2/08001

UNION CHEMICAL COMPANY, INC.

Spill Containment and Incineration System

Preliminary Design and Capital Cost Report

September, 1979

PROCESS CONSULTING SERVICES

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I. Introduction

Union Chemical Company has for some time been recovering costly petrochemical based solvents for clients in northern New England. This distillation operation has been energy self-sufficient, except for electricity, through the combustion of waste left from the recovery process to generate steam. However, more waste or "still bottoms", has been available than is needed for process steam generation. This material has been stored at the South Hope site awaiting development of an incineration system for safe processing of the organic chemicals.

This report describes the measures to be taken to protect the environment, at the plant site, from contamination by inadvertant spills of any of the materials handled or stored during the distillation or incineration processes.

A review of regulatory requirements and procedures is included, as is an implementation schedule for the project. A flow diagram and general lay-out drawing have been developed and are in this report. Full analysis of sanitary sewerage requirements and geotechnical considerations have been performed and are included in the Appendix.

It should be noted that all containment and spill prevention design takes into account Union Chemical Company's plans to eliminate hazardous organic chemicals by incineration. In-process storage areas for these materials will be protected to prevent escape of any of the chemicals.

It is also Union Chemical Company's plan to make the plant area as asthetically pleasing as possible by maintaining existing

vegetation and through appropriate landscaping. It is intended that the final project result in an exemplory processing facility.

II. Description of Processes

Union Chemical Company provides two basic production services at its plant in South Hope, Maine. Chemical formulations for stripping paints and other coatings from furniture and related items are produced for sale and distribution. Organic solvents are also processed to remove contaminants to allow their recycle and re-use by clients throughout the Northeast.

The proposed project will allow Union Chemical Company to utilize the by-products from the organic solvent recovery process. These by-products will fuel a new incinerator system. Some of these materials are presently burned to produce steam for plant operation; however, more fuel is produced than can be utilized in the present boiler.

This section of the report describes the present process and the proposed changes to it as well as describing the proposed incinerator system.

Formula Preparation

Chemical formulations which are prepared for stripping operations are produced from materials received both in 55 gallon drums and tank truck shipments. The products are prepared in individual 55 gallon drums by hand weight measurements and are stored until shipment.

The bulk materials used in the formulations are stored in tanks, numbers T-2 and T-5 prior to their use (see Table).

Solvent Recovery Process

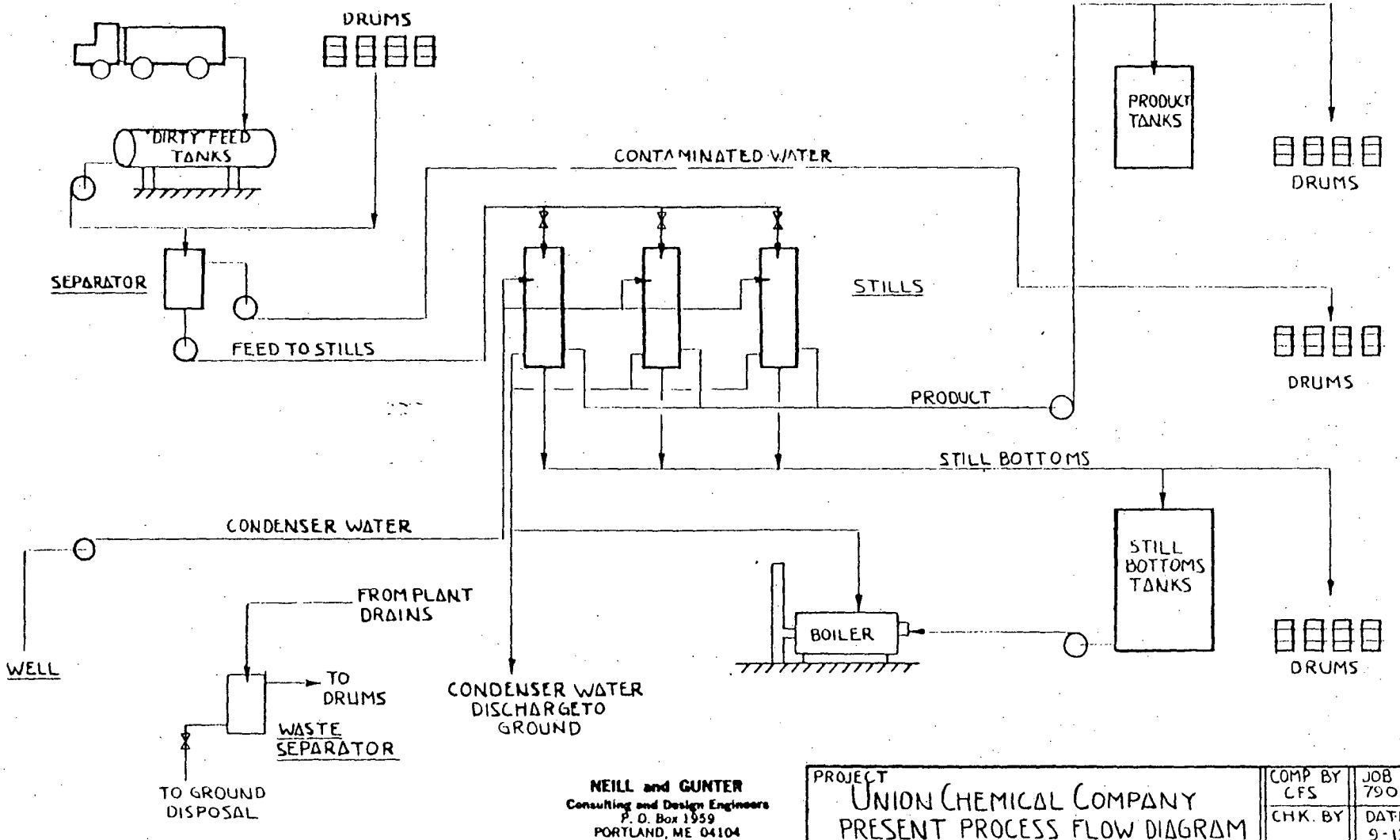
Contaminated solvents are received both in tank truck and in 55 gallon drums. The "dirty" solvents are stored in tank numbers T-3, T-8, and T-13 prior to processing. Reclaimation processing, as shown in Figure I, begins by passing the solvent mixtures through

TABLE I

TANKS

No.	Volume	Material	Size
T-1	6,000 gals.	Reclaimed Acetone	8-6"ϕ x 14'L
-2	8,000	Virgin Xylene	7'ϕ x 29'L
-3	8,000	Dirty Mineral Spirits	8'ϕ x 21'-5"L
-4	6,000	Clean Mineral Spirits	8'-6"ϕ x 14'L
-5	2,500	Virgin Methylene Chloride	63"ϕ x 15'-6'h
-6	2,500	Product (Misc.) Solvents	63"ϕ x 15'-6"h
-7	2,500	Product (Misc.) Solvents	63'ϕ x 15'-6"h
-8	500	Dirty Feed (Misc.) Solvents	3'-3"ϕ x 8'-6"h
-9	500	Swing (Misc.) Solvents	3'-3"ϕ x 8'-6"h
-10	500	Swing (Misc.) Solvents	3'-3"ϕ x 8'-6"h
-11	500	Swing (Misc.) Solvents	3'-3"ϕ x 8'-6"h
-12	2,000	Still Bottoms (Fuel)	5'-4"ϕ x 12'L
-13	8,000	Dirty Feed Napthas & Ketones	8'ϕ x 21'-5"L
-14	8,000	Clean Napthas & Ketones	8'ϕ x 21'-5"L
-15	500	Fish Oil	3'-3"ϕ x 8'-6"h
-16	5,000	Flammable By-product (Fuel)	7'ϕ x 18'L
-17	3,000	Chlorinated By-product (Fuel)	5'-6"ϕ x 18'L
-18	5,000	Chlorinated By-product (Fuel)	7'ϕ x 18'L
-19	15,000	Chlorinated By-product (Fuel)	12'ϕ x 18'h
-20	15,000	Flammable By-product (Fuel)	12'ϕ x 18'h
-21	15,000	Flammable Sludges	12'ϕ x 18'h
-22	6,000	Still Bottoms (Fuel)	8'-6" x 14'h
-23	275	No. 2 Fuel Oil	Standard
-24	275	No. 2 Fuel Oil	Standard

FIGURE I



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PROJECT	COMP BY	JOB NO
UNION CHEMICAL COMPANY PRESENT PROCESS FLOW DIAGRAM	CFS	79008 A
	CHK. BY	DATE 9-12-79

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a separator which divides the insoluble liquid solvents from any water present. This water is drawn off and stored in drums as adequate disposal is not now available.

The separated solvent mixture is pumped to one of three distillation columns (still) which is heated by steam produced in a boiler using thickened solvent for fuel. The distilled product is cooled and liquified in a condenser using non-contact well water as coolant. The spent condenser water is discharged to ground disposal as per Union Chemical Company's present waste water discharge permit, or used as boiler feed water.

Product from the still is pumped to bulk storage or to 55 gallon drums to await shipment back to the clients' plant. Bulk storage of the reprocessed material is in tanks numbers T-1, T-4, T-6, T-7, T-9, T-10, T-11, T-14, and T-15. By-products from the stills, called "still bottoms", is pumped from the processing area to bulk storage or 55 gallon drums. Some of this material is presently used as fuel in the plants boiler, however, much of it is stored in drums on the site for lack of an adequate bulk storage or incineration capacity. Bulk storage of the "still bottoms" is in tank numbers T-12, T-16, T-17, T-18, and T-22.

Presently, drains from inside the plant go to an "oily water" separator where the immiscible materials are floated off and stored in drums for disposal. This system has been a point of debate and will be eliminated by the proposed system changes.

Proposed System Changes

Production from the plant processes will not increase as a result of the proposed process changes. However, these changes will eliminate an environmental problem and provide safe disposal on-site of

the by-products remaining after the distillation processes.

Contaminated water from the separator would go to a new contaminated water storage tank, as shown in Figure II, where it would await use in the proposed incinerator system as quench water. Any organic materials in the water would be decomposed in the incinerator.

"Still bottoms" would go to new tanks at the proposed incinerator site where it would be stored prior to incineration. Three new fuel tanks will be installed; two holding combustible material and the other non-combustible material. The two types would be mixed prior to incineration. The non-combustible material will decompose and burn above 2100°F. thus the combustible material is used to provide the necessary heat.

Spent condenser water from the still operation would go either to the new contaminated water tank, if water is needed there, or to the new berm water tank which can also be used as quench water.

One other new tank is proposed to store water from sumps to be installed in the new containment area around the bulk solvent and waste storage tanks. This water may have traces of organic material in it and will also be used as quench water in the new burner system.

The installation of these tanks will eliminate drum storage of contaminated organic wastes and contaminated water. All of these materials will be disposed of in the proposed fluidized bed incinerator.

Proposed Fluidized Bed Incinerator System

The key item in the proposed project at Union Chemical Company is the fluidized bed burner system which will operate on a

10 hour per day schedule with the rest of the plant.

The incinerator system, as described in Figure III, will be made up of several components and will have dry calcium chloride as a by-product. The combustible and non-combustible organic materials will be mixed in the fuel mix tank and fed to the fluidized bed where incineration will take place. Gasses in excess of 2100° F. will pass from the burner to a quench chamber where dirty process water is injected to lower the gas temperature to about 1300° F. The gas containing some hydrochloric acid will then pass to a reactor vessel where dry lime is added to react with the acid to form calcium chloride. More quench water is also added to drop the gas temperature leaving the reactor to 600° F. Prior to entering the air pollution control scrubber, more quench water will be added in the duct to lower the gas temperature to 250° F.

The scrubber system will be designed to remove particulate matter and residual hudrochloric acid from the exhaust gas stream. It will be a high efficiency cross-flow type wet scrubber which will recycle a dilute solution of lime through a packed bed. A small "bleed" stream from the scrubber will purge contaminants to the reactor where they will exit with the dry calcium chloride.

A waste heat boiler will be installed in the exhaust gas flow to generate steam to drive the I.D. fan and the F.D. fan. About 200 horsepower will be saved by utilizing steam turbines to drive the fans rather than electric motors requiring purchased electric power.

III. Review of Regulations

Federal Hazardous Waste Regulations

Final regulations for hazardous waste (40 CFR Part 250) under the Resource Conservation and Recovery Act of 1976 (RCRA) are supposed to be promulgated by the U.S. Environmental Protection Agency (EPA) on December 31, 1979. Although EPA is under court order to do this, the actual deadline may not be met. The proposed regulations as released on December 18, 1978 follow the outline given below.

Part 1 identifies hazardous wastes as contributing to mortality or serious illness or posing a hazard to human health or the environment. The characteristics include ignitability, corrosivity, reactivity, and toxicity. A hazardous waste list is provided together with sampling techniques to be used in the determination procedures; however, if the waste generator or disposer wishes, he can simply declare his wastes hazardous and forego testing. On the other hand, should he wish to declare his wastes non-hazardous, the burden of testing lies on him.

Part 2 gives standards applicable to generators of hazardous waste. A person who accumulates such waste is a generator - with those who generate less than 100 kg per month excepted. The emphasis in this section is on meeting a list of detailed reporting and containment practices preparatory to shipping under the headings of:

- manifest
- reporting
- recordkeeping
- containers
- identification codes
- labeling practices
- confidential information

In transporting hazardous wastes from one site to another EPA will focus compliance monitoring and enforcement on the generator rather than on the ultimate disposer (with fines of $25,000 per day per violation). Oil waste generators are the exception in cases where they have contracted out these responsibilities to a transporter or disposer.

Part 3 on standards for transporters is handled under U.S.Department of Transportation regulations: 49 CFR Parts 171, 172, 173, and 179.

Part 4 deals with standards for owners and operators of treatment, storage, and disposal facilities. Two major types of standards apply: (1) human health and environmental standards and (2) design and operating standards. Although the major focus will be on the latter, the health and environmental standards will serve as a backstop. Thus one must comply with all standards, and this requires knowledge of the regulations under the Clean Air Act, the Safe Drinking Water Act, the Clean Water Act, and the Toxic Substances Control Act. Integration of these with RCRA is found in 40 CFR Parts 122, 123, 124,and 128.

The Design and Operating Standards are in three major parts.

(1) General Facility Standards include the following:

*analysis of waste stream and sampling of incoming shipments
*site selection factors such as wetlands, flood plains, earthquakes, endangered species, aquifer recharge areas, and 200 foot buffer zones
*general security: fences, gates, sign requirements
*contingency plan and emergency procedures including Section 311 Spill Prevention, Control, and Countermeasures Plan under the Clean Water Act (40 CFR Part 112 Subchapter D)

* manifests, recordkeeping, and reporting with annual reports for receiving wastes, quarterly reports on how waste is stored and disposed, and individual reports on damage incidents
* daily visual inspection
* closure standards for the time when equipment is dismantled and decontaminated in a period not exceeding three years (with post closure standards not applying to treatment or storage facilities)
* groundwater and leachate monitoring (only required for landfills and surface impoundments)
* financial responsibility for closure - based on a trust fund for the amount of the estimated closure cost
* financial responsibility for site life liability with a minimum of $5 million per occurrence per site for sudden and accidental occurrences using either liability insurance, self insurance or both

(2) Storage standards require Occupational Safety and Health Administration specifications for tanks and containers (29 CFR 1910, Subpart H, Section 1910.106) as well as EPA specifications, for example, all tanks, containers, and liners must be constructed of materials compatible with the waste contained. Diking requirements and operating procedures for storage tanks must be in accordance with Section 311 of the Clean Water Act (40 CFR Part 112, Subchapter D)

(3) Treatment and Disposal Standards for incineration cover residence time, combustion temperature, excess air, combustion efficiency, scrubber efficiency, automatic feed cutoffs, trial burns, emission standard for particulates, and monioring. One should also examine New Source Performance Standards for Industrial Incinerators under Section III of the Clean Air Act.

Interim Standards will apply to applicants presently dealing with hazardous wastes between the time final regulations are promulgated

and the time EPA finally issues a given permit. This may take up to several years. During this time selected minimal requirements will apply - such as manifests, recordkeeping, monitoring, and financial responsibility.

Part V, the Permit Granting Process, Part VI, EPA Guidelines for State Authorization, and Part VII, the 90 Day Notification Period after Final Regulations are Promulgated, are not included in 40 CFR Part 250.

State Hazardous Waste Regulations

Under L.D. 1518 (An Act to Merge the Septage and Hazardous Waste Law into the Solid Waste Law and to Conform them with the Requirements of the Federal Resource Recovery and Conservation Act) the Maine Department of Environmental Protection (DEP) is currently polling industry in order to provide information for initial rulemaking. This should be completed shortly after November 31, 1979. Then the DEP will be dependent on EPA for final regulations (as the basis on which to build more stringent regulations where they apply). March 1, 1980 is the anticipated date for complete EPA regulations and July 1, 1980 for DEP's draft rulemaking. Shortly after both Federal and State hazardous waste regulations are finalized the DEP should take over administration of the Federal program. Until final State and Federal rules are available it is difficult for the DEP to encourage anyone to go ahead with plans which may require later revision.

SPCC Plans

Anyone discharging oil or hazardous material is required to notify the appropriate government agency. Failure to provide

immediate notification can result in a fine of up to $10,000 or imprisonment for a year or both.

The operator of an onshore facility who discharges any non-removable substance is liable for a civil penalty of $5,000 or a fine based on the number of units of material discharged multiplied by a dollar amount per unit. These penalities vary from $100 to $1,000 per unit depending on toxicity, and dispersal characteristics, and may result in fines of up to $500,000. A unit is the "harmful quantity" which varies from 1 pound to 5,000 pounds. (Tables II and III list the materials handled at Union Chemical Company).

The penalties for removable substances are lower per unit than non-removable substances. However, the costs incurred by the government in removal of oil or hazardous chemicals may be recovered from the owner or operator of the facility in an amount up to $8,000,000.

Although there are no specific Federal requirements for spill containment of hazardous chemicals, other than the required SPCC plan, the Federal government has published guidelines on oil spill containment. CFR Part 112.7 states that appropriate containment and/or diversionary structures or equipment to prevent discharge 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. dikes, berm or retaining wall sufficiently impervious to contain spilled oil
2. curbing
3. culverting, gutters or other drainage systems
4. weirs, booms or other barriers

5. spill diversion ponds
6. retention ponds
7. sorbent materials

Drainage from dike 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. Diked areas may be emptied by pumps or ejections, but these should be manually activated only after examining the condition of the accumumlation. Flapper valves should not be used to drain dikes areas. Valves should be manually operated and be of open-and-closed design. Plant drainage systems should flow into catchment basins, lagoons, or ponds designed to retain oil. If this is not possible the final discharge of all inplant ditches should be equipped with a diversion system. The treatment systems should be adequately designed to prevent oil from reaching navigable waters in the event of equipment failure or human error at the facility.

All above ground pipelines and valves should be subjected to regular examination by operating personnel in areas where a failure might lead to a spill. Buried piping installations should have 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 is found, corrective measures should be taken. When a pipeline is not in service or in standby service for an extended time the terminal connection at the transfer site should be capped.

Although no specific rules have been adopted for spill con-

tainment of hazardous chemicals, regulations have been proposed in 40 CFR Part 151 and published in the Federal Register, Volume 43, Number 171 - Friday, September 1, 1978. These proposed regulations parallel 40 CFR Part 112, described above. Both parts are included here in Appendix E.

TABLE II

Chemicals Stored at Union Chemical Company

Xylene	Bulk Storage
Toluene	Bulk Storage
Methylene Chloride	Bulk Storage
Dimethyl Formamide	55 Gallon Drums *
Isopropyl Alcohol	55 Gallon Drums
N - Butyl Alcohol	55 Gallon Drums
Tall Oil Fatty Acids	55 Gallon Drums
Hydrochloric Acid	55 Gallon Drums
Formic Acid	55 Gallon Drums
28° Baume Ammonia	55 Gallon Drums
Urethane Resins	55 Gallon Drums
Silica (Powdered)	55 Gallon Drums
Cobalt Napthenate	55 Gallon Drums
Petroleum Sulfonate	55 Gallon Drums
Paraffin Wax	55 Gallon Drums
Hydrated Lime	55 Gallon Drums
Caustic Soda	55 Gallon Drums
2-Amino, 2-Methyl, 1-Propanol	55 Gallon Drums
Mineral Spirits	55 Gallon Drums
Hydroxy Propyl Cellulose	55 Gallon Drums

* Not more than 10 drums of any one item stored at a time

TABLE III

Solvents Reclaimed at Union Chemical Company

Methyl Ethyl Ketone

Mineral Spirits

VMP Naptha

Acetone

Freons

1,1,1, Trichloroethane

Xylene

Toluene

Isopropyl Alcohol

IV. Discussion of Spill Containment Items and Operations

Table I is a list of Union Chemical Company tanks which contain materials considered hazardous and which will be the subjects of this SPCC plan.

This plan discusses the engineering steps to be taken to prevent escape of the materials, as well as operational procedures Union Chemical Company will follow to minimize occurances.

A. System Design

As shown in the enclosed facility lay-out (Figure IV) the tanks containing hazardous materials will be in two separate areas. Area A is the tankage for materials in process for distillation and reclaimation, while Area B contains tanks associated with the fluid bed incineration system.

Both areas A and B will be completely enclosed by separate concrete retaining walls. The floors of these enclosed areas will be of concrete which is sloped to a collection sump in each system. As shown in the enclosed flow diagram (Figure II) the sump water will be pumped automatically on high level to a sump water holding tank of 10,000 gallons capacity. This water normally will be used in the incineration system as "quench" or temperature regulating water. Any organic hazardous materials in the water will be decomposed and burned by the high temperature in the incineration system.

The concrete containment areas will be constructed as shown in the enclosed sketch (Figure IV). The entire system will be underlayed with an impermeable membrane which will be tied into the over-all facility berm system.

The entire operating area, including the concrete containment systems, will be enclosed by an earth berm system, also underlayed with the impermeable membrane as shown in Section A-A. All of the plant yard area where traffic handling hazardous materials will take place, will be sealed with an asphalt layer and will be sloped to drainage sumps inside the berm system. These drainage sumps are protection against unexpected and unlikely accidents and normally collect only storm water. The sumps will collect the water via buried conduits along the perifery of the bermed area.

The collected water from the berm sumps will be automatically pumped to another 10,000 gallon holding tank. This water may be used in the incinerator system or may be discharged as storm water after it is checked for contamination.

Areas A and B will be partially covered by new roof structures to minimize the amount of storm water collected in the concrete containment sumps. The roofs will also cover any drums which may be in process. It should be noted that Union Chemical Company plans to do more of its business in bulk shipments rather than 55 gallon drums when the new burner goes into service.

Area A will have an enclosed tank capacity of 62,275 gallons maximum with the largest tank having 8,000 gallons capacity. The concrete containment wall and sump for Area A will have a capacity of about 16,000 gallons with the sump empty and the sump pump not operating.

Area B will have an enclosed tank capacity of 58,275 gallons maximum with the largest tank having 15,000 gallons capacity. The

concrete containment wall and sump for Area B will have a capacity of about 21,000 gallons with the sump empty and the sump pump not operating.

Most process piping will be stainless steel with the exceptions of water pipe and will all be located above ground. This measure is to eliminate the possibility of a leak going undetected. The pipe runs will all be within the containment areas with pipe bridges carrying the long runs as shown in Figure IV.

The systems will be designed for winter operation with steam heating and insulation on the critical sump systems.

All of the plant floor drains and sink drains which could contain hazardous materials will be piped to the contaminated water holding tank for disposal in the incineration system.

All process water that is not recycled to the boiler for steam generation will go to the incinerator system as "quench" water and will be stored in the contaminated water holding tank.

Appendix B describes how the sanitary waste from Union Chemical Company will be handled. All streams which could contain hazardous organic materials from the plant processes will be separated from the sanitary system.

B. Plant Operation - Union Chemical Company will continue to as it has in the past, with careful supervision and training of operators to minimize inadvertent spills of the organic materials being processed. It should be noted that the majority of these materials are quite costly giving economic as well as environmental incentive to careful operation.

Steps to be taken to prevent spills into the containment system are as follows:

1. Routing pump maintenance to prevent leaks
2. Training of operators in correct handling procedures of drummed materials
3. All drums in process will be covered and sealed
4. "Still Bottoms" will all be transferred to appropriate tanks for use as fuel for steam generation or for disposal in the incineration system.

Steps to be taken to keep potential spills in the containment area are as follows:

1. All truck loading and unloading will take place inside the containment areas.
2. All drum storage will be inside the concrete containment areas and will be located under roof structures.
3. Snow and ice inside the concrete containment areas will be melted by steam hoses and directed into the recovery sumps.
4. All samples for lab analysis will be disposed of in drains which lead to the recovery sumps or will be put into containers for transport to the incinerator.

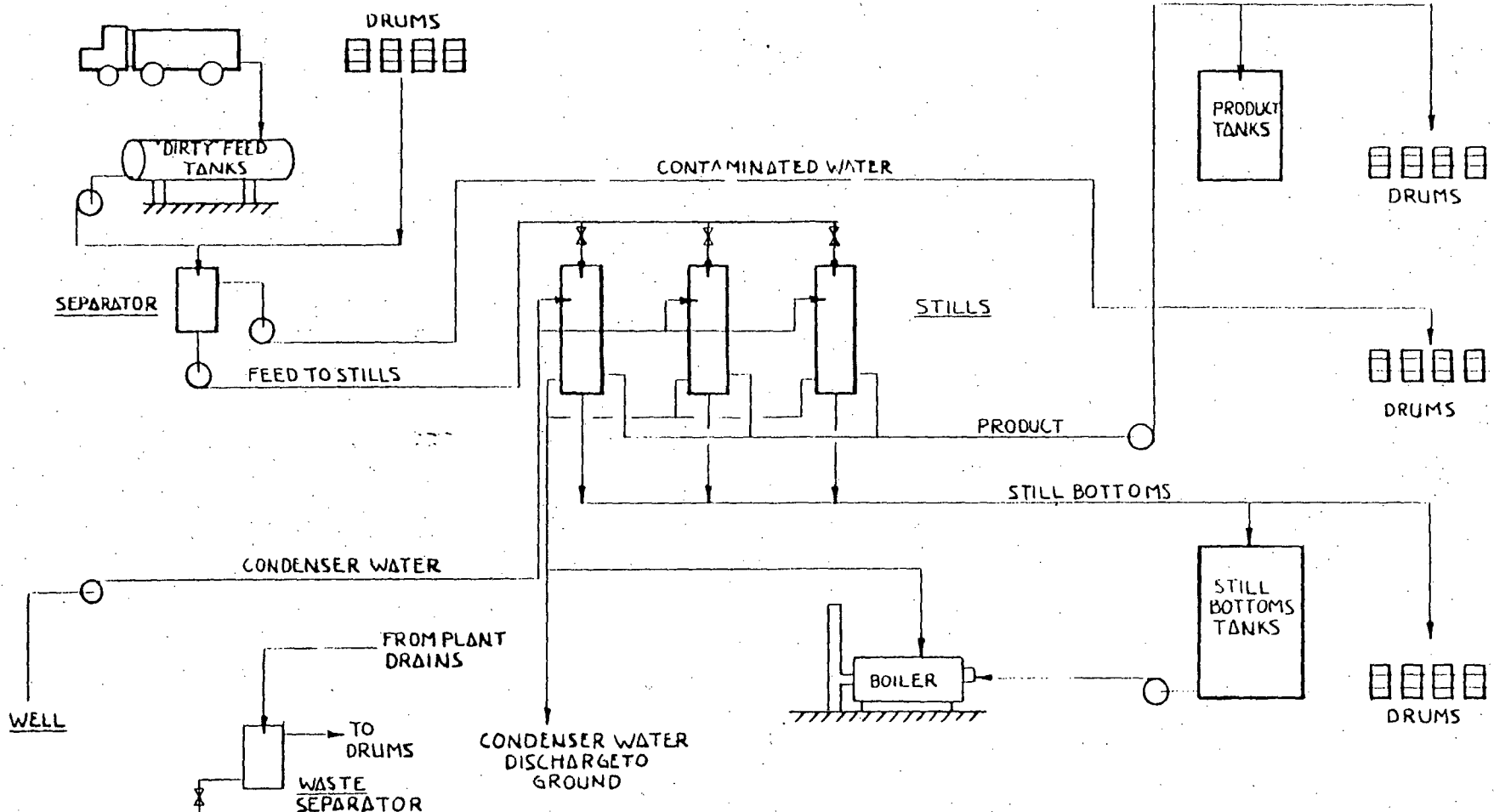
V. Flow Diagrams

Figure I - System Flow Diagram (Present)

Figure II - System Flow Diagram (Proposed)

Figure III - Incinerator System Flow Diagram (Proposed)

FIGURE I



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PROJECT	COMP BY	JOB NO
UNION CHEMICAL COMPANY PRESENT PROCESS FLOW DIAGRAM	CFS	79008 A
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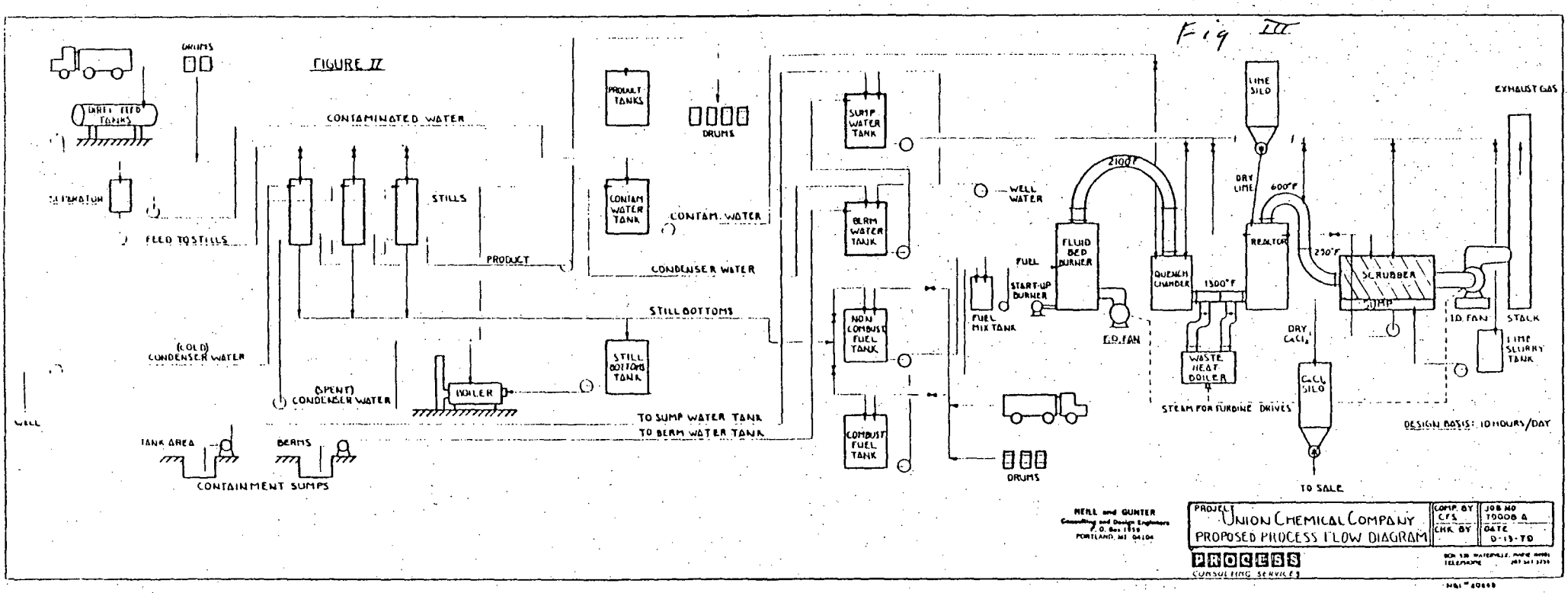
FIGURE II
Fig III
DRUMS
CONTAMINATED WATER
PRODUCT TANKS
DRUMS
SUMP WATER TANK
LIME SILO
EXHAUST GAS
WELL FEED TANKS
STILLS
CONTAM WATER TANK
CONTAM. WATER
WELL WATER
BERM WATER TANK
2100°F
DRY LIME
600°F
FEED TO STILLS
PRODUCT
CONDENSER WATER
FUEL
FLUID BED BURNER
REACTOR
230°F
STILL BOTTOMS
START-UP BURNER
QUENCH CHAMBER
1300°F
SCRUBBER
(COLD) CONDENSER WATER
NON COMBUST FUEL TANK
FUEL MIX TANK
I.D. FAN
I.D. FAN
STACK
(SPENT) CONDENSER WATER
BOILER
STILL BOTTOMS TANK
WASTE HEAT BOILER
DRY CaCl2
LIME SLURRY TANK
TO SUMP WATER TANK
TO BERM WATER TANK
STEAM FOR TURBINE DRIVES
CaCl2 SILO
DESIGN BASIS: 10 HOURS/DAY
WELL
TANK AREA
BERMS
COMBUST FUEL TANK
DRUMS
CONTAINMENT SUMPS
TO SALE
NEAL and GUNTER
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PROJECT
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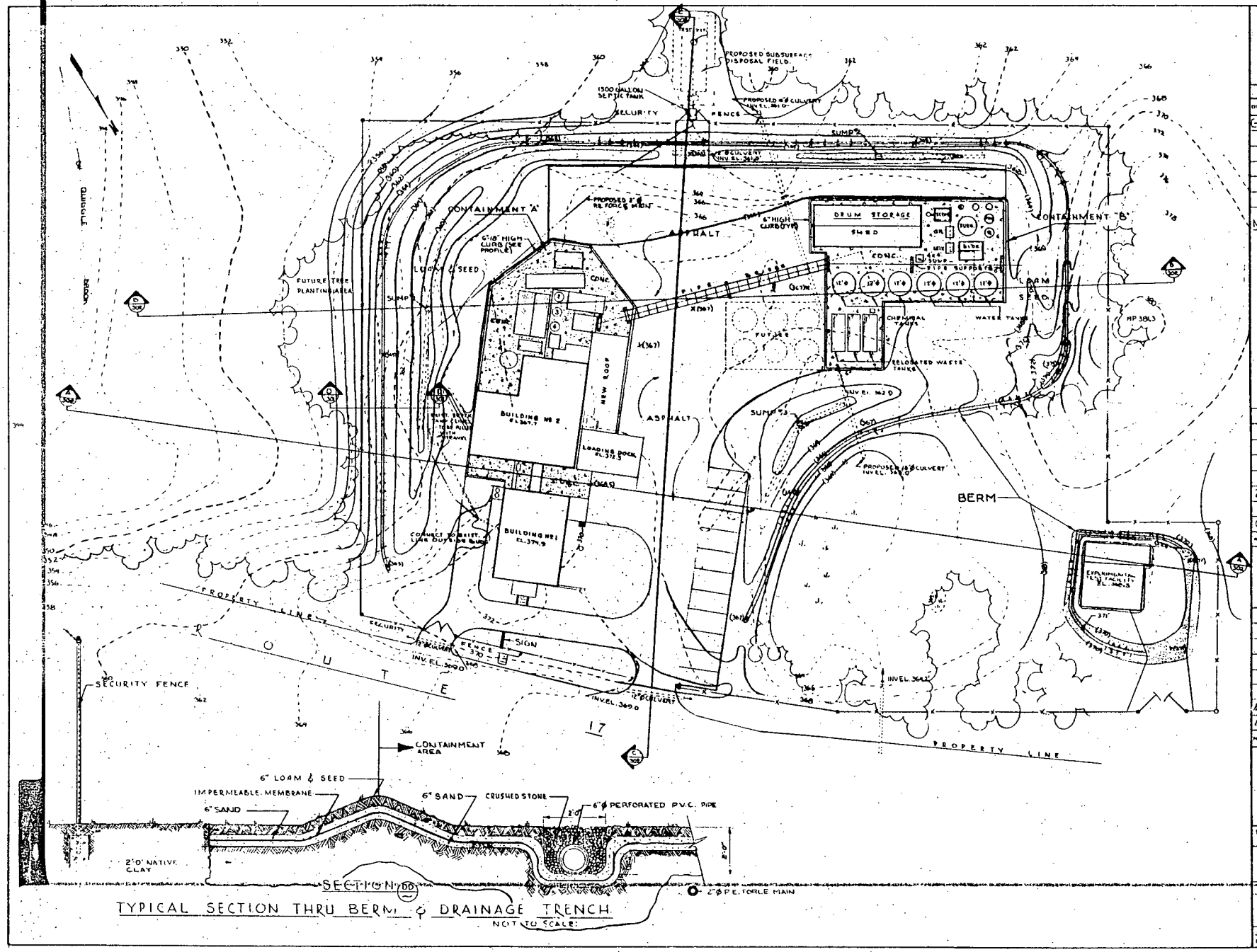
VI General Lay-Out



TYPICAL SECTION THRU BERM & DRAINAGE TRENCH
NOT TO SCALE

NOTES

1. FENCED AREA - 2.9 ACRES OF TOTAL 121 ACRE PARCEL
2. (360) EXISTING CONTOUR; PROPOSED CONTOUR; X(360) PROPOSED SPOT ELEVATION
3. CONCRETE PADS TO BE SEALED WITH EPOXY SELECTED BY OTHERS.
4. ALL 'COLD JOINTS' TO BE SEALED WITH SILICONE BASED CONCRETE JOINT COMPOUND SELECTED BY OTHERS.
5. ALL ROOFS TO DRAIN OUTSIDE OF BERMED AREA VIA 4" Ø P.V.C. PIPE.

REFERENCE DRAWINGS

DWG. NO.	TITLE	BY
C302	CROS. SECTIONS AND PROFILES	NGI
	TOPOGRAPHIC	NE. COAST SURVEYING

2	CLIENT	10-30-79	CONSTRUCTION
1	CLIENT	10-11-79	REVIEW
0	CLIENT	9-27-79	REVIEW
REV	ISSUED TO		ISSUED FOR

NO	DATE	BY	REVISION
2	10/6	R.J.P.	GENERAL REVISION
1	9/27	J.R.	GENERAL REVISION

DESIGNED T.S./RAM
CHECKED F.M. DUBE
APPROVED
PROJ. ENG. R.A.M.

NEILL AND GUNTER INCORPORATED
PORTLAND MAINE

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UNION CHEMICAL COMPANY

PROPOSED SPILL CONTAINMENT LAYOUT PLAN FIGURE IV

JOB NO. 79008A | DWG NO. C301 | REV 2

N.G.I. 20263

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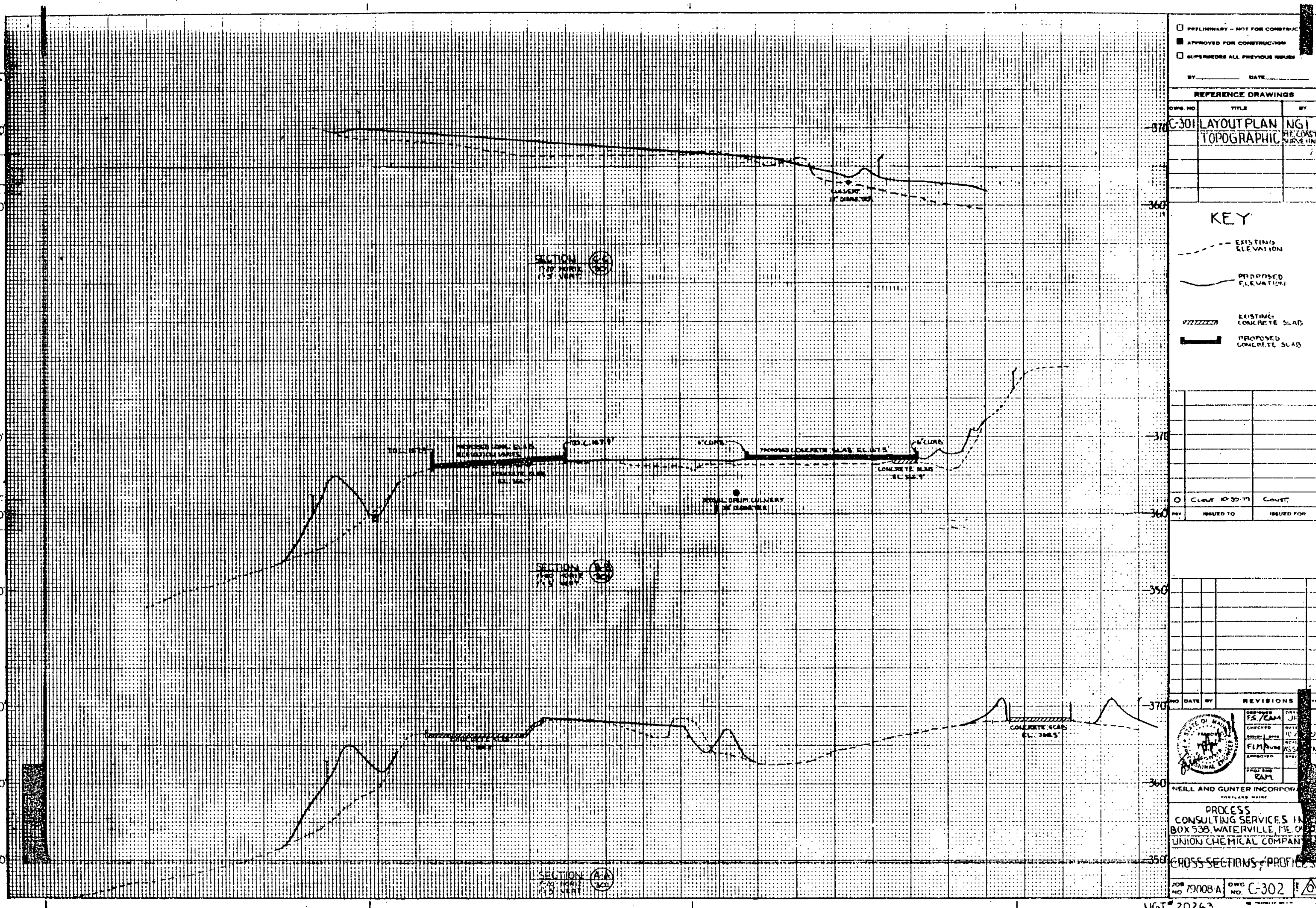
I-133-1


SECTION C-C
SECTION B-B
SECTION A-A
370
360
350
CULVERT
PROPOSED CONCRETE SLAB
CONCRETE SLAB
PRELIMINARY – NOT FOR CONSTRUC
APPROVED FOR CONSTRUCTION
SUPERSEDES ALL PREVIOUS ISSUES
BY DATE
REFERENCE DRAWINGS
DWG. NO TITLE BY
C-301 LAYOUT PLAN NGI
TOPOGRAPHIC
KEY
EXISTING ELEVATION
PROPOSED ELEVATION
EXISTING CONCRETE SLAB
PROPOSED CONCRETE SLAB
NO DATE BY REVISIONS
DESIGNED F.S./CAM
CHECKED
PROJ ENG RAM
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NGI# 20263

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VII Implementation Schedule

IMPLEMENTATION

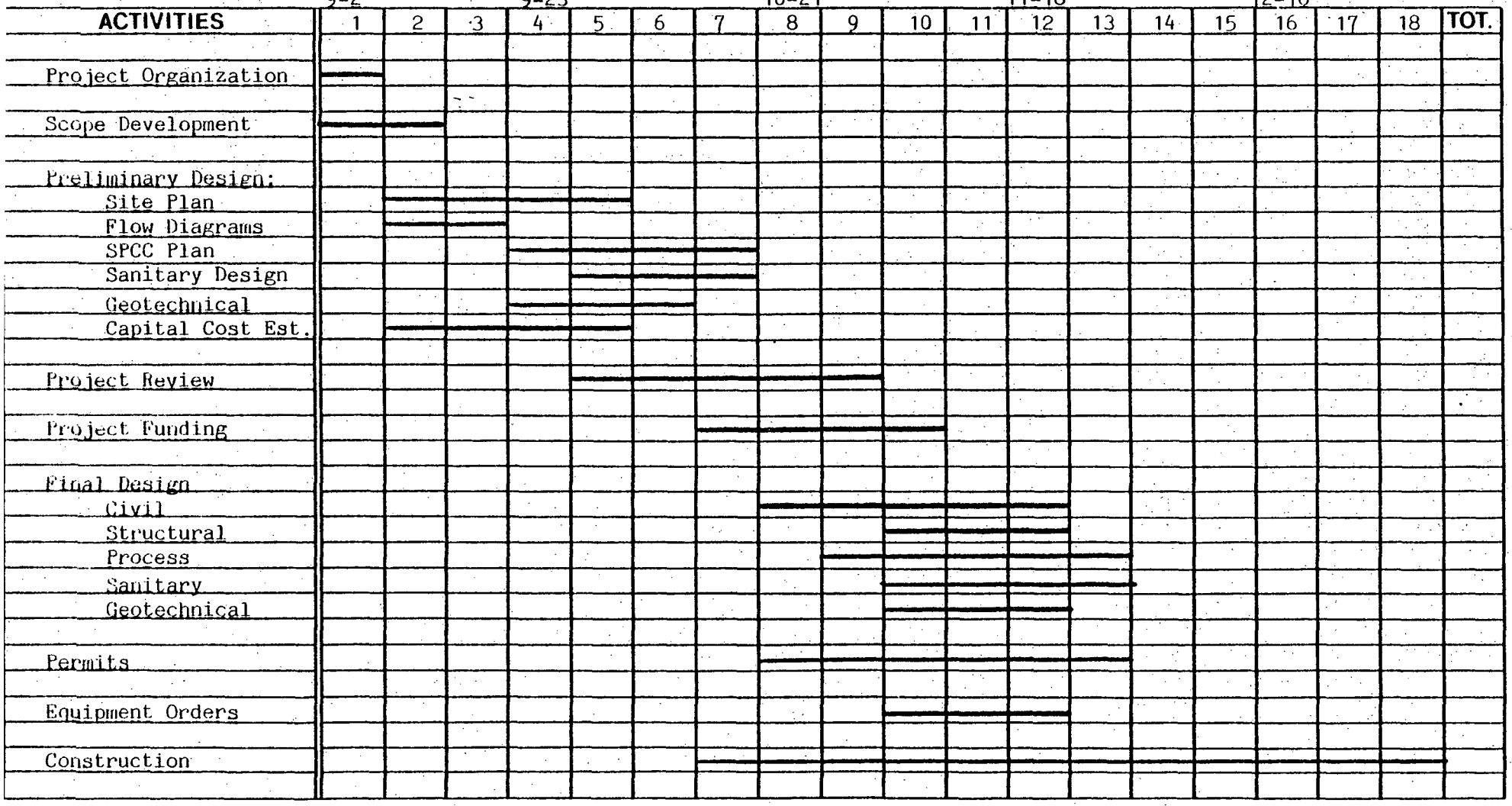
SCHEDULE

Union Chemical Company
Incinerator and SPCC
Project

ISSUE DATE October 15, 1979

JOB NO. 79008-A

WEEKS



NOTE: The above implementation schedule is a proposal only and is subject to modifications as a result of the availability of materials, labor, financing, and weather.

VIII. Capital Cost Summary

VIII Capital Cost Summary

Description	Materials	Labor	Equipment	Total
1. Incinerator:				
A. Air Emission Controls	$141,500	$ 11,280	$ 1,500	$154,280
B. Civil and Structural	28,700	9,760	2,000	40,460
C. Fuel System	27,550	4,080	-	31,630
D. Burner Unit	88,700	20,120	-	108,820
E. Auxiliary Services	31,175	4,160	500	35,835
2. Spill Containment	98,700	29,160	8,750	136,610
3. Process Piping	23,080	14,320	750	38,150
4. Electrical Service	6,900	6,000	-	12,900
5. Grounds Work	34,350	11,320	2,500	48,170
6. Sanitary Waste System	16,925	7,240	1,500	25,665
Sub Totals	$497,580	$117,440	$17,500	$632,520
Contingency (10%)				63,252
Engineering				27,500
Project Total				$723,272

IX. Appendix

A. Geotechnical Review

B. Sanitary System Review

C. Calculations

D. Capital Cost Estimate Details

E. Selected Regulations

F. Communications

Appendix A

Geotechnical Review

PROGRESS REPORT
GEOTECHNICAL EVALUATION OF THE
UNION CHEMICAL PLANT SITE
SOUTH HOPE, MAINE

BCI-GEONETICS, INC.

October 5, 1979

BCI GEONETICS, INC.

Geotechnical Evaluation of the Union Chemical Plant Site

SUMMARY

This preliminary hydrogeologic evaluation of the Union Chemical Company property in South Hope, Maine, is limited to (a) review of existing hydrogeologic data and (b) hydrogeologic reconnaissance of the site. Additional work is in progress and will be described in later reports.

The site is located in an area of ground moraine, a glacial till that is characterized locally by large boulders. Existing water well records indicate that this overburden is at least 45 feet thick. A number of ridges known as "end moraines" occur on the site. At least one of these features consists predominently of sand and gravel. There are, however, no known sand and gravel aquifers of any significance beneath the site. The site evaluation of approximately 350 feet MSL is above the limit of glacio-marine transgression, thus, marine silt and clay sediments are not likely to occur at depth. It is believed that the glacial till observed at the surface is the predominant material at depth.

Bedrock crops out to the northeast and northwest of the site, forming the cores of numerous hills that are mantled by galcial sediments. The rock is generally a rusty schist (a foliated metamorphic rock). The bedrock surface below the site appears to slope to the south and to the east towards a trough that roughly parallels the length dimension of Fish Pond just to the north of the site. Further work, as described herein, is aimed at determining if this bedrock

trough represents highly fractured, and therefore more easily erodable rock which may be a locally important source of ground water from bedrock.

Surface water drainage from at least the northern part of the site is easterly to Quiggle Brook. Near the brook, the property is wet and poorly drained. Additional topographic information is needed to define the surface flow directions from the southern part of the site.

Shallow ground water flow within the glacial overburden is likely to be easterly while deeper flow, both within the overburden and within the fractured bedrock, is likely to be southerly.

Phase I (Hydrogeological Analysis of Plant Site) of the ground water monitoring system design for the Union Chemical Company is underway. Formal authorization for this work was received at BCI offices in Augusta on September 27, 1979.

This Phase of study consists of a number of tasks. The original breakdown of these tasks was as follows:

1. Inventory and analysis of available surficial and bedrock geologic data, hydrogeologic, and hydrologic data.
2. Hydrogeologic reconnaissance of the site and surrounding area.
3. On-site test boring using hollow-stem auger and installation of temporary observation wells using PVC casing and slotted pipe.
4. Seismic profiling to supplement results of test boring program (if necessary).
5. Measurement of ground water levels and ground water quality in observation wells installed in step 3, above.
6. Final analysis of all available data and preparation of final report with text and illustrations.
7. Presentation of results as necessary to State of Maine officials and Union Chemical Co.

Steps 1 and 2 have been completed and initial work on step 3 is underway.

STEP 1

Allow field investigations to progress in the most efficient manner possible. All available surficial and bedrock geologic data, hydrogeologic, and hydrologic data was obtained.

The primary source of this data was the Maine Geological Survey which has published most of the pertinent geologic data for Knox County.

The data and maps which were examined are as follows:

1. Preliminary geologic map of Maine.
2. Surficial geology map of the West Rockport, Maine 7½' quadrangle.
3. Topographic map of the West Rockport, Maine 7½' quadrangle.
4. Ground water resources maps of Knox County.
5. Sand and gravel aquifer map and report for Waldo and Knox Counties, Maine.

The information obtained from these data was used to plan the site reconnaissance investigation of the Union Chemical plant site and the surrounding area.

STEP 2 .

A hydrogeologic reconnaissance of the site and surrounding area was conducted on September 25, 1979.

Purpose: To familiarize BCI personnel with the plant layout, geologic setting, and specific hydrogeologic characteristics of the site and to aid in the planning of an on-site test drilling program.

Findings: The plant site is underlain by glacial till. The till is characterized by large boulders up to six feet in diameter at the surface. Based upon records of nearby wells, the till is estimated to be roughly 55 feet thick.

Many small glacial moraines having generally northeast orientations are present south of the bermed plant area. A large gravelly morainal deposit is present just west of the tank storage area. This deposit has been mined for fill material on site.

The outlet of Fish Pond flows southerly and forms the eastern property line of the facility. This small stream may possibly be significant in the local ground water flow system beneath the site. The monitoring program will provide the necessary data to make this assessment.

Numerous low, wet areas are present along the southwesterly property line. It is believed that the monitoring program will establish the role of these areas in the local ground water system.

Regional features which are believed to be significant in the project are Fish Pond and its outlet stream and possibly Grassy Pond. Larger hills in the area are expressions of the bedrock surface as indicated by numerous outcrops.

STEP 3

Initial planning for on-site test boring is underway. Data collected during the reconnaissance investigation indicate that modifications of the original work plan will be required.

The major factor affecting the drilling program is the bouldery nature of the glacial till. The presence of boulders precludes the use of hollow stem augars for the subsurface analysis.

BCI is currently investigating three alternatives which might be used to obtain the necessary data:

1. Drill a continuous core utilizing a diamond bit drill.
2. Set casing and drill using diamond bit drive shoes on the casing.
3. Drill conventional water wells with 6" steel casing or 4" PVC casing.

Items 1 and 2 above would cost roughly $30 per foot which is considerably more expensive than drilling a conventional water well. However, all three alternatives have associated with them certain advantages and disadvantages which makes a decision difficult at this point. Further evaluation of the advantages and disadvantages will be conducted prior to making this decision.

Appendix B

Sanitary System Review

dale e.
caruthers co.
civil & sanitary engineers

MASONIC BUILDING
GORHAM, MAINE 04038
TELEPHONE (207) 839-6751

Frank E. Woodard, Ph.D.
Albert R. Curran
Thomas S. Greer
Kurt R. Marston

October 11, 1979

Mr. Charles Wallace
3128A Mere Point Road
Brunswick, ME 04011

Dear Mr. Wallace:

Enclosed for your review is a Preliminary Report on a sanitary waste disposal system for the Union Chemical Company. Covered in the Report are design criteria and preliminary cost estimates.

Also enclosed are preliminary design drawings showing system layout and proposed components. The system layout should be reviewed by you and company officials to avoid conflicts with other future construction.

It should be noted that a Variance from the State Plumbing Code will be required to locate the disposal bed at the site selected.

After review and comment by you and Union Chemical Company officials final design will commence.

Very truly yours.

DALE E. CARTHERS CO.

Peter J. Dalfonso

Peter J. Dalfonso

PJD:tl

Enclosures

INTRODUCTION

At the present time the sanitary waste is disposed of in an existing subsurface disposal field. Due to size limitations, scheduled expansions have rendered the existing sanitary disposal system inadequate. The Union Chemical Company, as a part of its progressive rehabilitation and expansion program, desires to allow for future expansion by installing a new disposal system for sanitary waste only.

A new sanitary wastewater disposal system is to be installed to handle the sanitary wastewater generated by the plants employees. There will be no industrial wastewater disposed of in the new system.

PROPOSED SYSTEM

A conventional subsurface disposal system is the proposed system for this site. A chamber system was also considered but due to comparatively higher cost it was not chosen (see Table I).

PROJECTED FLOW

The design flow for the new disposal system is based on a projected number of employees of 25. The projected flow is 650 gpd or 26 gpd per employee.

SYSTEM COMPONENTS

The new disposal system is composed of four major parts. They are as follows:

1. 1500 gal septic tank
2. Lift station
3. 2" polyethylene force main
4. 20' x 44' subsurface disposal bed

1. Due to inadequate size of the existing septic tank a new septic tank is required.

2. A lift station is required to pump the effluent to the disposal bed which will be approximately 250' from the septic tank. Effluent will be pumped to the bed at a minimum of 75 gallons per dose.
3. A 2" diameter polyethylene force main will be used to minimize headloss and to allow for simple installation.
4. As a result of investigations of the existing soil conditions by a Certified Site Evaluator (attached) a 20' x 44' disposal bed will meet the requirements of the Maine State Plumbing Code.

Original to be sent to Division of Health Engineering, Augusta, Maine 04333 by the LPI Page 1 of 2

This Application is For: ○ New System ○ Expanded System ○ Conversion Permit ○ Experimental System ● Replacement Of Entire System ○ Disposal Area Only

An Application For Subsurface Wastewater Disposal Permit — This Is NOT A Permit; This Form When Completed Must Be Presented To The Local Plumbing Inspector To Obtain A Permit

Town	Street, Road, Etc. / If On Water Body, Give Name	Plumbing Permit No.	Date Of Plumbing Permit
HOPE	RT. 17 / QUIGLEY STR.		

Owner Of Property	Tel. No.	Name Of Applicant Owner's Agent	Tel. No.
UNION CHEMICAL CO.	785-2625		

Street	Street
RT. 17	

Town	State	Zip Code	Town	State	Zip Code
HOPE	MAINE	04862			

Owner's Signature	Date	Applicants Signature	Date

Size Of Lot	Is Lot Zoned?	Type Of Zoning	Subdivision Name	Lot No.
12.5± ○ Sq. Feet ● Acres	○ Yes ● No	N/A	N/A	N/A

The Water Supply For This Property Is: ○ Dug Well, depth ____ ● Drilled Well, depth 57'+ ○ Spring, depth ____
Surface water ○ Body ○ Course—○ with disinfection, ○ without disinfection. Public Utility, name ____

SITE INVESTIGATION Show Location Of Pits on Site Plan on Page 2

	Soil Profile No. 1	Soil Profile No.	Soil Profile No.	Soil Profile No.
	☒ Pit ☐ Boring	☐ Pit ☐ Boring	☐ Pit ☐ Boring	☐ Pit ☐ Boring
Organic Strata	1			
1st Strata / Inches	LOAMY SAND / 8			
2nd Strata / Inches	GRAVELLY LOAMY SAND / 14			
3rd Strata / Inches	GRAVELLY SAND / 38			
4th Strata / Inches	~			
Total Depth of Observation Hole Inches	60			
Max. Seasonal Water Table Mottling	○ None Evident 30 inches	○ None Evident inches	○ None Evident inches	○ None Evident inches
Impervious Layer Clay, Etc.	● None Evident inches	○ None Evident inches	○ None Evident inches	○ None Evident inches
Bedrock	● None Evident; Type of Bedrock	○ None Evident; Type of Bedrock	○ None Evident; Type of Bedrock	○ None Evident; Type of Bedrock
Surface Slope %	3			
Soil Group / Soil Condition (Per Table 9-1 Code II)	6 / C			

(Thickness and Description of each soil strata encountered; Depth from bottom of organic horizon to:)

On 10/5/79 (date), a site investigation for this project was completed. I conducted the soil evaluation and certify that the results indicated above best represent the soil conditions found. I recommend the following type and size of private sewage disposal system. I also recommend the proposed private sewage disposal system layout and location shown on page 2.

Signature: [signature] Date Signed: 10/6/79 Site Evaluator License Number: 37

DISPOSAL SYSTEM PROPOSED Show Location of System and Details on Disposal Plan on Page 2

SYSTEM: ● Combined System ○ Separated System. If separated system—type of human waste disposal system to be used: ○ Sealed Vault Privy ○ Open Pit Privy ○ Compost Toilet ○ Chemical Toilet ○ Incinerator Toilet

TREATMENT TANK: ○ Aerobic Tank ● Septic Tank ● Concrete ○ Fiberglass ○ Metal. Size in Gallons: 1000 MIN. 1500 REC. GAL. Number of Bedrooms: N/A

SUBSURFACE ABSORPTION AREA/TYPE: ● Bed System No. of Beds 1 Length 44 ft Width 20 ft. ○ Chamber System Number ____ ○ Type A ○ Type B ○ Single File ○ Cluster — N/A. ○ Special System Length ____ ft Width ____ ft — N/A. ○ Laundry System No. of Chambers ____ Type A ____ Type B ____ — N/A

SIZE: ● Small ○ Medium ○ Med.-Large ○ Large ○ Extra-Large. Design Flow 650 GPD

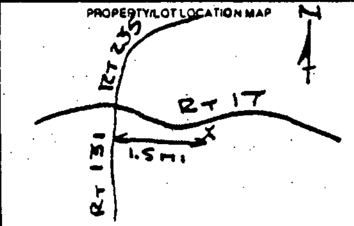
SITE MODIFICATION: Fill will be: 18 in. upnill 25 in. downhill

DETAILS: ● A Distribution Box is required. Pumping is—● required ○ is not required. The dose will be 75 Gallons

DISTANCES: ● Yes ○ No: The proposed subsurface absorption area will be located at least 100 feet from any and all wells; springs; surface water bodies and courses (lake, pond, ocean, brook, stream, river); swamps; marshes; and bogs.
○ Yes ● No: The proposed subsurface absorption area will be located at least ~~300~~ 245 feet from any and all wells and springs producing 2000 gallons or more of water per day and any public water supplies.

Name and type of establishment if other than private home: WASTE SOLVENT RECLAIMER DOMESTIC WASTE ONLY 25 EMPLOYEES @ 26 GPD/EMPLOYEE

PROPERTY/LOT LOCATION MAP



Location—roads, landmarks

WAIVER ○ State Variance Required ○ Replacement Variance Required ○ None Required

FOR THE USE OF LPI ONLY

○ Denial: Application is denied for the following reasons; portions of the Code II are cited. Form is incomplete (____pg.) as to ○ General info., ○ Site Investigation, ○ System Proposed, ○ Site Plan, ○ Disposal System Plan, ○ Cross-Section, ○ Statement. See section 4.1
○ Site investigation indicates site is ○ unsuitable for disposal system. ○ Unsuitable for system proposed.
○ System Proposed does not conform to Code ____
○ Site investigation indicates site modifications are necessary.
○ Acceptance: Application for permit is approved ○ with condition specified, comply with Section ____ ○ without condition.

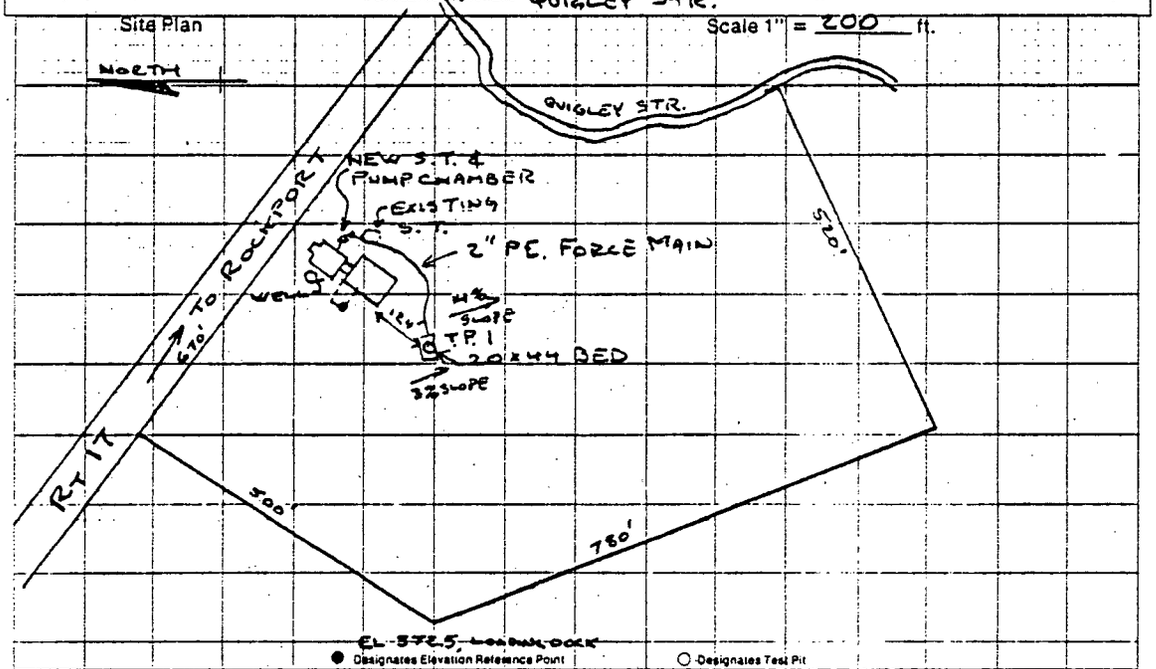
Signed LPI ____ Date ____ HHE-200 1/78

APPLICATION FOR SUBSURFACE WASTEWATER DISPOSAL PERMIT

(For systems disposing of less than 2000 gallons per day)

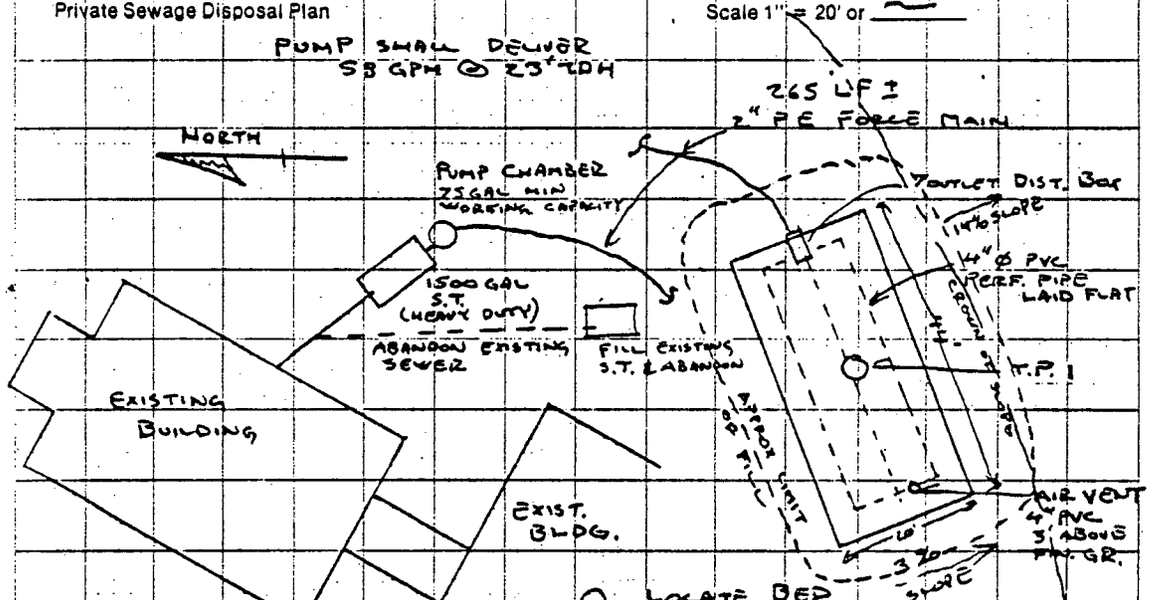
Town: HOPE | Street, Road, etc.: RT. 17 | If on water body, give name: QUIGLEY STR. | Owner of Property: UNION CHEMICAL CO.

Site Plan — Scale 1" = 200 ft.

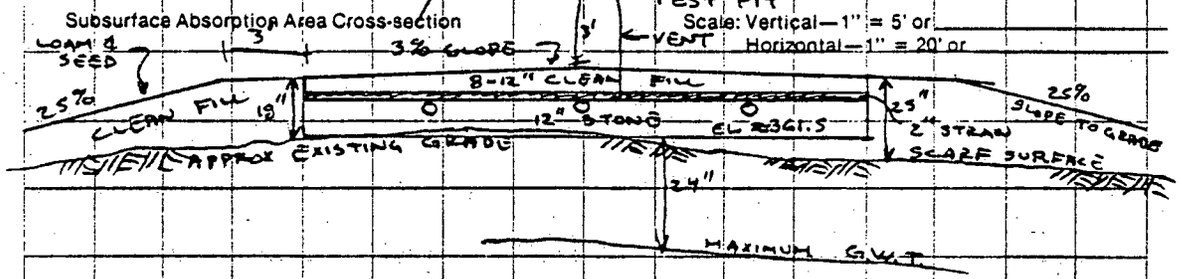


● Designates Elevation Reference Point ○ Designates Test Pit

Private Sewage Disposal Plan — Scale 1" = 20' or ~



Subsurface Absorption Area Cross-section — Scale: Vertical—1" = 5' or ____ Horizontal—1" = 20' or ____



Site Evaluator Signature: [signature] Date: 10/6/79 License Number: 37

HHE - 200 1/78

Signature Required

Statement: (no permit may be issued unless signed)

I certify that all the information submitted to be true and correct; and I understand that issuance of a permit is based upon the information and plans submitted by the applicant. I also understand that any falsification of this application is reason to deny a permit to install a private sewage disposal system and that the permit is valid for a six (6) month period from the date of permit issuance. I understand that no guarantee is intended or implied by reason of any advice or approval given by the Administrative Authority or its agent.

Date: ____

Applicant: ____

Owner: ____

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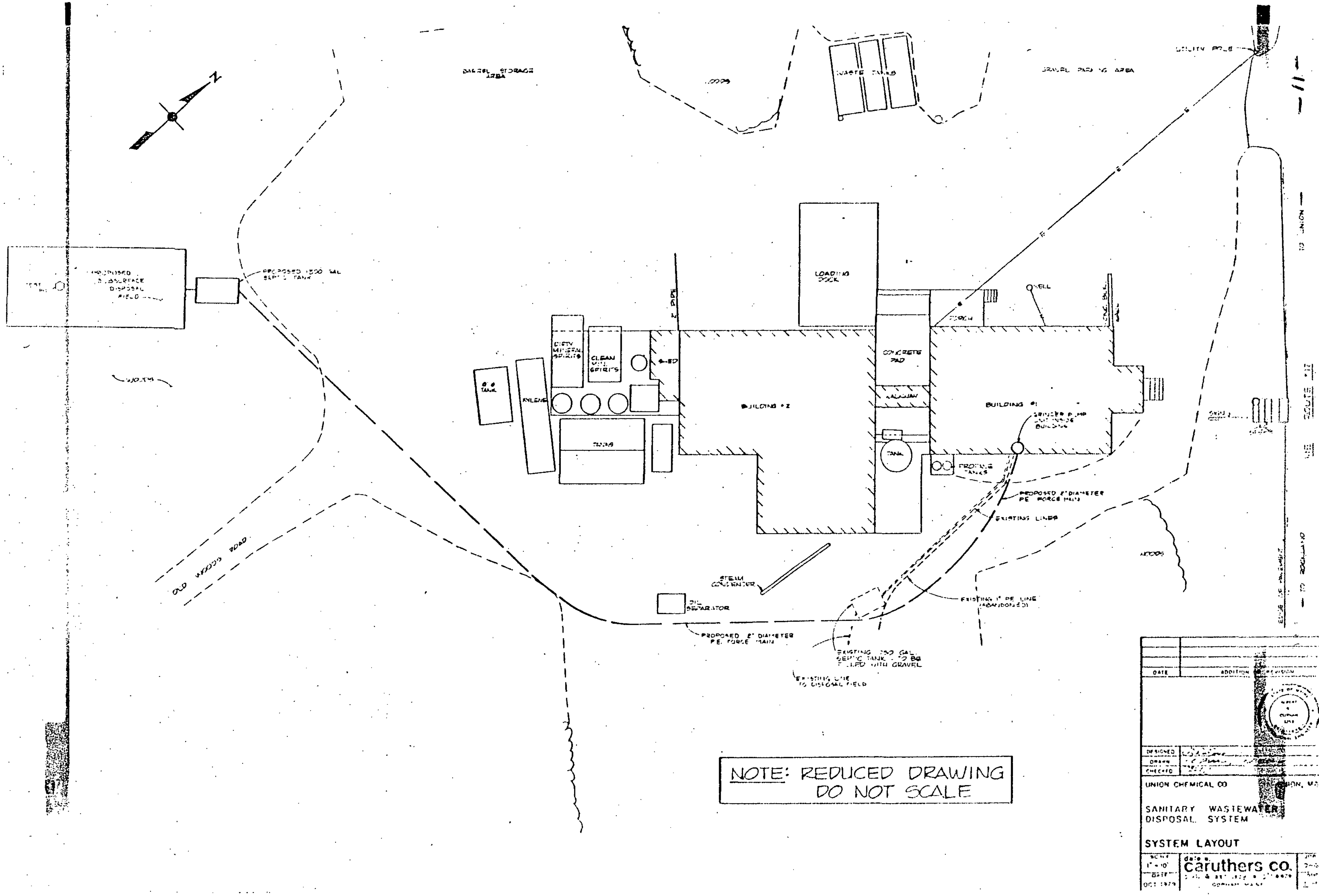
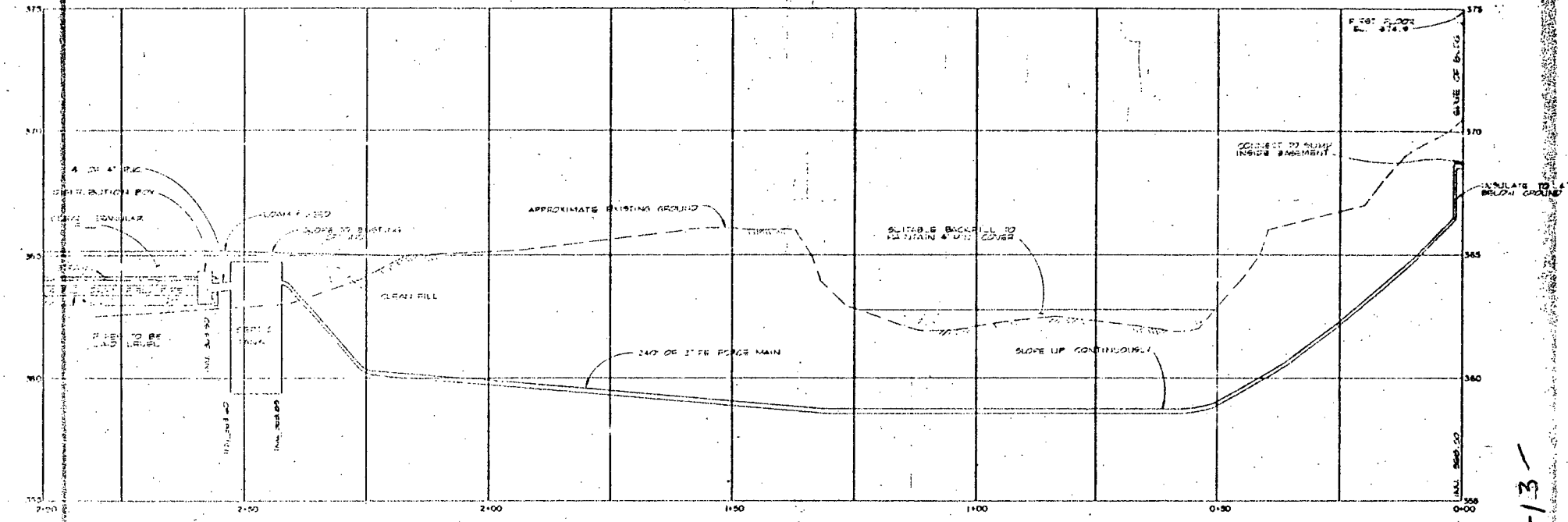
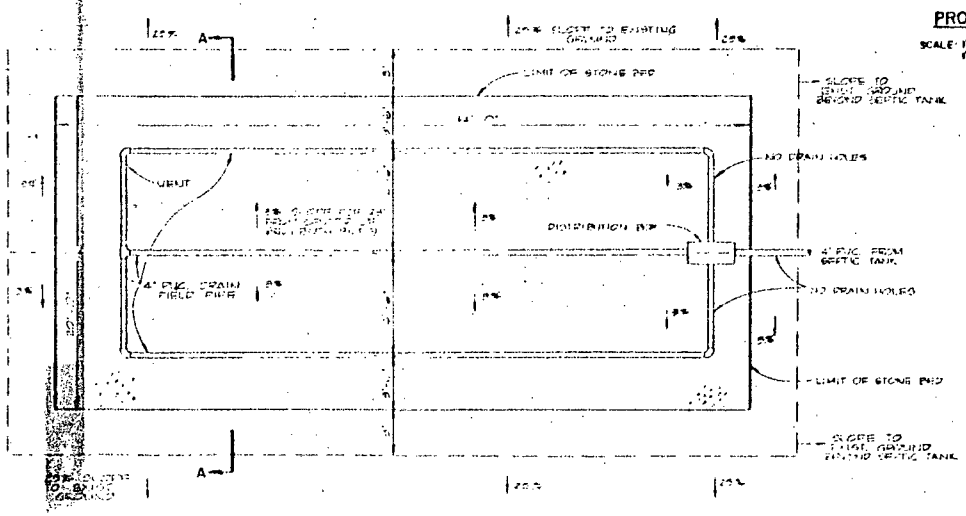

N
WASTE TANKS
GRAVEL PARKING AREA
UTILITY POLE
WOODS
PROPOSED 1500 GAL SEPTIC TANK
LOADING DOCK
WELL
PORCH
CONCRETE PAD
DIRTY MINERAL SPIRITS
CLEAN MIN. SPIRITS
SHED
XYLENE
TANKS
BUILDING #2
BUILDING #1
TANK
PROPANE TANKS
PROPOSED 2" DIAMETER PE FORCE MAIN
EXISTING LINES
OLD WOODS ROAD
STEAM CONDENSER
OIL SEPARATOR
EXISTING 1" PE LINE (ABANDONED)
PROPOSED 2" DIAMETER P.E. FORCE MAIN
EXISTING 750 GAL. SEPTIC TANK - TO BE FILLED WITH GRAVEL
EXISTING LINE TO DISPOSAL FIELD
TO UNION
NOTE: REDUCED DRAWING
DO NOT SCALE
DATE
ADDITION OR REVISION
DESIGNED
DRAWN
CHECKED
UNION CHEMICAL CO
SANITARY WASTEWATER
DISPOSAL SYSTEM
SYSTEM LAYOUT
SCALE
1" = 10'
DATE
OCT 1979
dale e. caruthers co.

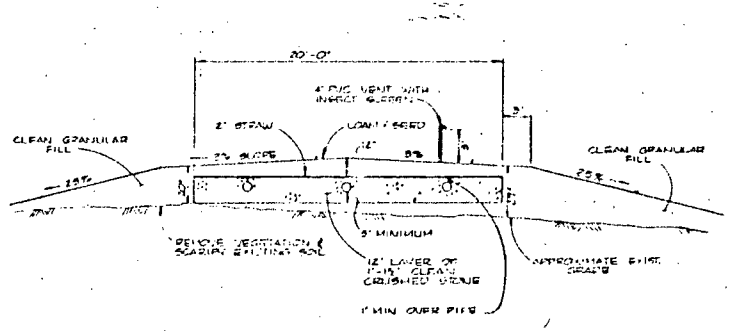


PROFILE

SCALE: 1"=10' HOR.
1"=2' VERT.



PLAN
SCALE: 1/4"=1'-0"



SECTION A-A
NOT TO SCALE

DISPOSAL FIELD DETAIL

NOTE: REDUCED DRAWING
DO NOT SCALE

DATE	ADDITION OR REVISION

STATE OF MAINE — REGISTERED

DESIGNED	
DRAWN	
CHECKED	

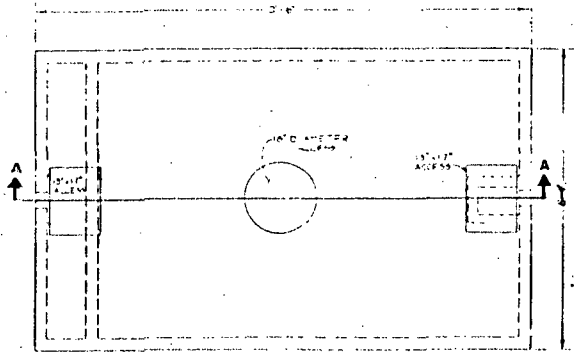
UNION CHEMICAL CO. — MAINE

SANITARY WASTEWATER DISPOSAL SYSTEM

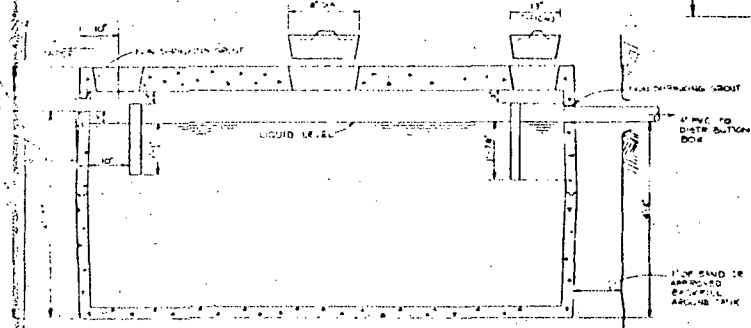
PROFILE & DISPOSAL BED DETAIL

SCALE AS SHOWN	dale e. caruthers co. civil & sanitary engineers GORHAM, MAINE	JOB NO. 9-027
DATE OCT 1975		SHEET 2 OF 3

-13-



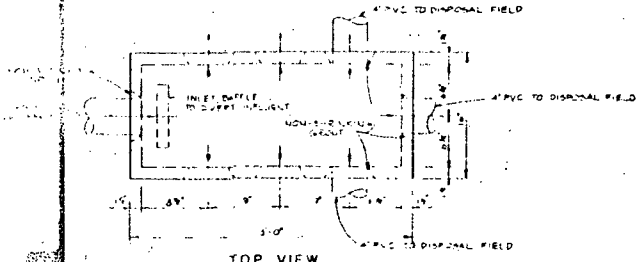
PLAN VIEW



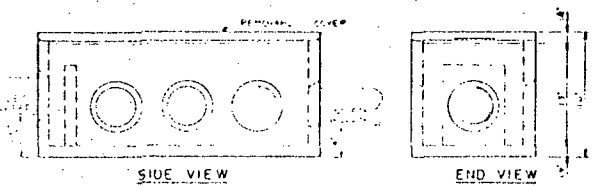
SECTION A-A

SEPTIC TANK

SCALE: 3/4" = 1'-0"

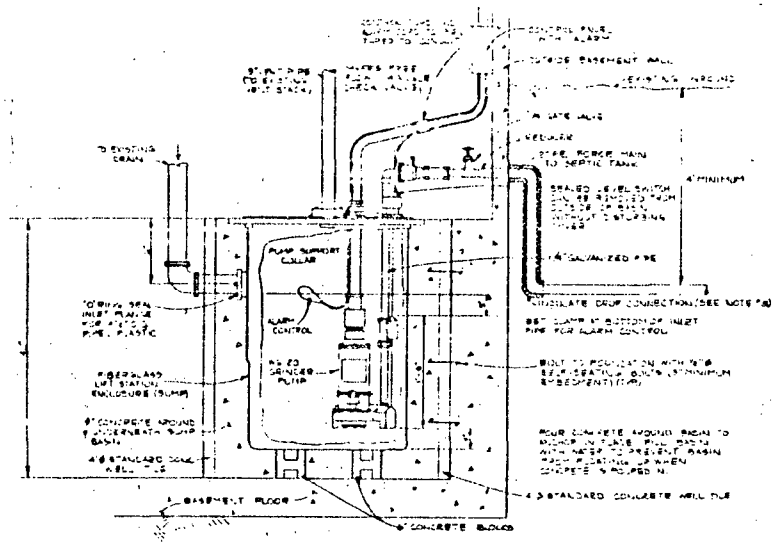


TOP VIEW



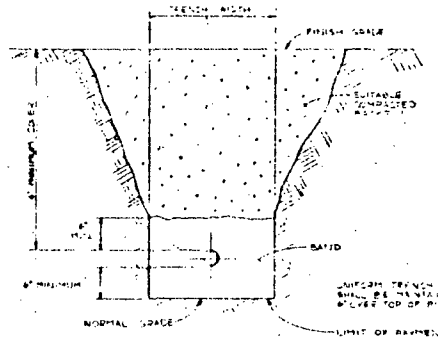
SIDE VIEW END VIEW

DISTRIBUTION BOX



GRINDER PUMP UNIT

NOT TO SCALE



TRENCH DETAIL

SCALE: 1" = 1'-0"

ESTIMATED QUANTITIES

ITEM	UNIT OF MEASURE	QUANTITY
1500 GAL. SEPTIC TANK	EACH	1
DISTRIBUTION BOX	EACH	1
GRINDER PUMP	EACH	1
SUMP (30" DIA. x 3' HIGH)	EACH	1
2" POLYETHYLENE FORCE MAIN	LIN. FT.	350
4" P.V.C. PIPE	LIN. FT.	30
4" P.V.C. (PERFORATED)	LIN. FT.	140
4" x 4" P.V.C. TEE	EACH	2
4" P.V.C. 90° ELBOWS	EACH	6
4' DIA. x 42" HIGH WELL TILE	EACH	1
1" TO 1 1/2" WASHED CRUSHED STONE	CU. YD.	35
CLEAN GRANULAR FILL	CU. YD.	100
POURED CONCRETE	CU. YD.	2
SAND	CU. YD.	40
LOAM AND SEED	SQ. YD.	225

GENERAL NOTES

1. SEPTIC TANK IS TO BE SUPERIOR CONCRETE CAT. 6115 OR APPROVED EQUAL
2. DISTRIBUTION BOXES TO BE SUPERIOR CONCRETE CAT. 6130 OR APPROVED EQUAL
3. LIFT STATION ENCLOSURE TO BE MEYERS MODEL B-12-1016 OR APPROVED EQUAL
4. SEWAGE GRINDER PUMP TO BE MEYERS MODEL M020 OR APPROVED EQUAL
5. FORCE MAIN IS TO BE 2" POLYETHYLENE OR APPROVED EQUAL
6. ALL PIPING WITHIN LIFT STATION IS TO BE 2" GALVANIZED PIPE
7. ALL INSTALLATIONS WILL BE IN STRICT COMPLIANCE WITH THE MAINE STATE PLUMBING CODE, PART II: SUBSURFACE WASTEWATER DISPOSAL REGULATIONS
8. INSTALL DROP CONNECTION AS SHOWN OR MAKE DROP CONNECTION INSIDE BASEMENT

NOTE: REDUCED DRAWING DO NOT SCALE

DATE	ADDITION OR REVISION

DESIGNED

DRAWN

CHECKED

UNION CHEMICAL CO. UNION, MAINE

SANITARY WASTEWATER DISPOSAL SYSTEM

DETAILS & NOTES

SCALE	AS SHOWN
DATE	OCT. 1979

dale caruthers co. civil & sanitary engineers GORHAM, MAINE

JOB NO. 9-027

SHEET 3 of 3

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-15-

ESTIMATE DETAILS

(5)

PROJECT: Union Chemical Co. DIVISION
WORK: SECTION
ESTIMATE NO. 79008 A
SHEET NO.
PREPARED BY: CFS DATE: 8-20-79
CHECKED BY: DATE:

DESCRIPTION	QUANTITY	MATERIALS		LABOR				EQUIPMENT		SUB-CONTRACT
		UNIT PRICE	AMOUNT	M.H./UNIT	TOTAL M.H.	RATE	AMOUNT	RATE	AMOUNT	
Electrical:										
440v to 110v transformers	-	-	4,000		120	20.00	2,400			6,400
Cable & Conduit	1200 ft.	1.25	1,500		80	"	1,600			3,100
Enclosure	1	-	650		40	"	800			1,450
Outside lighting	-		750		60	"	1,200			1,950
Grounds work:										
Landscaping	3500 SY	-	-		200	"	4,000		1,000	5,000
Fill & loam	400 CY	3.50	1,400		40	"	800		500	2,700
Seeding	-	-	200		16	"	320			520
Asphalt driveway	2000 SY	5.00	10,000		-		-			10,000
Security Fence	1500 ft.	6.50	9,750		-		-			9,750
Painting (structures, tanks, pipes, office and plant buildings)	-	-	3,000		150	"	3,000			6,000
Soil Disposal Costing	5000 CY	2.00	10,000		160	"	3,200		1,000	14,200
Page Total										61,070

-1-

9

ESTIMATE DETAILS

(4)

PROJECT: Union Chemical Co. DIVISION
WORK: SECTION
ESTIMATE NO. 7908 B
SHEET NO.
PREPARED BY: CFS DATE: 2-20-79
CHECKED BY: DATE:

DESCRIPTION	QUANTITY	MATERIALS		LABOR				EQUIPMENT		SUB-CONTRACT
		UNIT PRICE	AMOUNT	M.H./UNIT	TOTAL M.H.	RATE	AMOUNT	RATE	AMOUNT	
Waterproofing (Dikes)	24,000	.10	2,400		24	20.00	480			2,880
Roofs (Drum Storage)	2,500 ft²	3.00	7,500		160	"	3,200			10,700
Drain piping (Sumps) 2"ϕ 316 S.S.	400 ft.	3.75	1,500		60	"	1,200			2,700
Drain valves (Sumps)	6	150	900		24	"	480			1,380
Sump water tank 10,000 gals. FRP	1	-	6,200		20	"	400		250	6,850
Process Water tank 10,000 gals FRP	1	-	6,200		20	"	400		250	6,850
Test Wells	6	2,500	15,000		-	-	-			15,000
Move tank No. 22	-	-	1,500		60	"	1,200		500	3,200
Move tanks Nos. 16, 17 & 18	-	600	1,800		80	"	1,600		750	4,150
Process Piping: (2"ϕ 316 S.S.)										
- Tank farm to incin. fuel tanks	1000 ft.	3.75	3,750		80	"	1,600			5,350
- Dirty solvent to stills	500 ft.	"	1,875		40	"	800			2,675
- Clean product to tanks	500 ft.	"	1,875		40	"	800			2,675
- Revisions to buried pipe	300 ft.	"	1,125		60	"	1,200			2,325
- Sump water piping	250 ft.	"	940		24	"	480			1,420
- Process water piping	350 ft.	"	1315		40	"	800			2,115
- Pipe Badge	200 ft.	25.00	5,000		240		4,800		750	10,550
- Valves	48	150	7,200		192		3,840			11,040
Page Total										91,860

ESTIMATE DETAILS

(6)

PROJECT: Union Chemical Co. DIVISION
WORK: SECTION

ESTIMATE NO. 70002 H
SHEET NO.
PREPARED BY: CTS DATE: 2-21-70
CHECKED BY: DATE:

DESCRIPTION	QUANTITY	MATERIALS		LABOR				EQUIPMENT		SUB-CONTRACT
		UNIT PRICE	AMOUNT	M.H./UNIT	TOTAL M.H.	RATE	AMOUNT	RATE	AMOUNT	
Sanitary System:										
Site prep	-	-	-		40	20.00	800		500	1,300
Excavation	200 CY	-	-		10	"	200		500	700
Fill	250 CY	2.50	625		12	"	240		250	1,115
Reactor	1		12,000		120	"	2,400			14,400
Sewer Piping	200 ft.	1.50	300		60	"	1,200		250	1,750
Electrical	-		4,000		120	"	2,400			6,400
Page Total										25,640

Appendix C

Calculations

PROJECT	COMP BY	JOB NO.
UNION CHEMICAL CO. SPCC DESIGN	CFS	79008 A
	CHK BY	DATE 10-1-79

Containment Volume Calculations: (1)

Containment Area "A"

20' x 50' = 1000 ft²
18' x 50' = 900 "
45' x 26' = 1170 "
30' x 30' = 900 "
18' x 15' = 270 "
4240 ft²

Sump ~ 480 gals

4240 ft² x 1.0 ft. depth = 4240 ft³
4240 ft³ x 7.48 gals/ft³ = 31,716 gals.
31,716 gals + 480 gals = 32,196 gals

Containment Area "B"

30' x 30' = 900 ft²
90' x 50' = 4500 "
8' x 25' = 200 "
5600 ft²

Sump ~ 480 gals.

5600 ft² x 1.0 ft. = 5600 ft³
5600 ft³ x 7.48 gals/ft³ = 41,888 gals.
41,888 gals + 480 gals = 42,368 gals

Total Containment Capacity:
32,196 + 42,368 = 74,564 gals

PROJECT	COMP BY	JOB NO.
UNION CHEMICAL Co. SPCC DESIGN	CFS	79008 A
	CHK BY	DATE 10-1-79

(2)

Sump Water Tank Capacities:

Sump Water	10,000 gals
Berm Water	10,000 "
Total	20,000 gals

Maximum storm water holding capacity:

74,564 gals + 20,000 gals = 94,564 gals.

MEMO

10-18-79
TO: PROCESS
FROM: J. RICHARD - BCI GEONETICS
RE: RAINFALL RUNOFF CALCULATIONS FOR UNION CHEMICAL COMPANY SITE IN SO. HOPE, MAINE

Careful calculations of the rainfall runoff which can be expected from the UNION CHEMICAL Company site are required to design drainage facilities capable of handling runoff from a major storm. Sizes of ditches, pipes, sumps, pumps and other design elements are dependent upon these calculations.

Runoff calculations for the 25, 50 and 100 year storms are presented. For each of these recurrance intervals, runoff which can be expected for storm durations of 1-hour and 24-hour, both with and without snow cover is calculated. It is important to note that the EPA hazardous waste guidelines call for the 25-year, 24-hour storm to be used in design calculations. George Kaplin of the DEP (STATE of Maine) indicated to BCI on 10-17-79 that the state accepts this storm for design purposes. No mention is made of the presence or absence of snowpack. These calculations are included as a snowpack will supply additional runoff to any given storm.

Data used in the calculation of runoff rates was obtained from the U.S. Weather Service office in Portland via personal communication and the Rainfall Frequency Atlas published by the U.S. Department of Commerce. Data for the 25, 50 and 100 year storms of 1-hour and 24-hour duration are given in table I.

TABLE I.
Rainfall for 25, 50 and 100-year storm of 1-hour and 24-hour-duration

RECURRANCE INTERVAL (YEARS)	RAINFALL IN INCHES 1-HOUR DURATION	RAINFALL IN INCHES 24-HOUR DURATION
25	1.8	5.1
50	2.0	5.6
100	2.2	6.2

SOURCE: U.S. DEPT. OF COMMERCE., RAINFALL FREQUENCY ATLAS

RUNOFF

The theory and governing equations used in the calculation of runoffs are contained in the appendix. Assumptions are also included.

To be useful, runoff is best expressed a "runoff per square foot." This allows the value to be integrated over an area of virtually any size. These values are given in TABLE II.

TABLE II

EXPECTED RUNOFF PER SQUARE FOOT OF AREA DUE TO STORM EVENTS OF VARIOUS RECURRANCE INTERVALS, INTENSITIES AND DURATIONS.

RECURRANCE INTERVAL IN YEARS	INTENSITIES FOR VARIOUS DURATION INTERVALS		ESTIMATED RUNOFF FROM SITE IN GPM/FT² DURING ENTIRE DURATION PERIOD.	
	1-hour	24-hour	no Snow Cover	Snow Cover
25	1.8		0.0187	0.0197
25		5.1	0.0022	0.0023
50	2.0		0.0208	0.0219
50		5.6	0.0024	0.0026
100	2.2		0.0229	0.0241
100		6.2	0.0027	0.0028

APPLICATION OF THE unit runoff values in Table II to the designated containment areas yields the runoff expected for each area. This data is presented in table III.

TABLE III

ESTIMATED RUNOFF VALUES FROM DESIGNATED CONTAINMENT AREAS FOR STORMS with 25, 50 and 100 YEAR Recurrance intervals

CONTAINMENT AREA	Total Runoff (in gpm) WITH SNOWCOVER						Total Runoff Without Snow Cover (in GPM)					
	25		50		100		25		50		100	
	1 hr.	24 hr.	1 hr.	24 hour	1hour	24hr	1 hr.	24 hr.	1 hr.	24 hr.	1 hr.	24 hr.
A 10,648 ft²	210	26	234	28	257	30	200	24	222	26	244	29
B 5728 ft²	113	14	126	15	139	17	108	13	120	14	132	16
ASPHALT 13061 ft²	258	31	287	35	316	37	246	30	273	32	300	36
loaned area within Berm 38,872 ft²	767	92	855	103	939	110	731	88	811	95	891	106
Area Between fence and Berm 40,600 ft²	801	96	893	107	980	115	763	92	847	100	931	111
Total	2,149	258	2,395	288	2631	309	2,048	247	2,273	267	2,498	298

* all numbers have been rounded to next highest even gpm.

APPENDIX

ASSUMPTIONS AND BASIC EQUATIONS

ASSUMPTIONS

Certain assumptions are required if any meaning is to be placed on these calculations. A fundamental assumption is that the entire site is at field capacity. This, combined with the fact that the area is to be lined and no water will escape from the site by infiltration will result in the direct runoff of all precipitation. Although this may not always be the case in practice, the conditions presented here represent a "worst possible case" for a 25-year storm.

Calculations establishing the snow-melt component of runoff require that the temperature of rain be known. These types of records are not available. Therefore, a rain temperature of 40°F is assumed for snow melt calculations.

Basic Equations

Calculation of runoff for a storm of given intensity and duration from a saturated area with no snow cover is defined as follows:

$$R = \left(\frac{I \times A}{12}\right)\frac{7.48}{D} \qquad \text{(equation 1)}$$

where R = runoff in gpm/unit area, I = intensity in inches, A = the unit area in question, and D = duration in minutes. The numbers 12 and 7.48 are factors used to convert inches to feet and cubic feet to gallons respectively.

Appendix (cont.)

The addition of snow cover over the site increases the observed runoff. The volume of water contributed from melting snow is defined by the following:

$$M = \frac{P(T_w - 32)}{144} \qquad \text{(equation 2)}$$

where M = melting due to rainfall, P = rainfall in inches, T_w = temperature of rain in degrees Fahrenheit and 144 is the latent heat of fusion in BTU's per pound.

The value of M is included in equation 1 to obtain the total runoff due to rainfall plus snow melt.

$$R = \left[\frac{(I+M)A}{12}\right]\frac{7.48}{D} \qquad \text{(equation 3)}$$

References

U.S. Department of Commerce, 1961. Rainfall Frequency Atlas of the United States: Department of Commerce Technical Paper No. 40

Linsley, Paulhus and Kohler., 1975. Hydrology for Engineers; McGraw-Hill Book Company; N.Y., N.Y.

Chow, V.T., 1964. Handbook of Applied Hydrology. McGraw-Hill Book Company, N.Y, N.Y.

Butler, S.S., 1957. Engineering Hydrology. Prentice-Hall, INC., Englewood Cliffs, N.J.

Hayes, G.S., 1972. Average Water Content of Snow Pack in Maine: U.S. Geological Survey Hydrologic Investigations ATLAS HA-452

Appendix D

Capital Cost Estimate Detials

ESTIMATE DETAILS

PROJECT: Union Chemical Co. DIVISION
WORK: Environmental Project - Cost Summary SECTION
ESTIMATE NO. 79008 H
SHEET NO.
PREPARED BY: CES DATE: Aug. 20, 1979
CHECKED BY: DATE:

DESCRIPTION	QUANTITY	MATERIALS		LABOR				EQUIPMENT		SUB-CONTRACT
		UNIT PRICE	AMOUNT	M.H./UNIT	TOTAL M.H.	RATE	AMOUNT	RATE	AMOUNT	
1. Incinerator										
A. Air Emission Controls			141,500		564	20.00	11,280		1,500	154,280
B. Civil & Structural			28,700		488	"	9,760		2,000	40,460
C. Fuel System			27,550		204	"	4,080		—	31,630
D. Burner Unit			88,700		1006	"	20,120		—	108,820
E. Aux. Services			31,175		208		4,160		500	35,835
2. Spill Containment			98,700		1458	"	29,160		3,750	131,610
3. Process Piping			23,080		716	"	14,320		750	38,150
4. Electrical Service			6,900		300	"	6,000		—	12,900
5. Grounds Work			34,350		566	"	11,320		3,500	49,170
6. Sanitary System			16,925		362		7,240		1,500	25,665
Sub Totals			497,580				117,440		17,500	$632,520
Contingency (10%)										63,252
Engineering										27,500
Project Total										$723,272

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ESTIMATE DETAILS

PROJECT: Union Chemical Co. DIVISION
WORK: Environmental Project SECTION
ESTIMATE NO. 79008 A
SHEET NO.
PREPARED BY: CFS DATE: Aug. 30, 1979
CHECKED BY: DATE:

DESCRIPTION	QUANTITY	MATERIALS		LABOR				EQUIPMENT		SUB-CONTRACT
		UNIT PRICE	AMOUNT	M.H./UNIT	TOTAL M.H.	RATE	AMOUNT	RATE	AMOUNT	
Incinerator System:										
Site Prep	-	-	-		60	$20.00	$1,200		$1,500	$2,700
Fill & Excavation	100 CY	2.00 CY	$200		40	"	800		500	1,500
Waterproofing	5000 SF	.10	500		8	"	160			660
Concrete (Foundations)	140 CY	100	14,000		80	"	1,600			15,600
Rebar	-	INCLUDED			40	"	800			800
Control Building	1	-	2,000		60	"	1,200			3,200
Drum Storage Structure	4000 SF	3.00	12,000		200	"	4,000			16,000
Fuel Storage Tanks	3	5,100	15,300		60	"	1,200			16,500
Feed Slurry Tank	1	-	1,300		20	"	400			1,700
Slurry Mixer & Motor (5 H.P.)	1	-	3,500		16	"	320			3,820
Mixed Feed Holding Tank	1	-	500		8	"	160			660
Filters	2	250	500		12	"	240			740
Feed Pumps (5 GPM) Air operated	2	2100	4,200		16	"	320			4,520
Fuel Piping - 2" ϕ S.S.	200 ft.	3.75	750		48	"	960			1,710
Valves - 2" ϕ Ball Type	6	250	1,500		24	"	480			1,980
Page Total										$72,090

PROJECT: Union Chemical Co. DIVISION
WORK: SECTION
ESTIMATE NO. 79002 A
SHEET NO.
PREPARED BY: CEC DATE: 8-20-79
CHECKED BY: DATE:

DESCRIPTION	QUANTITY	MATERIALS		LABOR				EQUIPMENT		SUB-CONTRACT
		UNIT PRICE	AMOUNT	M.H./UNIT	TOTAL M.H.	RATE	AMOUNT	RATE	AMOUNT	
- Incinerator (steel) Fluid Bed	1	-	38,500		480	20.00	9,600			48,100
- Burner refractory	-	-	10,000		120	"	2,400			12,400
- Ignition System	1	-	2,500		20	"	400			2,900
- Fluidizing Blower	1	-	5,900		16	"	320			6,220
- Blower Motor (100 H.P.)	1	-	4,000		24	"	480			4,480
- I. D. Fan	1	-	5,900		16	"	320			6,220
- I. D. Fan Motor (100 H.P.)	1	-	4,000		24	"	480			4,480
14 - Dampers & Actuators	2	2200	4,400		16	"	320			4,720
- Quench Tower	1	-	4,500		120	"	2,400			6,900
Scrubber System Ceilcote FWS	1	-	120,000		300	"	6,000			126,000
- Ducting & Transitions	-		4,000		50	"	1,000			5,000
Stack 30" ϕ FRP	100 ft.		20,000		240	"	4,800		1,500	26,300
Water supply pump	1	-	500		20	"	400			900
Well	1		4,000		-		-			4,000
Air Compressor System	1	-	6,300		40	"	800			7,100
Quench water system	1		2,500		40	"	800			3,300
Lime settling Tank 5,000 gals.	1	-	1,500		24	"	480			1,980
Page Total										271,000

ESTIMATE DETAILS

(3)

PROJECT: Union Chemical Co. DIVISION
WORK: SECTION
ESTIMATE NO. 79002 A
SHEET NO.
PREPARED BY: CFS DATE: 8-20-79
CHECKED BY: DATE:

DESCRIPTION	QUANTITY	MATERIALS		LABOR				EQUIPMENT		SUB-CONTRACT
		UNIT PRICE	AMOUNT	M.H./UNIT	TOTAL M.H.	RATE	AMOUNT	RATE	AMOUNT	
Hoist & motor (10 H.P.)	1	-	2,000		8	20.00	160			2,160
Water and air piping & Valves - 1"ϕ	700 ft.	1.25	875		100	"	2,000		500	3,375
Electrical (Starters, conduit and controls)	-	-	5,000		120	"	2,400			7,400
Burner Lift Truck	1	-	15,000		-		-			15,000
Spill Containment System:										
Excavation & Fill	1,400 CY	2.00	2,800		200	"	4,000		4,000	10,800
Waterproofing	40,000 SF	.10	4,000		40	"	800			4,800
Concrete (slabs & curbs)	255 CY	100	25,500		160	"	3,200			28,700
Concrete (sumps)	60 CY	100	6,000		40	"	800			6,800
Rebar	-	INCLUDED			160		3,200			3,200
Sump pumps	3	1,500	4,500		45	"	900			5,400
Sump pump motors (2 H.P.)	3	500	1,500		15	"	300			1,800
Earth (Dikes)	200 CY	4.50	900		80	"	1,600		500	3,000
Clay (")	1500 CY	3.00	4,500		120	"	2,400		1,000	7,900
Sand (")	2000 CY	3.00	6,000		150	"	3,000		1,500	10,500
Page Total										$110,835

Appendix E

Selected Regulations

Appendix F

Communications

STATE OF MAINE
Department of Environmental Protection

MAIN OFFICE: RAY BUILDING, HOSPITAL STREET, AUGUSTA
MAIL ADDRESS: STATE HOUSE, AUGUSTA 04333

Henry E. Warren
COMMISSIONER
289 2811

ADMINISTRATIVE SERVICES:
289 2691

BUREAUS:

AIR QUALITY CONTROL
289 2437

LAND QUALITY CONTROL
289 2111

WATER QUALITY CONTROL
289 2591

OIL POLLUTION CONTROL
289 2591

REGIONAL OFFICES:

31 CENTRAL STREET
BANGOR 04401
947 6746

634 MAIN STREET
PRESQUE ISLE 04769
764 1737

OIL POLLUTION CONTROL
17 COMMERCIAL STREET
PORTLAND
773 6491

OIL SPILL REPORTS ONLY
(TOLL FREE) 1 800 482 0777

CITIZENS' ENVIRONMENTAL ASSISTANCE SERVICE
289 2691
(TOLL FREE) 1 800 452 1942

AIR QUALITY CONTROL
17 COMMERCIAL STREET
PORTLAND
773 0196

LAND QUALITY CONTROL
17 COMMERCIAL STREET
PORTLAND
773 0196

August 2, 1979

Dr. R. G. Esposito
Union Chemical Company, Inc.
Union, Maine 04802

Dear Dr. Esposito:

This is to confirm the conversation held between you, Steve Groves, Jack Krueger, and myself at your facility on August 1, 1979.

At that time we informed you that results from recent on-site investigations, involving soil and water sampling, indicate that Union Chemical Company, Inc., is in violation of 38 M.R.S.A., Sections 413 and 414.5. Those sections address the unlicensed discharge of pollutants to the waters of the State and violation of the conditions of a valid Waste Discharge License Certificate, respectively.

We further informed you of our intention to request that the Board of Environmental Protection refer this matter to the office of the Attorney General at its August 22, 1979 meeting.

If you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,

George W. Lord

George W. Lord, Director
Division of Licensing & Enforcement
Bureau of Water Quality Control

GWL:aw

CERTIFIED MAIL NO. 914219

file

PROCESS

BOX 338, WATERVILLE, MAINE 04901
TELEPHONE: 207-547-3259

August 8, 1979

TO: Dr. R.G. Esposito

FROM: Fred Stubbert

SUBJECT: Preliminary Scope of Services-
Environmental Protection Measures
at Union Chemical Company.

As requested, please find enclosed a preliminary Scope of Services to assist Union Chemical Company in developing measures necessary for environmental protection. These measures will also be as required to satisfy state and federal environmental laws. Consequently, the scope has been termed preliminary until it can be reviewed with Maine's Department of Environmental Protection and subsequently revised.

Because the design and implementation process will take in excess of sixty days, we recommend that you expedite the following temporary protection measures. These measures are:

1. Combining the contents of partially filled storage drums.
2. Consolidation of all drums into one storage area.
3. Covering drums in the consolidated area to prevent contact with rainfall.
4. Recycling all empty drums.
5. Lining consolidated drum storage ground area with impervious material and diking this area to:
    a. divert indirect rainfall runoff from entering this area
    b. contain any spill, should one occur within this area
6. Repeating (5) in the proximity of all bulk storage tanks.
7. Diking the entire downslope portion of the site to:
    a. divert indirect rainfall runoff from flowing across the site
    b. prevent any direct rainfall runoff from the site from directly entering Quiggle Brook
    c. act as a back-up spill containment system in the event of primary spill containment failure.
8. Developing additional spill containment emergency measures to be implemented by operating personnel.
9. Training operating personnel in emergency spill containment techniques.
10. Assigning specific personnel to ensure implementation of spill prevention, control and containment programs.
11. Continuously reviewing and improving operating and SPCC measures.

As discussed during cur site visits, these measures will significantly reduce the potential for contaminating ground water and Quiggle Brook in the event of accidental spills during processing or storage.

We are proceeding with development of an appropriate design team and the preliminary design phase. Of course, you recognize that it is imperative that we meet with the DEP to review our program and to ascertain the current status of all required Environmental Permits. This should be done immediately by arranging a meeting through Henry Warren, Commisioner.

We will meet with you again on Monday, August 13, 1979 to further discuss our approach and to review the implementation status of the temporary protective measures discussed above.

Meanwhile, should you have any questions please call me.

Fred Stubbert

Fred Stubbert

CFS:tts

PROCESS

BOX 338, WATERVILLE, MAINE 04901
TELEPHONE: 207-547-3259

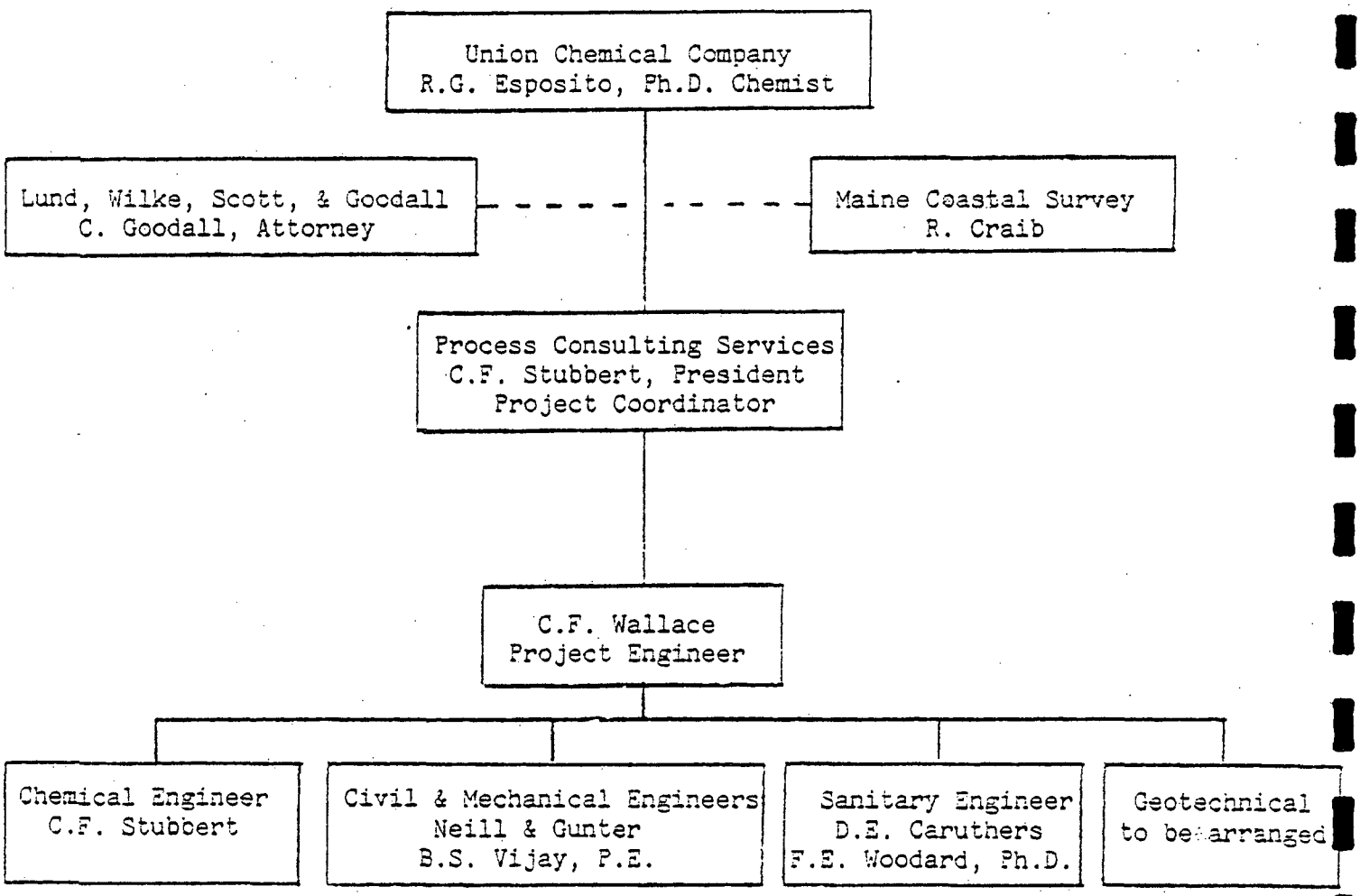
August 8, 1979

Job No. 79008 A

TO: File

FROM: Fred Stubbert

SUBJECT: Project Organization



File

UNION CHEMICAL COMPANY, INC.
(207) 785-2625 UNION, MAINE 04862

August 13, 1979

Maine Department of Environmental Protection
Haye Building
State House
Augusta, Maine 04330

Attn: Mr. Henry Warren, Commissioner

Dear Mr. Warren:

SUBJECT: Union Chemical Co., Inc.
South Hope, Maine

As you are aware, we are engaged in the business of organic chemical recovery and recycling. Our process is energy self sufficient as a result of utilizing the heat value of chemical residuals in order to reclaim and recycle otherwise wasted by-products of industrial, commercial and institutional activities both in and outside of Maine. Furthermore, we are pioneering a fluidized-bed combustion process that will ultimately be capable of safely reducing a broad spectrum of hazardous wastes. This equipment will be used both as pollution control and process equipment.

Recently, we have been cited by the DEP for violations of water quality statutes and are scheduled for an enforcement action hearing before the DEP on August 22, 1979. We think this action is hasty in light of our willingness to cooperate with your staff in correcting deficiencies in our operations which may be incompatible with the environment or State and Federal Law, and in light of what appears to be a communications problem.

Unfortunately, we are not completely aware of environmental law or of mitigating measures we must take to ensure environmentally compatible operations. Because of our concerns we began negotiations for engineering assistance in June of this year. As a result, Process Consulting Services (PCS) of Waterville, Maine has been retained to develop all necessary environmental safeguards. In addition, we have retained Mr. Clifford Goodall of Lund, Wilk, Scott and Goodall to advise us with respect to Environmental Law.

Because we are in the very preliminary stages of developing permanent mitigative measures, we would like to meet with you and your staff as soon as possible, preferably this week, to identify the full complement of mitigative measures and environmental permits required of Union Chemical Company. We would prefer a cooperative rather than adversary relationship with the DEP and are prepared to meet to discuss our situation at your earliest possible convenience.

Because the preliminary and final design process will require upwards of sixty days and environmental permits - if any are required - may take longer, we have implemented temporary measures recommended by Process Consulting Services which are intended to prevent and or contain any spill, should one occur. These measures include:

1. Combining the contents of partially filled storage drums.
2. Consolidation of all drums into one storage area.
3. Covering drums in the consolidated area to prevent contact with rainfall.
4. Recycling all empty drums.
5. Lining consolidated drum storage ground area with impervious material and diking this area to:

a. divert indirect rainfall runoff from entering this area
b. contain any spill, should one occur within this area.

6. Repeating (5) in the proximity of all bulk storage tanks.
7. Diking the entire downslope portion of the site to:
   a. divert indirect rainfall runoff from flowing across the site
   b. prevent any direct rainfall runoff from the site from directly entering Quiggle Brook
   c. act as a back-up spill containment system in the event of primary spill containment failure.
8. Developing additional spill containment emergency measures to be implemented by operating personnel.
9. Training operating personnel in emergency spill containment techniques.
10. Assigning specific personnel to ensure implementation of spill prevention, control and containment programs.
11. Continuously reviewing and improving operating and SPCC measures.

Our business is recycling chemicals using our energy self sufficient technique of capturing the heat value of other wasted combustibles. We intend to continue to provide a valuable recycling and pollution control service in the State of Maine. Furthermore, we intend to develop a model site which will demonstrate that control of hazardous materials can be economically as well as energy self sufficient. We look forward to meeting with you and your staff and cooperating with you in obtaining necessary environmental approvals.

Very truly yours,
Union Chemical Co., Inc.

R. G. Esposito, PhD.
President

enclosures: 1. Contract with Process Consulting Services (PCS)
2. Contract for Maine Coastal Survey Services

RGE/n

and locations and under all circumstances and conditions, except as provided in § 110.6, include discharges which:

(a) Violate applicable water quality standards in navigable waters of the United States, or

(b) 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.

§ 110.5 Discharge prohibited.

As provided in section 311(b)(3) of the Federal Act, no person shall discharge or cause or permit to be discharged into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone any oil, in harmful quantities as determined in §§ 110.3 and 110.4 except as the same may be permitted in the contiguous zone under Article IV of the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended.

§ 110.6 Exception for vessel engines.

For purposes of section 311(b) of the Federal Act, discharges of oil from a properly functioning vessel engine are not deemed to be harmful; but such oil accumulated in a vessel's bilges shall not be so exempt.

§ 110.7 Dispersants.

Addition of dispersants or emulsifiers to oil to be discharged which would circumvent the provisions of this part is prohibited.

§ 110.8 Demonstration projects.

Notwithstanding any other provisions of this part, the Administrator of the Environmental Protection Agency may permit the discharge of oil into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone, in connection with research, demonstration projects, or studies relating to the prevention, control, or abatement of oil pollution.

§ 110.9 Notice.

Any person in charge of any vessel or onshore or offshore facility shall, as soon as he has knowledge of any discharge of oil from such vessel or facility in violation of § 110.5, immediately notify the appropriate agency of such discharge 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, 41 FR 12628 et seq. (March 25, 1976).

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, unless otherwise noted.

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 sec. 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 manmade 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) "Transportation-related" and "non-transportation-related" as applied to an onshore 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 paragraphs (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 paragraphs (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 dates for 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 shorelines. 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 carefully thought-out plan, prepared in accordance with good engineering practices, 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) Curbing, drip pans

(ii) Sumps and collection systems

(d) When it is 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 paragraph (e)(2)(iii) (B, C and D) 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 basins 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 of the 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 air vent 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 the more frequent use of exposed pipe corridors or galleries.

(ii) When a 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 paragraph (e)(2)(iii) (B), (C), and (D). 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 examined 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 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.

(7) *Oil drilling, production, or workover facilities (offshore).* Definition: "An oil drilling, production or workover facility (offshore)" may include all drilling or workover equipment, wells, flowlines, gathering lines, platforms, and auxiliary nontransportation-related equipment and facilities in a single geographical oil or gas field operated by a single operator.

(ii) Oil drainage collection equipment should be used to prevent and control small oil spillage around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and allied equipment. Drains on the facility should be controlled and directed toward a central collection sump or equivalent collection system sufficient to prevent discharges of oil into the navigable waters of the United States. Where drains and sumps are not practicable oil contained in collection equipment should be removed as often as necessary to prevent overflow.

(iii) For facilities employing a sump system, sump and drains should be adequately sized and a spare pump or 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 the separator, parallel redundant dump valves, or other feasible alternatives to prevent oil discharges.

(v) Atmospheric 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 probable consequences of failure. It is recommended 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 valvs 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 their operating personnel at intervals frequent enough to assure adequate understanding of the SPCC Plan for that facility. Such briefings should highlight and describe known spill events or failures, malfunctioning components, and recently developed precautionary measures.

Appendix—Memorandum of Understanding Between the Secretary of Transportation and the Administrator of the Environmental Protection Agency

Section 11—Definitions

The Environmental Protection Agency and the Department of Transportation agree that for the purposes of Executive Order 11548, the term:

(1) "Non-transportation-related onshore and offshore facilities" means:

(A) Fixed onshore and offshore oil well drilling facilities including all equipment and appurtenances related thereto used in drilling operations for exploratory or development wells, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(B) Mobile onshore and offshore oil well drilling platforms, barges, trucks, or other

mobile facilities including all equipment and appurtenances related thereto when such mobile facilities are fixed in position for the purpose of drilling operations for exploratory or development wells, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(C) Fixed onshore and offshore oil production structures, platforms, derricks, and rigs including all equipment and appurtenances related thereto, as well as completed wells and the wellhead separators, oil separators, and storage facilities used in the production 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.

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

(E) Oil refining facilities including all equipment 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

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 sec. 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:

§ 151.6 Civil penalties for violation of hazardous substances pollution prevention regulations.

Owners or operators of facilities subject to § 151.3 (a), (b), or (c) who violate the requirements of this part 151 by failing or refusing to comply with any of the provisions of § 151.3, § 151.4 or § 151.5 shall be liable for a civil penalty of not more than $5,000 for each day such violation continues. This subsection shall not apply to Federal agencies.

§ 151.7 Guidelines for the preparation and implementation of a spill prevention control and countermeasure plan.

The SPCC plan shall be prepared in accordance with good engineering practices, and the requirements of § 151.7 and shall have full approval of management at a level with authority to commit the necessary resources. The plan shall be in narrative form and shall describe all of the preventive systems or major preventive features required by these guidelines. Where maps, drawings, or plot plans are necessary to describe the prevention practices at the facility, they shall be included in the plan. If the plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, these items shall be discussed in separate paragraphs, and the details of installation and operational startup shall be explained. The complete SPCC plan shall follow the sequence outlined below, and include a discussion of the facilities' conformance with the applicable requirements. Where the SPCC plan does not conform to the applicable requirements, the SPCC plan shall so indicate, stating the reasons for nonconformance and indicate the alternative methods to achieve equivalent protection.

(a) A facility which has experienced one or more discharges within 12 months prior to the effective date of this part shall include a written description of each incident, corrective action taken and plans for preventing recurrence.

(b) Considering local drainage patterns and facility storage capacity and throughput, the plans shall include a prediction of the direction, rate of flow and total quantity of hazardous substances which could be discharged from the facility as a result of a major failure or accident.

(c) General requirements:

(1) Appropriate containment, drainage control and/or diversionary structures shall be provided. One of the following preventive systems as prescribed in § 151.7(d) or its equivalent shall be used as a minimum:

(i) Dikes, berms, retaining walls, impounding basins, diversion ponds, retention ponds or other forms of secondary containment. Secondary containment systems shall be sufficiently impervious to contain spilled hazardous substances.

(ii) Curbing culverting, gutters, sewers or other forms of drainage control.

(iii) Roofs, covers or other forms of protection to prevent storage piles from windblowing and leaching.

(d) Specific requirements:

(1) *Liquid storage areas.* Tank or container materials shall be compatible with the material stored. Secondary containment, sufficent to contain the capacity of the largest single container or tank in the drainage system shall be provided. If the drainage area is subject to precipitation, a reasonable allowance for its accumulation, based on local weather conditions and plant operation, shall be provided over and above the volume necessary to contain the largest single tank or container. Secondary containment systems shall be sufficiently impervious to contain spilled hazardous material until it can be removed or treated. The plant treatment system may be used to provide secondary containment provided it has sufficient excess holding capacity always available to hold the contents of the largest container in the drainage area plus a reasonable allowance for precipitation.

(2) *Raw material storage areas (other than liquids).* Raw materials storage areas which are subject to runoff, leaching, or windblowing shall incorporate drainage or other control features which will prevent the discharge of hazardous substances. Drainage control shall direct contaminated runoff or leachate to treatment systems or to other areas for disposal, which shall be described in the plan.

(3) *Plantsite runoff other than from areas covered by (1) and (2).* Other areas of the facility from which runoff or spills of hazardous materials could cause a discharge shall incorporate the necessary drainage or other control features to prevent discharge and to insure the treatment or disposal of runoff, spilled material or leachate as in paragraph (d)(2) of this section.

(4) *Truck and rail car liquid loading and unloading areas* shall contain sufficient secondary containment or treatment capacity to hold or treat the largest tank truck or rail car or the largest compartment of a tank truck or rail car if the tanks are compartmented, which is loaded or unloaded at the facility. If the secondary containment is provided in the treatment system, it must be designed so that the extra available capacity always exists to contain a spill of the largest container using the loading and unloading areas, plus a reasonable allowance for precipitation.

(5) *In plant transfer, process and materials handling areas.* Piping, processing equipment and materials handling equipment shall be designed and operated so as to prevent discharges of hazardous substances. Materials used in piping and equipment shall be compatible with the substances handled. Drainage from process and materials handling areas shall be designed as described in paragraph (d) (1), (2), and (3) of this section. Additional protection such as covers or guards to prevent windblowing, spraying or releases from pressure relief vents from causing a discharge of hazardous substances shall be provided as appropriate.

(6) *Preventive maintenance and housekeeping.* All areas of the facility shall be inspected at specified intervals for leaks or conditions that could lead to discharges. In particular, plant piping, pumps, storage tanks and bins, pressure vessels, process and materials handling equipment and material bulk storage areas shall be examined for any conditions or failures which could cause a discharge. Inspections shall include examinations for leaks, windblowing, corrosion, support or foundation failure or other forms of deterioration or noncontainment. Inspection intervals shall be specified in the plan and shall be based on design and operational experience. Different areas may require different inspection intervals. Where a leak or other condition is discovered, corrective action shall be immediately taken or the unit or process shut down until corrective action can be taken. When a leak or noncontainment has occurred, contaminated soil, debris, or other material must be promptly removed and disposed of in accordance with Federal, State, or local requirements and as described in the plan.

(7) *Release of rainwater from diked or other drainage areas.* Only uncontaminated rainwater may be released from diked or other plant drainage areas unless the released water will be given approved treatment. The release of rainwater or snowmelt shall be supervised as specified in the plan and only after sufficient testing to assure that there will be no discharge.

(8) *Facility security.* Facilities shall have the necessary security systems to prevent accidental or intentional entry which could cause a discharge. Security systems described in the plan shall address fencing, lighting, vehicular traffic control, and securing of equipment and buildings. While it is recognized that it may be impossible to stop a determined and well-equipped vandal, a reasonable effort will discourage most intentional and almost all accidental entry problems.

(9) *Training.* Facility employees and contractor personnel using the facility

shall be trained in and informed of preventive measures at the facility. Employee training shall be conducted at intervals specified in the plan but not less than once per year, in matters of pollution control laws and regulations, and in the SPCC plan and the particular features of the facility and its operations which are designed to prevent discharges. The plan shall designate a person who is accountable for spill prevention at the facility and who will set up the necessary spill emergency procedures and reporting requirements so that spills or emergency releases of hazardous substances can be isolated and contained before a discharge can occur. Contractor or temporary personnel shall be informed of those plant operating and design features which they should know about in order to prevent discharges or spills from occurring.

[FR Doc. 78-24660 Filed 8-31-78; 8:45 am]

Fishery Conservation and Management Act of 1976).

(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, and any facility of any kind which is subject to the jurisdiction of the United States and is located in, on, or under any other waters, other than a vessel or a public vessel.

(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, partnership and a Federal, State, and local agency.

(g) "Enforcement Division Director" means the Director of any enforcement division within any regional office of the Environmental Protection Agency or the delegated representative of the Enforcement Division Director.

(h) "Regional Administrator," means the Regional Administrator of the Environmental Protection Agency, or his/her designee, in and for the region in which the facility is located.

(i) "Administrator" means the Administrator of the U.S. Environmental Protection Agency or his/her designee.

(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) "Navigable waters" is defined in section 502(7) of the act to mean "waters of the United States, including the territorial seas." This term includes but is not limited to:

(1) All waters which are presently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide, intermittent streams, and including adjacent wetlands. "Wetlands" includes those areas such as swamps, marshes, bogs, and similar areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

(2) Tributaries of navigable waters of the United States, including adjacent wetlands;

(3) Interstate waters, including wetlands; and

(4) All other waters of the United States such as intrastate lakes, rivers, streams, mudflats, sandflats, and wetlands, the use, degradation or destruction of which would affect or could affect interstate commerce including but not limited to:

(i) Intrastate lakes, rivers, streams, and wetlands which are or could be used by interstate travelers for recreational or other purposes; and

(ii) Intrastate lakes, rivers, streams, and wetlands from which fish are or could be taken and sold in interstate commerce; and

(iii) Intrastate lakes, rivers, streams, and wetlands which are used or could be used for industrial purposes by industries in interstate commerce.

(5) All impoundments of waters of the United States otherwise defined as navigable waters under this paragraph.

(l) "Contiguous zone" means the entire zone established or to be established by the United States under article 24 of the Convention of the Territorial Sea and the Contiguous Zone.

(m) "Territorial seas" means the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of 3 miles.

(n) "Act" means the Clean Water Act (Pub. L. 92-500, as amended by Pub. L. 95-217) also known as the Federal Water Pollution Control Act.

§ 151.3 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 which are subject to NPDES permitting requirements under section 402 of the Act and 40 CFR Part 122 shall prepare a spill prevention control and countermeasure plan (hereafter "SPCC plan" or "plan"), in writing and in accordance with § 151.7. Except as provided for in paragraphs (b), (c), and (f) of this section, the SPCC plan shall be prepared within 6 months of the modification or issuance of an NPDES permit for the facility and shall be fully implemented as soon as possible but not later than 1 year after the modification or issuance of the permit.

(b) Owners or operators of onshore and offshore facilities that become operational after the effective date of this part shall prepare an SPCC plan in accordance with § 151.7. Except as provided for in paragraph (f) of this section, such SPCC plan shall be prepared before the date such facility begins operations and shall be fully implemented as soon as possible but no later than 6 months after the facility begins operations.

(c) Owners or operators of onshore and offshore mobile or portable 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 § 115.7, using good engineering practices. 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 prepared and implemented. The SPCC plan shall only appy while the facility is in a fixed (nontransportation) 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 shall attest to the fact that: (1) He/she has examined the facility, (2) he/she is familiar with provisions of this part, (3) the SPCC plan has been prepared in accordance with good engineering practice and with § 151.7. Deviations from the requirements of § 151.7 shall be identified in the SPCC plan and the engineer's reasons for such deviations shall be stated. This certification shall in no way relieve the owner or operator of an onshore or offshore facility of the duty to prepare and fully implement an SPCC plan in accordance with § 151.7, 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 under paragraphs (a), (b), or (c) of this section shall: (1) Maintain a complete copy of the plan at the facility (2) make the plan available to the Regional Administrator for onsite review during normal working hours, and (3) mail a complete copy of the plan to the Regional Administrator immediately upon demand.

(f) Extensions of time.

(1) The Enforcement Division Director may authorize an extension of time for the preparation and full implementation of an SPCC plan beyond the time allowed for the preparation and implementation of an SPCC plan under paragraphs (a), (b), or (c) of this section where he/she finds that the owner or operator cannot fully comply

with the requirements of this part, despite all good faith and reasonable efforts.

(2) Any owner or operator seeking an extension of time under paragraph (f)(1) of this section shall submit a letter of request to the Enforcement Division Director. This letter shall include:

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

(ii) A full explanation of the cause for the 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 dates for completion of tests or studies, installation, and operation of any necessary equipment or other preventive measures; and

(v) Other information relevant to the request.

(3) The submission of a letter of request for extension of time under paragraph (f)(2) of this section shall in no way relieve the owner or operator from his/her obligation to comply with the requirements of § 151.3 (a), (b), or (c). Where an extension of time is authorized by the Enforcement Division Director for particular equipment or other specific aspects of the SPCC plan, this extension shall in no way affect the owner's or operator's obligation to comply with the requirements of § 151.3 (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.

§ 151.4 Amendment of SPCC plans by Enforcement Division Director.

(a) Notwithstanding compliance with § 151.3, whenever a facility subject to § 151.3 (a), (b), or (c) has discharged hazardous substances in harmful quantities as determined in 40 CFR part 118 or in violation of a permit issued under section 402 of the Act, the owner or operator of the facility shall submit to the Enforcement Division Director, 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) Permit number under section 402;

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

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

(8) A complete copy of the SPCC plan with any amendments;

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

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

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

(12) Such other information as the Enforcement Division Director may reasonably require pertinent to the plan or discharge.

(b) The requirements of this section shall not apply until the expiration of the time permitted for the preparation and implementation of an SPCC plan under § 151.3 (a), (b), (c), and (f).

(c) A complete copy of all information provided to the Enforcement Division Director under paragraph (a) of this section shall be sent at the same time to the State agency in charge of water pollution control activities in the State in which the facility is located and in the State in which the discharge occurred, if not the same. Upon receipt of such information, the State agencies may conduct a review and make recommendations to the Enforcement Division Director as to further procedures, methods, equipment, and other requirements for equipment necessary to prevent and to contain discharges of hazardous substances 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 agencies under paragraph (c) of the section, the Enforcement Division Director may require the owner or operator of such facility to amend the SPCC plan if he/she 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 hazardous substances from such facility.

(e) When the Enforcement Division Director proposes to require an amendment to the SPCC plan, he/she shall notify the facility operator by certified mail addressed to, or by personal delivery to, the facility owner or operator, that he/she proposes to require an amendment to the plan, and shall specify the terms of the 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 the corporation in the State where the facility is located. Within 30 days from receipt of this notice, the facility owner or operator may submit written information, views, and arguments on the amendment. After considering all relevant materials presented, the Enforcement Division Director shall notify the facility owner or operator of any amendment required or shall rescind the notice. The amendment required by the Enforcement Division Director shall become part of the plan 30 days after such notice, unless the Enforcement Division Director for good cause shall specify another effective date. The owner or operator of the facility shall implement the amendment to the plan as soon as possible but not later than 6 months after the amendment becomes part of the plan unless the Enforcement Division Director specifies another date.

(f) An owner or operator may appeal a decision made by the Enforcement Division Director requiring an amendment to an SPCC plan by requesting an evidentiary hearing in accordance with 40 CFR 124.74. Subsequent appeals to the Regional Administrator and the Administrator, respectively, may be made in accordance with 40 CFR part 124, subpart I.

§ 151.5 Amendment of spill prevention control and countermeasure plans by owners or operators.

(a) Owners or operators of facilities subject to § 151.3 (a), (b), or (c) shall amend the SPCC plan for such facility in accordance with § 151.7 whenever there is a change in facility design, construction, operation or maintenance which materially affects the facility's potential for the discharge of hazardous substances. These amendments shall be fully implemented as soon as possible, but not later than 6 months after a change occurs.

(b) Notwithstanding compliance with paragraph (a) of this section, owners and operators of facilities subject to § 151.3 (a), (b), or (c) shall complete a review and evaluation of the SPCC plan upon permit issuance, reissuance, or modification. As a result of this review and evaluation, the owner or operator shall amend the SPCC plan within 6 months of the review to include more effective prevention and control technology if such technology will significantly reduce the likelihood of a spill or discharge from the facility. The owner or operator shall affix a signed and dated statement to the SPCC plan at the completion of the review indicating that a review has taken place and whether an amendment to the plan was or was not determined to be necessary.

(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 § 151.3(d).

5

HAZARDOUS WASTE: LIST OF REGULATIONS

1. 40 CFR Part 250 (Dec 18, 1979) Hazardous Waste Proposed Guidelines and Regulations
2. 40 CFR Part 250 Hazardous Waste Guidelines and Regulations
3. 40 CFR Parts 122, 123, 124, 128
   Hazardous Waste Permit Granting Process; Integration with other Laws
4. 49 CFR Parts 171, 172, 173, 179
   U.S.D.O.T. Hazardous Materials Transportation
5. 29 CFR 1910 Subpart H, Section 1910.106
   OSHA Container Standards
6. CFR (Feb 17, 1978) Toxic Substances Control Act on PCB disposal standards
7. 40 CFR Part 112 Subchapter D
   Section 311 of Clean Water Act on Spill Prevention, Control and Countermeasures Plan (SPCC)
8. New Source Performance Standards for Industrial Incinerators under Section 111 of Clean Air Act
9. Resource Conservation and Recovery Act of 1976
10. Various Background Documents under 40 CFR Part 250
11. Manual on Groundwater and Leachate Monitoring

[6560-01]

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 151]

[913-1]

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM OF THE CLEAN WATER ACT

Hazardous Substances Pollution Prevention for Facilities subject to Permitting Requirements

AGENCY: Environmental Protection Agency.

ACTION: Proposed rulemaking.

SUMMARY: This proposed rule would establish requirements for spill prevention control and countermeasure plans to prevent discharges of hazardous substances from facilities subject to permitting requirements under the National Pollutant Discharge Elimination System of the Clean Water Act (hereafter "the Act").

DATE: Comments on this proposal will be received on or before October 31, 1978.

ADDRESS: Interested persons may participate in this rulemaking by submitting comments to: Mr. Henry D. Van Cleave, Chief, Spill Prevention and Control Branch (WH-548), Division of Oil and Special Materials Control, Office of Water Program Operations, U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460. After consideration of the comments received in response to this proposal, a notice of final rulemaking will be issued.

FOR FURTHER INFORMATION CONTACT:

Mr. Henry D. Van Cleave, 202-245-3045.

SUPPLEMENTARY INFORMATION: Section 311(j)(1)(C) of the Clean Water Act (Pub. L. 92-500, as amended by Pub. L. 95-217) authorizes the President to issue regulations establishing procedures, methods and equipment and other requirements for equipment to prevent discharges of oil and hazardous substances from vessels and from onshore facilities and offshore facilities and to contain such discharges.

Section 304(e) of the Act authorizes the Administrator to publish regulations to control plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage which may contribute significant amounts of toxic and hazardous pollutants to navigable waters.

The purpose of these proposed regulations is to prevent discharges of hazardous substances from facilities which are subject to permitting requirements of section 402 of the Act. It is anticipated that in the near future, additional regulations will be published for all other facilities subject to the authority of the Environmental Protection Agency so that hazardous substances pollution prevention regulations will exist for all non-transportation related facilities.

The approach used in this regulation is similar to the one developed and used in EPA's oil pollution prevention regulation, 40 CFR Part 112. This is the concept of the spill prevention control and countermeasure (SPCC) plan. The SPCC plan is developed by the owner or the operator of a facility, or by his/her engineer, in accordance with guidelines contained in the regulation. The plan must be certified by a registered professional engineer and must be implemented by the owner or operator.

These regulations are being proposed concurrently with regulations under section 402 of the Act (40 CFR Part 125, Subpart L). Under the section 402 regulations, permittees would be required to develop best management practices (BMP) plans to prevent the release of toxic and hazardous pollutants to surface waters. The requirements of the two proposed regulations (40 CFR Part 151 and 40 CFR Part 125) have been coordinated. Compliance with SPCC plan requirements would be established as a minimum level of control for BMP plans.

The purpose of publishing the two regulations concurrently is to allow the owner or operator of a permitted facility to develop BMP and SPCC plans concurrently and thereby avoid duplication of environmental controls. SPCC plans, as required by this regulation, may be incorporated into BMP plans by reference.

Dated: August 24, 1978.

DOUGLAS M. COSTLE,
Administrator.

PART 151—HAZARDOUS SUBSTANCES POLLUTION PREVENTION FOR FACILITIES SUBJECT TO PERMITTING REQUIREMENTS OF SECTION 402 OF THE FEDERAL WATER POLLUTION CONTROL ACT

Sec.

AUTHORITY: Secs. 304(e), 311(j)(1)(C), 311(j)(2), 501(a), Clean Water Act (Pub. L. 92-500, as amended by Pub. L. 95-217 U.S.C. 1251 et seq.); 5 U.S.C. Reorg. Pla 1970 No. 3 (1970), 35 FR 15623, 3 CFR 1 1970 Comp.; E.O. 11735, 38 FR 2124 CFR, unless otherwise noted.

§ 151.1 General applicability.

(a) This part establishes procedu methods, and equipment and other quirements for equipment to prev the discharge of hazardous substar from non-transportation-related shore and offshore facilities into upon the navigable waters of United States or adjoining shoreli or in connection with activities un the Outer Continental Shelf La Act or the Deepwater Port Act of 1 or which may affect natural resou belonging, appertaining to, or ur the exclusive management autho of the United States (including sources under the Fishery Conse tion and Management Act of 1976).

(b) This part applies to owner operators of non-transportation-re ed onshore and offshore facilities gaged in producing, storing, proc ing, refining, handling, transferr distributing, or consuming hazarc substances and which are subject national pollutant discharge elim tion system (NPDES) permitting quirements under section 402 of act.

(c) This part provides for the pr ration and implementation of spill vention control and countermea plans prepared in accordance § 151.7 designed to complement e ing laws, regulations, rules, stand policies, and procedures pertainin safety standards, fire prevention pollution prevention so as to for comprehensive balanced Fede State spill prevention program minimize the potential for discha of hazardous substances. Compli with this part does not in any wa lieve the owner or operator of an shore or an offshore facility from pliance with other Federal, State local laws.

§ 151.2 Definitions.

For the purposes of this part:

(a) "Hazardous substances" m those substances listed as hazardo 40 CFR Part 116.

(b) "Discharge" includes but is limited to, any spilling, leaking, p ing, pouring, emitting, emptyin dumping into or upon the navi waters of the United States or ad ing shore lines or in connection activities under the Outer Contin Shelf Lands Act or the Deep Port Act of 1974 or which may a natural resources belonging to, a taining to, or under the exclusive agement authority of the U States (including resources unde

HAZARDOUS WASTE: OUTLINE OF 40 CFR Part 250 (Dec 18, 1979)

I. Identification of Hazardous Waste (starts page 58949)
- A. General Definition (page 58950: circled)
- B. Common features (page 58950 and 58955)
  1. Ignitability
  2. Corrosivity
  3. Reactivity
  4. Toxicity
  5. Radioactivity
  6. Infectiousness
  7. Phytotoxicity
  8. Teratogenicity and Mutagenicity
- C. Listing of Specific Hazardous Wastes (page 58957)
- D. Sampling (page 58962)
- E. Generator has option to declare his wastes hazardous; if wants to declare non-hazardous burden of proof is on him (page 58955 and 58959)

II. Standards Applicable to Generators
- A. Identification of Hazardous Waste Generators (disposers of less than 100 kg/month exempted; accumulators are generators) (page 58969)
- B. Shipping (requires compliance with U.S.D.O.T. standards 49 CFR 171, 172, 173, 179) (page 58971)
- C. Specific Standards
  1. Manifest (page 58972 and 58977)
  2. Reporting (page 58973 and 58977)
  3. Recordkeeping (page 58974 and 58977)
  4. Containers (page 58974 and 58979)
  5. Identification Codes (pages 58974 and 58979)
  6. Labeling Practices (pages 58974 and 58979)
  7. Confidential Information (page 58974 and 58979)
- D. Focus of compliance monitoring and enforcement on generator with exception of waste oil generators (page 58975 and 58979)

III. Standards for Transporters (see U.S.D.O.T. 49 CFR 171, 172, 173, 179)

IV. Standards Applicable to Owners and Operators of Treatment, Storage, Disposal Facilities
- A. Human Health and Environmental Standards
  1. Involves integration with CAA (air), SDWA, CWA (surface and ground water), TSCA (toxic substances: PCB's); for PCB disposal see also CFR for Feb 17, 1978 pursuant Section 6(e) TSCA; (page 58983, 58993,58999)
  2. Used where Design and Operating Standards will not achieve compliance with other standards set under other acts (page 58983); two kinds are ambient standards and source standards (page 58982)
- B. Design and Operating Standards
  1. General Facility Standards (applicable to all)
     a. Site Selection (page 58985 and 59000)
        (1) Factors: wetlands, flood plains, earthquakes, endangered species, aquifer recharge areas, 200 foot buffer (page 59000)
        (2) Compliance with other laws; analysis of waste stream (page 58999)
     b. Security
        (1) General security: fense, gates, signs (page 58985 and 59001)
        (2) Contingency Plan and Emergency Procedures (page 58985 and 59001) also see EPA Guidance Manual on Job Training; also see Section 311 Spill Prevention, Control and Countermeasures Plan (SPCC) of Clean Water Act - 40 CFR part 112 Subchapter D

c. Manifests, Recordkeeping, Reporting: annual reports for receiving wastes, quarterly reports on how waste stored and disposed, report of damage incidents (page 58985 and 59003)
d. Daily Visual Inspection (page 58985 and 59004)
e. Closure Standards (closure period not to exceed 3 years; post closure standards not-applicable because do not apply to treatment or storage facilities) (page 58985 and 59004)
f. Groundwater and Leachate Monitoring (page 58986 and 59005)
(1) Groundwater: minimum 3 monitoring wells downgradient and 1 upgradient
(2) Leachate: under primary liner of landfills and surface impoundments
g. Financial Responsibility
(1) Closure: trust fund for amount of estimated closure cost (interest will be taken into account) (page 58986 and 59006)
(2) Site Life Liability: minimum $5 million per occurrence per site for sudden and accidental occurences during life of site and $5 million for non-sudden and accidental occurrences; can use liability insurance, self insurance or combination of the two (apge 58987 and 59007)

2. Storage Standards (see OSHA specifications for tanks and containers 29 CFR 1910 Subpart H, 1910.106; diking: 40 CFR part 112 Subchapter D - which comes from CWA)(page 58988 and 59007)
3. Treatment/Disposal Standards: INCINERATION (page 58988 and 59008)
a. Residence Time
b. Combustion Temperature
c. Excess Air
d. Combustion Efficiency
e. Scrubber Efficiency
f. Automatic Feed Cutoffs
g. Trial Burns
h. Emission Standard for Particulates (also see New Source Performance Standards for Industrial Incinerators under Section 111 of Clean Air Act)

C. Interim Standards (page 58983 and 58995) permit applicants with interim status should not be expected to meet all D&O standards but should begin to meet certain manifest, recordkeeping, monitoring and other less technical requirements and also financial responsibility for closure

V. Permit Granting Process (see 40 CFR Parts 122, 124, 128) Section 3005(e) provides for interim status (page 58949)
VI. EPA Guidelines for State Authorization (not in 40 CFR 250)(page 58949)
VII. 90 Day Notification Period After Regulations Promulgated (not in 40 CFR 250) (page 58949)

PROCESS
CONSULTING SERVICES
BOX 538, WATERVILLE, MAINE 04901
TELEPHONE: 207-547-3259

August 19, 1979

Dist. R. Esposito - Union Chemical
C. Wallace - PCS
J. Krueger - DEP
J. Brochu - DEP
G. Lord - DEP
C. Goodall - Lund, Wilke, etc.

TO: File

FROM: Fred Stubbert

SUBJECT: Meeting at Maine D.E.P. Concerning Union Chemical Co. SPCC Job No. 79008 A

Date of Meeting: August 17, 1979
Persons Attending: J. Krueger - Maine D.E.P.
J. Brochu - Maine D.E.P.
G. Lord - Maine D.E.P.
R. Esposito - Union Chemical
C. Wallace - PCS
F. Stubbert - PCS

1. The purpose of the meeting was to present the proposed hazardous material Spill Prevention and Containment project scope for Union Chemical Co. to the D.E.P. staff and to get their input to the procedure.

2. The meeting began by F. Stubbert of Process Consulting Services presenting an organizational chart of the project team engaged by Union Chemical to develop a detailed SPCC plan and to do the detailed engineering required.

3. The proposed project schedule which shows a zero process discharge system installed and operating before winter 1979, was presented for D.E.P. comment.

4. It was noted by the D.E.P. that the recently passed Hazardous Waste Law is not yet in effect and will not be until this fall. It was also noted that regulations under this law which might apply to the Union Chemical project will not be promulgated until 1980.

5. PCS stated on behalf of Union Chemical Co., that UCC intends to take whatever preventive and corrective action is necessary at the present South Hope site to continue in business at that location. It is intended that this work be accomplished as quickly as possible and it was requested that the D.E.P. help expedite the project.

6. Details of work presently underway of a temporary stop-gap nature to eliminate potential spill conditions were presented to the D.E.P. It was explained that these measures would be replaced by permanent well engineered systems and procedures that would be built with D.E.P. approval.

7. The detailed report outlining the proposed permanent spill prevention and containment plans will be submitted to the D.E.P. for review prior to the start of final construction.

8. PCS stated that we would like to maintain a close working relationship with the D.E.P. throughout the design phase of this project to assure that all are in agreement with the steps taken and to minimize time requirements.

9. J. Krueger requested that more water samples be taken for analysis in the area surrounding Union Chemical Company. It will be arranged by the D.E.P.

10. The D.E.P. was invited to inspect the recent clean-up and spill containment work at the site.

11. Union Chemical Co.'s plans to install a fluidized bed incineration system for elimination of hazardous organic chemicals was discussed in detail and the point was made that UCC wants to install the system as a model for other such systems around the country. In that regard the D.E.P. was asked to advise PCS of all environmental considerations required in the design and installation of the complex.

12. The D.E.P. will notify PCS as to a contact in the department through which all environmental work can be coordinated.

13. The confusion over the existing discharge license was discussed and it was pointed out that communications could have been improved significantly.

14. To close the meeting it was stressed to the D.E.P. that Union Chemical Co. sees itself as providing a potentially valuable environmental service in the recycle of solvents and the elimination of the associated "still bottoms" for the Northeast. UCC intends to do whatever is required to continue operating on the present site and is planning to establish an "environmental park" to demonstrate its new technology.

15. If there are any corrections or additions to this report please contact the writer.

Fred Stubbert

Fred Stubbert

CFS:tts

79008 A

PROCESS
CONSULTING SERVICES
BOX 538, WATERVILLE, MAINE 04901
TELEPHONE: 207-547-3259

September 5, 1979

Mr. Robert Demkowitz
Bureau of Land Quality Control
Maine Department of Environmental Protection
State House
Augusta, Maine 04333

Dear Mr. Demkowitz:

Subject: Union Chemical Company-Progress Report

This letter is intended to keep you appraised of progress at Union Chemical Company in South Hope, Maine, as to their hazardous materials containment and incineration projects.

The spill containment measures outlined in my memo of August 8,1979, which was transmitted to the D.E.P., are now in effect. Considerable earthwork has been done since August 8,1979 and the area is secure for the present time until the permanent facilities are constructed.

Union Chemical Company has commissioned us to handle the technical and engineering aspects of the planned facilities for organic material recycle and disposal. This work is now underway as outlined in the project schedule dated August 10,1979. Preliminary design on the following items is on schedule:

1. Containment system
2. Geotechnical
3. Sanitary facilities
4. Incineration system

A Spill Prevention and Containment Plan for the new facility is being developed and will be presented to the D.E.P. for review and comment prior to final design.

We would like to work closely with you as this project progresses to avoid delays and re-design. Should you have any questions about this progress report please contact me. When it is convenient for you to review the preliminary design we would be pleased to discuss it with you.

Sincerely yours,

C. F. Stubbert, Jr.

Charles F. Stubbert, Jr.
President

cc: R. Esposito
C. Wallace

CFS:ts

STATE OF MAINE
Department of Environmental Protection

MAIN OFFICE: RAY BUILDING, HOSPITAL STREET, AUGUSTA
MAIL ADDRESS: STATE HOUSE, AUGUSTA 04333

Henry E. Warren
COMMISSIONER
289-2811

ADMINISTRATIVE SERVICES:
289-2691

BUREAUS:

AIR QUALITY CONTROL
289-2437

LAND QUALITY CONTROL
289-2111

WATER QUALITY CONTROL
289-2591

OIL POLLUTION CONTROL
289-2591

REGIONAL OFFICES:

31 CENTRAL STREET
BANGOR 04401
947-6746

634 MAIN STREET
PRESQUE ISLE 04769
764-3737

OIL POLLUTION CONTROL
17 COMMERCIAL STREET
PORTLAND
773-6491

OIL SPILL REPORTS ONLY
(TOLL FREE) 1-800-482-0777

CITIZENS' ENVIRONMENTAL ASSISTANCE SERVICE
289-2691
(TOLL FREE) 1-800-452-1942

AIR QUALITY CONTROL
17 COMMERCIAL STREET
PORTLAND
773-0196

LAND QUALITY CONTROL
17 COMMERCIAL STREET
PORTLAND
773-0196

September 14, 1979

Mr. Clifford H. Goodall
Two Central Plaza
Capitol & Sewall Street
Augusta, Maine 04330

Dear Mr. Goodall:

In your September 11, 1979 letter to Jack Krueger of my staff, you mentioned your concern that the Union Chemical Company site should be properly engineered to meet both the water pollution issues as well as future hazardous waste management regulations and guidelines. The Hazardous Waste Management Unit is coordinating the consent decree project because it is felt that this unit will be most helpfull in providing current information on hazardous waste regulation development that may have direct impact on the Union Chemical Company in the future. It should remain obvious to you, at this time, that while we can provide information on proposed regulations (Federal Register December 18, 1978 40 CFR Part 250), such guidelines and regulations can change substantially between their proposal and their ultimate promulgation. Please be advised that whether or not Union Chemical Company agrees to the consent decree that is being drafted primarily by George Lord of the Water Bureau, the Company will in no way be exempt from future regulations in the area of hazardous waste management.

Charles F. Stubbert, Jr., of Process Consulting Services has expressed his desire to work closely with this Department as this project progresses to avoid delays and re-design. I will have Jack Krueger arrange a meeting with Process in order to review their work to date, discuss what plans they have for the future and review these plans for compatibility to the current proposed guidelines.

Sincerely yours,

Robert A. Demkowicz, Coordinator
Hazardous Waste Management Unit
Bureau of Land Quality Control

cc: R. Esposito, Union Chemical Co., Union
C. F. Stubbert, Jr., Process Consulting Services
G. Lord, Water Bureau, DEP

RAD/ckh

LUND WILK SCOTT & GOODALL
ATTORNEYS AT LAW

JON A. LUND
MARTIN L. WILK
GORDON H. S. SCOTT
CLIFFORD H. GOODALL

TWO CENTRAL PLAZA
CAPITOL AND SEWALL STREETS
AUGUSTA, MAINE 04330
(207) 622-3747

October 17, 1979

Mr. John Bastey
Enforcement Division
Bureau of Land Quality Control
Department of Environmental Protection
Augusta, Maine 04333

Re: Union Chemical Company/Site Location Law

Dear John:

In response to your telephone call of Friday, October 12, I have reviewed the files, plans, and had discussions with the engineers associated with the proposed changes at the Union Chemical Company site in South Hope, Maine. This review was made in response to your inquiries as to why the changes at the site would not make it subject to the site location law as found in 38 M.R.S.A. §481 et seq.

The site is not subject to the site location law for the following reasons:

1. The site was substantially "developed" as defined by the statute in 1969 prior to the effective date of the statute which was October 1, 1969.

2. The area covers 2.32 acres, which area is measured by that area to be enclosed by the fence. For the purposes of our plans we have rounded it up to 2.5 acres. Outside the fence there will be a small leach field. There are areas within that 2.5 acre fenced area and within the bermed area (68,309 sq. ft.) which will not be altered, and others which will be revegetated. Therefore, the site is less than the 3 acres which would trigger the site location statute under §482(2) and (6)(B).

   In addition, the area within the bermed containment portion of the site can and would be reduced without any impact on the operation, especially on the south-east side of the site next to buildings #1 and #2,

if necessary to assure that less than three acres are to be "structures" under §482 (6)(B).

3. The "structures", as defined by the statute, on the site will all total less than 60,000 sq. ft. In fact, all the existing buildings plus the new structures and asphalt total 28,573 sq. ft., of ground area and, hence, are not covered by §482 (6)(A).

I refer you to the Union Chemical Company proposed spill containment layout plan by Process Consulting Services, Inc., and Neill and Gunter, Inc., dated September 26, 1979, Job No.79008-A, Drawing No.C-301, Revision No.1. A copy is enclosed.

It is also my understanding that the Department may have in its possession some preliminary drawings which suggest future possible expansion sites or locations on the 12 acres which is owned by Mr. Esposito. There are no plans for expanding the development outside of the fenced-in area indicated on the above-cited plan. The possible expansion plans were indicated solely for the purpose of providing information to Union Chemical Company of possible expansion if such expansion is ever economically feasible. If such an expansion took place, that expansion may be subject to site location review by the Department of Environmental Protection. At the present time, however, there are no plans and no financing available for such expansion.

It is the intention of Union Chemical Company:

1. To modify the existing site to make it an environmentally sound and safe site for the type of waste it processes pursuant to criteria of the relevant statutes, the character of the site and the needs and capabilities of the Union Chemical Company.

2. To develop a site for its processes which will provide a reasonable and adequate economic return on the owner's investment.

It is imperative that the consent decree be issued as soon as possible in order that we may complete the financing arrangements with the Small Business Administration and begin construction.

Therefore, anything you can do, and the other members of the DEP staff can do, to expedite this matter will be greatly appreciated and will benefit the environmental quality of the State of Maine.

Best regards,

Cliff.

CLIFFORD H. GOODALL

CHG/ct

Enclosure

cc: George Lord, DEP, Bureau of Water Quality Control
Robert Demkowitz, DEP, Bureau of Land Quality Control
Jack Krueger, DEP, Bureau of Land Quality Control
Mark Guerin, DEP, Division of Oil Pollution Control
Kay Evans, Attorney at Law, DEP
Philip Ahrens, Esq., Assistant Attorney General
Dr. Raymond Esposito, Union Chemical Company
Charles F. Stubbert, Jr., Process Consulting Services
Charles Wallace, Consulting Entineer

LUND WILK SCOTT & GOODALL
ATTORNEYS AT LAW

JON A. LUND
MARTIN L. WILK
GORDON H. S. SCOTT
CLIFFORD H. GOODALL

TWO CENTRAL PLAZA
CAPITOL AND SEWALL STREETS
AUGUSTA, MAINE 04330
(207) 622-3747

October 17, 1979

Henry Warren, Commissioner
Department of Environmental Protection
State of Maine
Augusta, Maine 04333

RE: Union Chemical Co.

Dear Hank:

We represent Union Chemical Co. in its plan to upgrade the site for its chemical processing plant in South Hope, Maine.

In early August, Union Chemical Co. was informed by the staff of the DEP that there was a violation of its water discharge license and that the matter would be referred to the Board requesting a referral to the Attorney General's office. The referral to the Board was to occur on August 22. Shortly after receiving that information, I was retained by the Union Chemical Co. to represent them along with Fred Stubbert of Process Engineering, Inc. and Charles Wallace who is a consulting engineer. We worked out in August an agreement that the Union Chemical Co. would enter into a consent decree with the DEP.

Since that time we have done preliminary engineering and site planning work and are now prepared to immediately begin final design work and construction. We have also begun making arrangements for the financing of all of this work through the Small Business Administration. Furthermore, immediately upon being retained by Union Chemical, I and the engineers instructed and implemented a temporary spill containment and prevention system to eliminate whatever immediate threats may have existed. That temporary work has been completed.

To date we have not received the consent decree. We have requested it on several occasions and have emphasized that the

consent decree is the key to our financing arrangements. It has taken over two months for the staff to provide us with a consent decree.

It is also our understanding that there may be some disagreement between the staff members as to the posture which DEP should take regarding the Union Chemical Co.

Because of the delays in the consent decree, we have been delayed in our financing arrangements with the Small Business Administration. This has put us very dangerously close to the end of the construction season and we may not be able to in fact build the type of construction that is necessary to meet the needs of both Union Chemical Co. and the DEP.

Some of your staff members have been very supportive and helpful to the Union Chemical Co., its engineers and myself. I do want to emphasize that we have had a lot of cooperation from them in working towards the completion of this important project which will help protect Maine's environment and its economy by dealing with hazardous and toxic substances which might otherwise be left uncontrolled, undealt with, and an active plus latent threat to Maine's environment.

It is the purpose of this letter to request that your office do whatever is necessary for a quick resolution of our consent decree problem in order that we can complete financing, do final engineering design work and begin construction before it is too late and we lose the entire fall and winter.

The consent decree can be a rather simple document inasmuch as the only alleged violation is that of the water discharge icense. It is our understanding that it would also have reference to compliance with future hazardous waste statutes and requirements which now look like they will not become effective until six months after they are adopted by EPA some time next spring. The consent decree is not a hazardous waste license in advance but we do need to plan for its regulations.

We do want to cooperate with the DEP staff and we simply request that steps be taken to immediately expedite this problem for the benefits which will far transcend just the interest of my client.

I have taken the liberty of sending a copy of this letter to the staff people within the DEP that have been involved to date and with whom we look forward to continuing to work with in resolving these matters.

Best regards,

CLIFFORD H. GOODALL

CHG:sja

cc: George Lord
Robert Demkowitz
Jack Krueger
Mark Guerin
Kay Evans, Esq.
John Bastey
Philip Ahrens
Dr. Raymond Esposito
Charles F. Stubbert, Jr.
Charles Wallace