UNION CARBIDE CORPORATION
NUCLEAR DIVISION
P. O. BOX Y, OAK RIDGE, TENNESSEE 37830

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May 9, 1968

United States Atomic Energy Commission
Post Office Box E
Oak Ridge, Tennessee 37830

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NEBolton
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Attention: Mr. C. A. Keller

Gentlemen:

Annual Report on Water Pollution Abatement

In accordance with ORIAD No. 0510-8, the Y-12 Plant facilities have been reviewed in regard to compliance with applicable water pollution standards.

As previously reported to the ORO Health and Nuclear Safety Branch, the continuous sampling program of the effluent from New Hope Pond indicates the only questionable contaminant is hexavalent chromium which arises from the treatment of cooling tower water. Hexavalent chromium averaged approximately 0.3 PPM during 1967. (The 1961 USPHS Drinking Water Standard is 0.05 PPM.) However, there has been a significant reduction in chromium (0.23 PPM in February 1967 compared to 0.14 PPM in February 1968) even though chemical treatment was started on two additional cooling towers. This reduction resulted from closer control of tower water blowdown and the substitution of process water for tower water at locations where tower water was being discharged to the storm sewers through equipment which could not withstand back pressure.

A concerted effort has been made throughout the year to inform plant personnel on the control of liquid waste disposal. The Y-12 Radiation Safety and Industrial Hygiene Department held 17 formal meetings with approximately 800 operational personnel to explain recommended control procedures for the disposal of wastes.

Because of the anticipated increase of wastes which will be generated in the forthcoming major plant expansion project, plans have been formulated to upgrade the plant water pollution control facilities. The following facilities are included in FY 1969 and FY 1970 budget requests:

New Chemical Waste Ponds ($250,000) - The existing ponds which were constructed in 1950 are in an extremely deteriorated condition and will be abandoned. A new pond complex of about four acres will be constructed near the existing ponds. Pumping stations and tie lines from the new facilities to the existing waste headers to the waste ponds will be installed.

Ash Disposal Area Improvements ($40,000) - During the first several years of operation the fly ash

from the Y-12 Steam Generating Plant was collected in an artificial lake formed by an earth dam on the south slope of Chestnut Ridge. The capacity of the lake has been exhausted and the particulates are now being collected in an abandoned quarry downstream at the foot of the ridge. The earth dam is being seriously eroded by overflow, and there is danger that the accumulated ash will be released. It is therefore planned to repair the dam and to construct a concrete spillway to permit stream flow without further erosion. The outflow stream, McCoy Branch, will also be cleaned out and straightened between the dam and the quarry to prevent ash settlement before the stream reaches the quarry.

Pollution Control, East Fork Poplar Creek ($200,000) - This facility will include local automatic contaminant analyzing equipment with telemetering to alarm and recording instruments located in the PSS office. In addition, an oil skimmer is proposed for the inlet to New Hope Pond.

Bear Creek Monitoring Station ($50,000) - Local proportional sampler recording instruments will be installed at the creek to provide for continuous sampling. This station will monitor contaminants which could enter the stream from the chemical waste ponds and the waste burial grounds located upstream.

Very truly yours,

for J. M. Case
Deputy Y-12 Superintendent

IGS:mb

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P. O. BOX P, OAK RIDGE, TENNESSEE 37830

May 13, 1968

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Copies Fwd. by MER, 5-16-68
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United States Atomic Energy Commission
Post Office Box E
Oak Ridge, Tennessee

Attention: Mr. C. A. Keller

Gentlemen:

1968 Annual Report on Prevention, Control and
Abatement of Water Pollution of Federal Facilities

In accordance with ORIAD No. 0510-8, the K-25 facilities have been reviewed and were found to continue to be in compliance with water pollution abatement standards. Plant process modifications initiated during the past year comply with procedures established in IAD No. 0510-12.

The following changes have been initiated which improve pollution abatement in the K-25 Plant:

1. A recording pH meter was installed to monitor the effluent from the K-1407 holding pond which discharges into Poplar Creek.

2. A semiportable Centri-Clere oil recovery unit was procured for recovery of accidental release of oil from effluent streams.

3. A limestone neutralization pit was installed to treat acidic effluents from the K-1410 plating facility.

4. The BOD sampling program on the K-710A and K-1203 sanitary sewage plant effluents has continued and a suspended solids and relative stability sampling program was initiated.

   A $45,000 submission was included in the FY 1970 capital equipment budget for a secondary treatment system at the K-1203 sanitary sewage plant.

5. A significant reduction of chromate treated cooling water flow-down resulted from the 17% plant power reduction which occurred in October 1967.

Very truly yours,

R. G. Jordan, Superintendent
Oak Ridge Gaseous Diffusion Plant

RGJ:JD:ayb

cc: USAEC (5)
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