

R. G. Page, Chief, Enforcement Branch  
Division of State & Licensee Relations  
Headquarters  
Eugene J. Moratti, Radiation Specialist (Review)  
Region III, Division of Compliance, Chicago

January 20, 1965

INSPECTION REPORT - AMERICAN POTASH & CHEMICAL CORPORATION  
WEST CHICAGO, ILLINOIS - LICENSE NO. STA-583, DOCKET NO. 40-2061

CO:III:ECA:JMA

Attached is a report of a reinspection of the thorium processing operations conducted under License No. STA-583 at the American Potash & Chemical Corporation, West Chicago, Illinois facility.

The inspection was conducted on December 15, 16 and 17, 1964 and was announced.

Items of noncompliance noted during the inspection were:

1. Failure to evaluate personnel exposures resulting from high airborne concentrations.
2. Failure to conduct surveys to adequately evaluate personnel exposures resulting from thorium process operations.
3. Failure to conduct surveys to establish if licensed material was contained in or on scrap materials prior to sale or disposal.
4. Failure to post an area as required by 10 CFR 20.203(e)(2). (Corrected during inspection.)
5. Permitting three individuals to receive in excess of 1.25 rem during calendar quarter periods.

It will be noted that failure to perform surveys to adequately evaluate personnel exposures and permitting individuals to receive in excess of 1.25 rem were items noted also during the last previous inspection.

The licensee's thorium processing has been reduced to approximately four tons of raw sand per day. This compares to a high of roughly 30 tons per day 2½ years ago. The reduction is due to the closing out of a contract with GSA for supplying thorium compounds.

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Although the output of the operations have been reduced significantly the inspectors feel the radiation safety program conducted by the licensee is somewhat less than it should be even at this reduced production schedule.

The licensee has taken steps to increase the number of air samples made in the plant and at environmental stations. He was cited for not taking sufficient samples as a result of the last previous inspection. The inspectors noted however that sufficient evaluation and follow-up sampling has not been done when several air samples showed as high as 50 times MPC<sub>a</sub> in working areas.

The licensee has no routine Alpha or beta-gamma survey program to evaluate either personnel or facility contamination problems. Regarding facility contamination evaluations there are no routine measures taken, other than to "hose-down" areas at least once each working day. Regarding personnel contamination evaluations, there have been none made. The licensee relies entirely on each individual worker taking a shower each day to wash off any thorium contamination.

We feel the licensee's lack of direct reading surveys in the facility and lack of personnel contamination checks prior to leaving the facility does not constitute adequate health safety practices. The licensee does not have any type of bioassay program which would, to some extent, either back up his contention that personnel contamination is no problem or indicate if a problem does exist. We feel a bioassay program (fecal samples, urine samples, whole body counts or a combination thereof) would be desirable in this program, at least for a period of time. Some consideration should be given to having a bioassay program included as part of the licensee's own procedures. At the present time the licensee is unable to evaluate, with any degree of certainty, thorium uptake problems. We recognize the fact that the entire licensee processing plant is restricted for purposes of radiation control, but feel some positive action should be taken with respect to possible personnel contamination and uptakes.

The licensee has employed Mr. Ted Fields, Certified Radiation Physicist, as a consultant. Mr. Fields has held this position for approximately two years. Fields advised the inspectors that he makes a quarterly visit to the licensee facility and performs surveys, checks records and makes recommendations. Fields indicated that he has suggested many changes in the licensee health physics procedures, such as, more surveys, personnel contamination checks and a bioassay program.

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The inspectors feel the position held by Mr. Ed Maryniw, Radiation Hygienist, is greatly overtaxed, considering the area to be covered, the air samples to be taken and counted, film badge records to be maintained, etc. We feel with the work load now carried by Maryniw it would be almost impossible for him to perform all necessary surveys and evaluations for this program.

In conclusion we recommend that some consideration be given in future licensing action to having the licensee submit somewhat detailed health safety procedures including a facility contamination control program, detailed direct reading survey program, and a personnel contamination control program.

A follow-up inspection will be conducted upon completion of enforcement action.

Enclosure:

Inspection Report (1 cy.)

cc: Division of Compliance, HQ - w/encl. (orig. & 2 cys.)

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