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Office Memorandum • UNITED STATES GOVERNMENT

TO : H. L. Price, Director
Division of Licensing and Regulation

DATE: APR 7 1960

FROM : Marvin M. Mann, Assistant Director for Compliance
Division of Inspection *M.M. Mann by P.D. Morris*

SUBJECT: ENGELHARD INDUSTRIES, D. E. MAKEPEACE DIVISION, LICENSE NOS. SNM-185, 70/-;
C-3719, C-4237 AND 20-5216-1

40-268 40-2144
SYMBOL: INS:WEK

Attached herewith is a copy of a memorandum from the NY Inspection Division dated March 2, 1960, with regard to the inspection of subject licensee.

We concur with the recommendation of the NY Inspection Division that a letter be written requesting information as to the corrective action taken by the licensee.

Enclosure:

Cpy memo, Kirkman to Morris, 3/2/60

D/2

Peter A. Morris, Chief
Reactor Inspection Branch, Headquarters

Robert W. Kirkman, Director
Inspection Division, NYOO

ENGELHARD INDUSTRIES, D. E. MAKEPEACE DIVISION

SYMBOL: INS:JRS

A meeting was held March 1, 1960 by John R. Sears, NYOO, with Mr. Mittendorf, Vice President of Engelhard Industries, to discuss the results of our inspection of the Engelhard plant at Attleboro, Massachusetts, on November 19, 1959.

The principle point we emphasized in our discussion with Mr. Mittendorf was the paradox which exists in the organization of the Attleboro plant, in that Mr. Norton Weiss, the criticality engineer and health physics supervisor, reports directly to Mr. Barney, the production manager. It is the nature of a safety man's job that his recommendations may actually delay production. The production man on the other hand has one primary goal and that is to finish the job profitably in the shortest possible time.

We pointed out to Mr. Mittendorf that in some plants engaged in the same type of business as his, the safety officer reports directly to the top manager of the organization, bypassing all of the people who are concerned with any other phase of the operation. Mittendorf insisted that Mr. Barney's job encompassed more than just production and that Barney was actually responsible for everything that happened in the Attleboro plant on a day-to-day basis. We replied that while Mittendorf may assume that Barney is interested in plant safety as well as production, that it was our judgment as an outside observer that Barney's principal interest was in production, and that Weiss was not in a very favorable position in reporting to Barney.

(continued)

Peter A. Morris

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We discussed at some length the items of noncompliance, and also everything contained in our original letter of transmittal.

At the end of our discussion, Mr. Mittendorf stated that he was grateful to have our impressions of nuclear safety at the plant and that he would get together with both Barney and Weiss and discuss this matter of responsibility. He said that he was concerned that Weiss felt any apprehension at holding up production while he consulted with an outsider on a criticality problem. Mr. Mittendorf also said that he realized what a large workload Weiss was carrying and that he would see that Weiss got more time to accumulate background for his job.

The results of our next inspection should indicate just how effective have been our efforts to educate Mr. Mittendorf.

L D Low
INS
J-415

RE: ENGELHARD INDUSTRIES, ATTLEBORO, MASSACHUSETTS,
LICENSE NOS. SHM-185, C-3719, C-4237 & 20-5216-1

We will take no action on the subject inspection
report until we have the completed case.

R E Cunningham
DLR
C-233

3-23-60

Office Memorandum • UNITED STATES GOVERNMENT

TO : H. L. Price, Director
Division of Licensing and Regulation

DATE: FEB 24 1960

FROM : Marvin M. Mann, Assistant Director for Compliance
Division of Inspection *M*

SUBJECT: ENGELHARD INDUSTRIES, LICENSE NOS. SNM-185, C-3719, C-4237 AND
20-5216-1

SYMBOL: INS:WEK

Attached herewith for your information is a copy of the report dated January 14, 1960, of the inspection of subject licensee, together with a copy of the transmittal memorandum from NY dated January 18, 1960.

We note in the report that management was not contacted in regard to the items of noncompliance. NY has advised us that they have been unable to contact Mr. Mittendorf, the General Manager of the licensed company. NY has advised us, however, that they hope to contact Mr. Mittendorf within the next few weeks and will send us a report on their discussion. Upon receipt of this report, we will forward it together with our comments and recommendations.

Enclosures:

1. Cpy memo, Kirkman to Mann, 1/18/60
2. Cpy Insp. Rpt., 1/14/60

JAN 18 1960

Marvin M. Mann, Assistant Director
Division of Inspection, Headquarters

Robert W. Kirman, Director
Inspection Division, NRC

TRANSMITTAL OF LICENSE COMPLIANCE INSPECTION REPORT -
10 CFR 30, 40, 70

SYMBOL: INS:FBK

Transmitted herewith is the following inspection
report involving noncompliance:

WORLWARD INDUSTRIES
D. E. Hayspeare Division
Attleboro, Massachusetts

License No. SHM-185
C-3719
C-4237 - Clear
20-5216-1 - Clear

The following items of noncompliance were brought
to the attention of G. H. Barney, Plant Manager,
John H. Durant and Horton M. Weiss, who volunteered
to take corrective action:

PART 70 (SHM-185)

20.201(b) "Surveys"

- in that the licensee failed to make an
evaluation of airborne contamination and
direct radiation surveys at operations
(i.e., melting furnaces) where high con-
centrations of radioactive aerosols are
reported present and high beta exposures
were noted on film badges of employees
working at this particular operation.

- in that no evaluation has been made of
stack air effluent or airborne contamination
in the unrestricted areas.

(See 14E(1) and (2) of report details.)

(continued)

20.203(e)(1) "Caution signs, labels and signals" - "Additional Requirements" - in that the entrance to the production facility was posted with a proper symbol but with an improper sign. (See item 16 of report details.)

(f)(1) and (f)(4) "Containers"

- in that cans and carboys containing 6.4 kgs and 20 grams of enriched uranium respectively, were not labeled as to type, quantity, radiation sign or symbol. (See item 16 of report details.)

20.401(c) "Records of surveys, radiation monitoring and disposal" - in that records of air sample results are not reported in the same units required under 20.201(b). (See item 14E(2) and 17 of report details.)

PART 40 (G-3719)

20.201(b) "Surveys"

- in that the licensee failed to make an evaluation of airborne contamination and direct radiation surveys at operations (i.e., melting furnace) where high concentrations of radioactive aerosols are reported present and high beta exposures were noted on film badges of employees working at this particular operation.

- in that no evaluation has been made of stack air effluent or airborne contamination in the unrestricted areas.

(See item 9.6 of report details.)

20.203 "Caution signs, labels and signals"

(e)(2) "Additional requirements" - in that the entrance to the production facility was posted with a proper symbol but with an improper sign. (See item 9.4 of report details.)

(f)(2) and (f)(4) "Containers" - in that several containers containing source material in excess of 1.5 lbs. were not labeled with the quantity, type, radiation sign or symbol. (See item 9.4 of report details.)

(continued)

20.401(c) "Records of surveys, radiation monitoring and disposal"
- in that records of air sample results are not reported
in the same units required under 20.201(b). (See item 9.4
of report details.)

40.10 "Restriction on Transfers"
- in that the licensee received and possesses quantities
of source material in excess of the limits specified in
his license. (See item 9.1 of report details.)

There were no items of noncompliance noted under License Nos.
C-4237 or 20-5216-1.

No significant hazard exists from the above items of noncompliance
and no follow-up inspection is required.

We recommend that a letter be sent to the licensee requiring
corrective action of the specified items of noncompliance.

With regard to the incident involving an overexposure to one
of the plant employees, we are of the opinion that this gamma
reading of 2300 mr is probably due to uranium dust contamination
which could have gotten under the two copper filters of the film
badge. We intend to report on the results of the tests run by
Weiss to determine the effect of contamination on unprotected
film badges by uranium oxide as soon as these results are made
available to this office by Norton Weiss.

With regard to nuclear safety, we wish to state the following.
Safety in a fuel fabrication plant depends primarily on discipline,
a strict military-type discipline. There was evidence of laxity
in discipline in this plant. The criticality floor monitor chart
was found to be inaccurate; material which was plotted to be
in one location was discovered by the inspectors to be elsewhere.
The storing of pails of special nuclear material within the con-
fines of a bird cage gave a poor example of safe storage to a
vault custodian. Rules must be adhered to absolutely. In one
well-disciplined plant we know of, the last sentence in a
criticality manual says, in effect, "Any deviation from
written procedures will result in immediate discharge of the
offender".

(continued)

We feel that Mr. Weiss is capable of enforcing discipline, but he has an uphill fight. He is at present a very busy man. He will become much more so as the PRDC job increases in scope. He indicated that he wanted very much to attend the criticality school recently held at ORNL but simply could not afford to take the time off from the job.

Mr. Weiss has much to learn about good basic techniques in health physics. Floor smears were taken with filter paper and placed on a large cardboard sheet with spaces for smears from a particular plant area. The same cardboard holder is used week in and week out. Mr. Weiss presents a contrast to the type of good health physicists that we have known, for example, who have been through the AEC Radiological Health Program. He is simply not safety-oriented in his thinking. His conversation is sprinkled with phrases such as "after all we are not a non-profit organization" and "if I held up production to wait for Malsher to come from Newark for a consultation, they'd (his management) blow their stacks".

Engelhard suffers the problems that face any relatively small firm attempting to operate at a profit in the nuclear energy business. Every employee must wear many hats. Mr. Weiss' female technician, for example, complained to our inspectors that at one point she held down 15 separate and distinct jobs in the organization. It should be evident from the body of this report that Mr. Weiss is similarly burdened.

This was the principal point discussed with Messrs Barney, Durant and Weiss in the post-mortem to the inspection. The inspectors had requested that Mr. Mittendorf, the Vice President of Engelhard, be present for the discussion, but it was said to be impossible for him to attend since he was at an extended meeting in their Newark plant. Mr. Weiss endorsed the idea that he contact a consultant in the area, for example at MIT, to review periodically the whole plant operation. In addition, this man would be available for consultation on short notice so that if an on-the-spot decision is felt necessary it would have the benefit of an outside opinion without holding up production too long.

(continued)

Marvin H. Mann

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JAN 18 1960

Our inspectors believe that they succeeded in selling a philosophy of safety to some of Engelhard's management and so conclude that this plant can be operated with negligible risk of hazard to the health and safety of the public. We plan to meet with Mr. Mittendorf at the earliest opportunity to discuss our impressions of the safety of the Engelhard operation. We recommend a reinspection of this plant within six months of their receipt of the post-inspection letter from the Division of Licensing and Regulation.

Enclosure:
Rpt. (4)

