scene will post guards and keep all persons at a safe distance (minimum of 2,000 feet) from the car(s) involved. He will promptly radio or telephone the district or division operating office and furnish the following information:

A. Location of the car or train, train number, mile post, etc.

B. Location of derailed car(s) in the train. (Between Car Number and car number).

HANDLING OF FLAMMABLE MATERIALS AT FIRE.

A. Construct earthen dams to control spilled liquid.

B. Extinguish the fire or maintain controlled burning. If the fire is from escaping gas that is heavier than air, do not extinguish flames unless the flow can be stopped, because it will settle in low areas on the ground and form explosive mixtures with the air.

C. Tank car(s) with shell(s) contacting flames or with safety valves buried or otherwise inoperative could build up very high internal pressure and cause an explosion. Spray water on the exterior of such car(s) to cool the contents and prevent build-up of pressure and potential explosion. Once it is set up, DO NOT man the cooling hoses.

The leaking car will be approached from the point of highest elevation and, if possible, from the windward side. Temporary repairs to leaks in tank cars will be made with wooden plugs.