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memorandum

TO: P. Gary Eller

DATE: December 6, 1993

FROM: William C. Francis W.C.F.

MAIL STOP/TELEPHONE: J534/7-0835

SYMBOL: CST-10/93-0070

SUBJECT: **Supplemental Information About the Zia Company Fuel Yard North of DP Road. Reference CST-10/93-0043, August 13, 1993.**

This information updates and supersedes the information contained in the August 13, 1993 report.

Attached are Zia Company drawings Z-252, sheets 1 through 5 (LANL drawing number ENG-C49054). These are the construction drawings used to build the Fuel Tank Farm in 1948. I have checked these drawings with Mr. Gerald E. Huber, who was the Zia Company supervisor in charge of all fuel and lubricant storage and delivery from 1946 until his retirement in 1987. To the best of Mr. Huber's recollection, the drawings depict the as built configuration of the Fuel Tank Farm except that the east west road on the south side of the retaining wall and concrete platform in the drum storage area never did intersect Trinity Drive. Also, the new north perimeter road passed north and east of the new dispatch office and intersected Trinity Drive north of where it is shown on the Plot Plan on sheet number 1. I have made those changes with red pencil on the Plot Plan and the Drum Storage Road profile on sheet number 1.

The Fuel Tank Farm existed in 1946 and 1947 as mostly above ground storage. Tanks 1 through 11 were installed above ground in the western portion of the area near Trinity Drive and tanks 12, 13, and 14 were buried 500' to 550' east of Trinity Drive as shown on the Plot Plan, sheet number 1. When the new Fuel Tank Farm was constructed in 1948, tanks 1 through 8 and tank 11 were relocated to the east and buried. Tanks 9 and 10 were relocated to the east, installed above ground and earth dikes were constructed on the downhill side around each of them to contain any leaks or spillage. Tanks 15 and 16 were never installed. The western portion was then converted to a drum storage area for lubricants.

The Fuel Tank Farm was designed to be a 100 % gravity flow system. Vendors supply tankers pulled into the area immediately north of and paralleling DP Road and discharged into the fuel tanks. Supply lines ran from each tank to one of three valve boxes and then from the valve boxes to two fill stations located at The Edge of the north perimeter of the Fuel Tank Farm. Zia Company tankers would then load at the fill stations and distribute fuel to the townsite and the technical areas.

The lubricant drum storage area was serviced by vendors trucks backing in from the east next to the new concrete retaining wall and platform. The 55 gallon drums of lubricants were unloaded from the vendor's trucks by forklifts and stacked inside of the storage areas, which were surrounded by earth dikes or revetments. The storage area capacity was 600 to 700 drums.

The existing paint shed mentioned on the Plot Plan was really a storage shed for lubricants issued in small containers.

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The drum storage area was phased out in the early or mid 1950s. The fuel storage area was used until the late 1970s when the fuel storage and issue operations were moved to the TA-3 area.

The Fuel Tank Farm was decommissioned in the mid 1980's (1985 or 1986). The tanks, their supply and discharge lines, the valve boxes, the fill stations and the roads were all removed. The tanks and the surrounding earth were examined and checked for leakage. No leakage was detected and the tanks were sold through the Salvage and Surplus Section of the Zia Company or Pan Am.

There were never any known leaks in the lubricant drum storage area. This area was restored to its original Condition and later sold to the Knights Of Columbus.

In the early part of the Fuel Tank Farm operation a leak was discovered in the 3" valve from the gasoline tank number 13. This valve was located in valve box "B". The valve was closed and a section of pipe was removed at the valve outlet. The valve was opened and an expansion packer tool was inserted through the valve and into the discharge line from the gasoline tank. The expansion packing tool was immediately expanded and this cut off the flow of gasoline from tank number 13. The defective valve was unscrewed from the line to the tank, removed over the operating handle of the expansion packing tool and a new valve installed. The expansion packing tool was then quickly removed and the New valve closed. The removed section of pipe was then replaced. The gasoline loss was probably two or three gallons and it was contained inside of valve box "B". Mr. Huber has no recollection of any other leaks in the Fuel Tank Farm Area.

The 24' x 16' Fuel Dispatch Office was built in the northwest part of the Fuel Tank Farm. See the Plot Plan, sheet number 1 for location and sheet number 5 for details of construction. The dispatch office had a toilet that was connected to a 6'-0' x 3'8 septic tank west of the office by a 4" cast iron sewer main. The northwest corner of the dispatch office was located 59'0-" east of the 1948 centraline of Trinity Drive (see demension on plot plan) and 185'-0" north of the old south fence of the Fuel Tank Farm (this distance was scaled). Because a portion of the old south fence still exists and assuming that the 1948 centerline of Trinity Drive is the same as it is today, a very rough (paced) survey puts the location of the fuel dispatch office in the north west corner of the paved Knights Of Columbus parking lot. The area north of the paved parking lot to the edge of the canyon was evidently used for a period of time, after the lubricant drum storage area was abandoned as a dump area for the contractors. It appears that earth and construction rubble was dumped here. The area was probably leveled off and left in its existing state when the Knights Of Columbus Hall was constructed.

Mr. Huber has no recollection of the removal or the abandonment of the septic tank. There is an area protected by four pipe posts set in concrete and placed in a rectangular configuration west of the location of the fuel dispatch office. There is also a rectangular area that is sunk a few inches below the existing grade located a few feet north of the pipe posts. These areas could possibly be the location of the old septic tank. Also, it might be possible to trace the 4" cast iron sewer main that connected the toilet in the dispatch office with the septic tank by using a metal detector. I would guess that the sewer main was abondoned.

The steam and power plants all burned diesel fuel until they were converted to natural gas. Diesel fuel is still used as a back up. Fuel was delivered directly to the storage tanks at the steam and power plants by vendor's tank trucks. Mr. Huber recalls that the peak year of fuel consumption was 1946 or 1947 when about 7,500,000 gallons were consumed.

cc: James Aldrich, EES-1, M.S. M992, W/Attachments
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CST-10 Files