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GENERAL ELECTRIC COMPANY

HANFORD
ATOMIC
PRODUCTS
DEPARTMENT

RICHLAND, WASHINGTON 99352 TELEPHONE - AREA CODE 509, 942-1111



June 27, 1967

File - H-517

U. S. Atomic Energy Commission
Richland Operations Office
Richland, Washington

Attention: W. Devine, Jr., Director
Production Reactor Division

OIL LEAK - 100-N AREA

Reference: Letter, W. Devine, Jr., to RL Dickeman,
same subject, dated June 12, 1967 ✓

In August 1966 an unexplained variance in the diesel oil inventory was noted. Investigation indicated the discrepancy might be due to a diesel oil system leak, although no leak had been detected. In September 1966, the diesel oil inventory variance increased.

Isolation of underground lines was initiated in an effort to determine the location of leakage. Finally, pressure testing of the lines revealed a leaking line between the diesel oil storage tanks and the 166 Building near the storage tank. No other indication of a leak was observed.

Excavation of the line was begun in late September 1966 and the leak was located beneath the edge of the tank farm dike. The leak was temporarily repaired by banding the line. Permanent repair will necessitate replacement of a section of the oil line.

The cause of the line failure was attributed to accelerated external corrosion. The corrosion appears to be localized and was caused by cracking of the pipe insulation which allowed moisture to penetrate to the pipe surface. The type of pipe insulation installed at the point of failure is not the same as that used on the balance of the oil system piping in the plant. Therefore, it is believed that only the local area of the piping is affected.

In March of 1967, evidence of oil appeared on the bank of the Columbia River below the point where the diesel oil line failure had occurred. By May of 1967 the amount of oil showing at the river edge had increased significantly. It was evident that steps would have to be taken to control the oil seepage to prevent pollution of the river.

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Corrective action consisted of digging a trench between the source of the oil, and the river's edge. The trench was about 40 feet in width, 90 feet long, and was excavated approximately 30 feet deep to a point beneath the prevailing water table. The completed trench contained water at approximately river level. Oil seepage into the trench area rose to the surface of the water and was contained there, thus preventing pollution of the river.

Burning of the entrapped oil from the surface of the water has proven to be an adequate means for removal of the oil from the trench. The oil is ignited twice each week to prevent a large accumulation of oil in the trench.

It is estimated that approximately 80,000 gallons of oil were lost into the soil around the leak. Other estimates indicate that the seepage may continue for a period of years. The trench is believed to be adequate to prevent river pollution for as long as the seepage continues.

The oil line is checked routinely to assure no additional leakage is occurring. A repair procedure has been devised but the work has not been completed. Repair procedures include the use of proper insulation material around the pipe.

Line failures of this type can be prevented by proper installation of the pipe and the insulation materials.

Very truly yours,



General Manager

RL Dickeman:TMH:kgl

cc: R100-AFC 1-3 W. Devinc, Jr.

bcc: GO Amy
DS Lewis
TM Hall ✓
RM Tanner
Files - 4

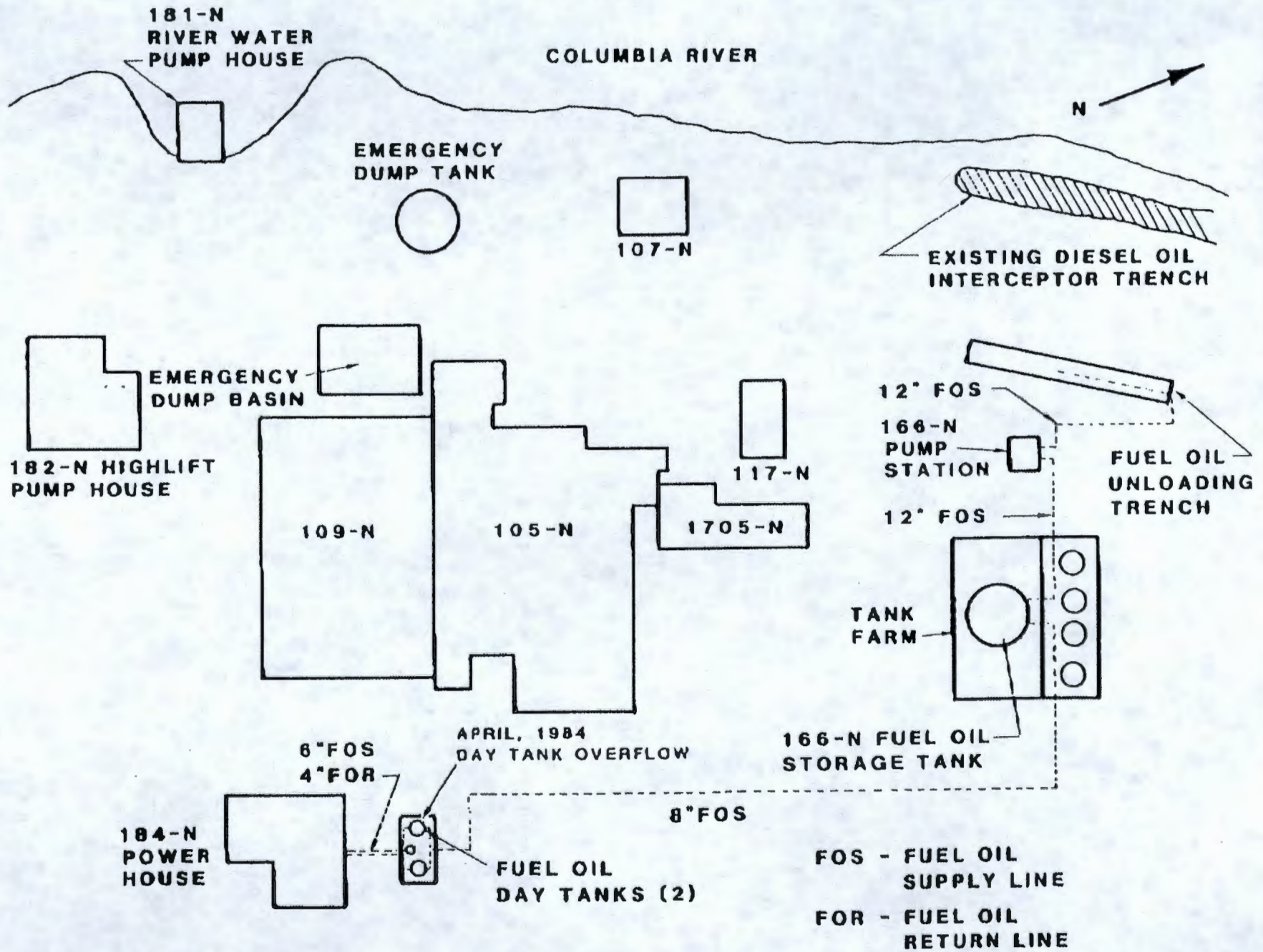
SUMMARY OF OIL SPILLS AT 100-N AREA

<u>Date</u>	<u>Facility</u>	<u>Volume/ Material</u>	<u>Cause of Spill</u>	<u>Corrective Action</u>
August, 1966	166-N Diesel Oil Supply Line to 181-N/182-N	80,000 gallons/ Diesel Oil	External Corrosion	The line was excavated and repaired in September. Oil near the river was collected in an interceptor trench and periodically burned off during 1967.
July, 1973	166-N Fuel Oil Supply Line	<50 gallons/ Fuel Oil	External Corrosion	UO 73-23. The line was excavated and repaired. Other supply lines and inventories were evaluated for discrepancies.
August, 1973	166-N 4" Diesel Oil Supply Line to 184-N	200 gallons/ Diesel Oil	External Corrosion	UO 73-23. Discovered by UO investigation. Line was excavated and repaired.
April, 1994	184-N Fuel Oil Day Tank	2,000 gallons/ Fuel Oil	Day tank was overfilled	Oil was removed and the tank impoundment area cleaned up.
June, 1995	165-N 2" Diesel Oil Return Line from 181-N/182-N	200 gallons/ Diesel Oil	External Corrosion	The line was excavated and repaired. Oil contaminated soil was removed. A valve was installed to isolate the return line. This portion of the line is no longer used.

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<u>Date</u>	<u>Facility</u>	<u>Volume/ Material</u>	<u>Cause of Spill</u>	<u>Corrective Action</u>
April 25, 1985	184-N Diesel Oil Day Tank	800 gallons/ Diesel Oil	Failure of tank level annunciator caused overflowing of the day tank during oil transfer.	Level annunciator was repaired. 650 gallons of oil were removed from the tank impoundment area. Ground water was monitored with no detection of spilled oil.
June 23, 1985	184-N Diesel Oil Supply Line	1,000 gallons/ Diesel Oil	External Corrosion	UO 86-17. Leak was detected by inventory discrepancy. Line was excavated and rerouted. Oil contaminated soil was removed. Oil was detected in adjacent well (N- 16) in July. Oil recovery from ground water continues.
January 10, 1987	184-N Diesel Oil Supply Line	200 gallons/ Diesel Oil	External corrosion of a "dead leg" still receiving oil is suspected.	Leak was detected by inventory discrepancy. Line has been isolated and excavated. The leak has not been located at this time.

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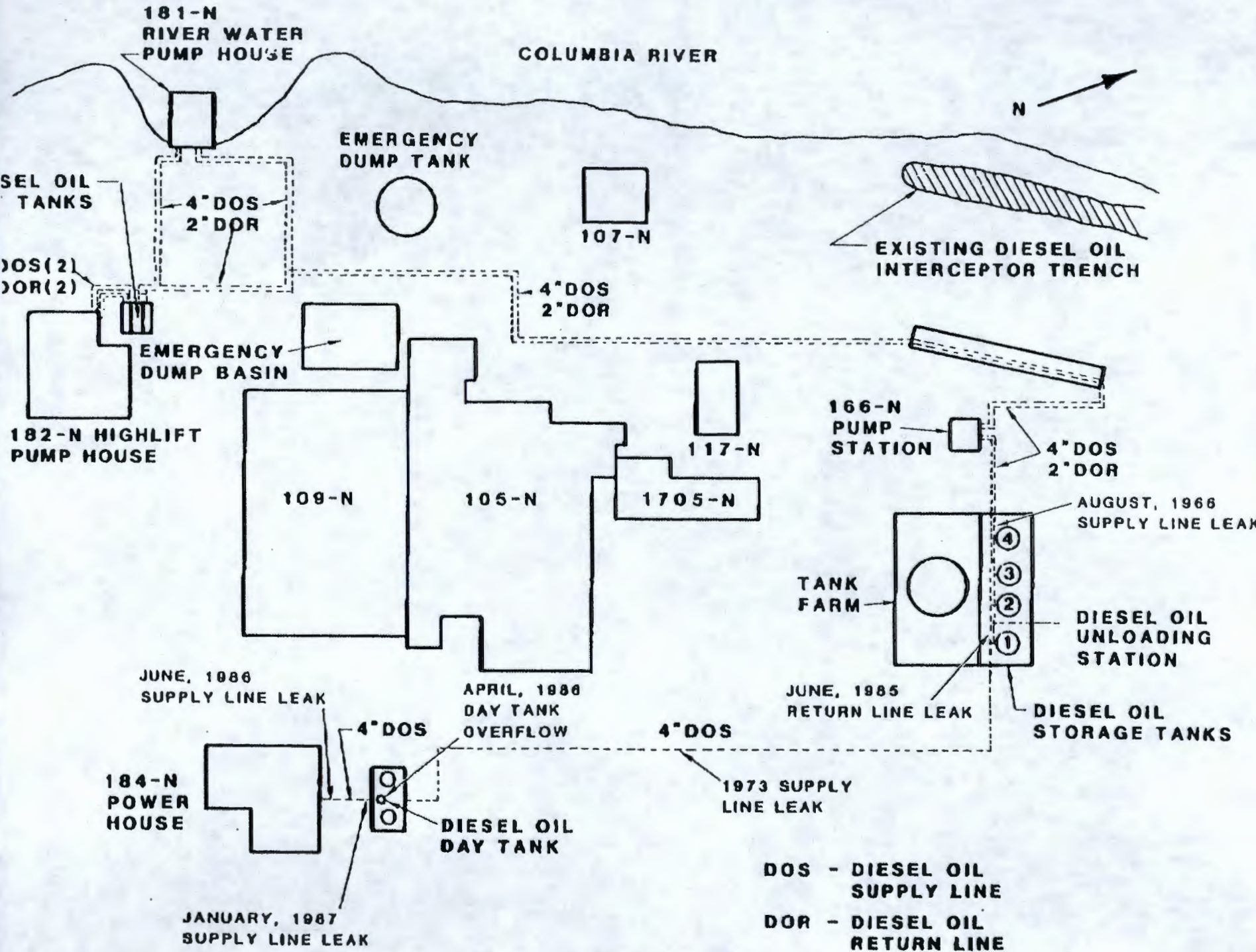


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ENVIRONMENTAL PROTECTION 100 AREA

TELEFAX #: 373-3046

DATE: 5-26-92

TO: Bill Green FAX #: _____

FROM: Craig Perkins PHONE: 3-4560

NUMBER OF PAGES BEING SENT (INCLUDING
THIS COVER SHEET): 7

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PAGES SHOWN ABOVE, PLEASE CALL 373-4950.

COMMENTS:

included are two separate items:

- 1) Letter to AEC, 6/27/67*
- 2) summary of soils w/map, through 1/10/87*

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