PDR

United States Steel Corporation
CENTRAL STEEL DIVISION
GARY WORKS
1 NORTH BROADWAY
GARY, INDIANA 46402

TO: Region III, USNRC
Office of Inspection and Enforcement
799 Roosevelt Road
Glen Ellyn, Illinois 60137

June 13, 1980

SUGJECT: Shutter Failures - N.D.S.
Coating Thickness Gauges
No. 8 and 6 Galvanize Lines

On March 4, 1980, when No. 8 Galvanize Line had scheduled down turns, Electronics personnel did routine maintenance and calibration checks on the Nucleonic Data Systems Inc. Coating Thickness Gauge. When the gauge's shutters were closed, they noticed that the computer was still receiving reading from the bottom head of the gauge (serial No. 2072-B, AM 241, General License) and that the shutter position (open and closed) indicating lights were both on.

Mr. M. P. Manteuffel, Electronics Foreman, notified me at approximately 8:30 A.M. that he thought the shutter of the bottom head was stuck in the open position. He also called for a N.D.S. service man at the same time.

Mr. Manteuffel and I confirmed that the shutter was stuck open with a Geiger Counter at 9:00 A.M. The bottom head (5-1/4" x 5" x 16") was parked under the sample holder which is a steel plate 1/4" x 16" x 18" with two 1/4" x 8" x 16" Aluminum plates attached to it to hold the strip samples. The space between the sample holder and the window of the gauge is approximately one (1) inch. See sketch for readings.

By 1:30 P.M., Mr. B. R. Moscarello of N.D.S. had removed the faulty air cylinder and spring, and closed the shutter. There is no known exposure due to this incident. Mr. Moscarello also checked out the shutter operation of the other N.D.S. Gauges in the plant.

JUN 26 1980

Dist 40 PDR 6-30-80
per JBC

8007160 775

United States Steel Corporation

On March 5, 1980, Mr. Moscarello installed a new air cyclinder and spring in the gauge. After checking out the shutter operation, he put the gauge back in service.

On March 17, 1980 Electronics personnel did a routine calibration check on the Nucleonic Data Systems Inc. Coating Thickness Gauge on No. 6 Galvanize Line. When the gauge's shutters were closed, they noticed that the shutter position indicating lights indicated the shutters were still open. The gauge heads were then parked under their sample holders. (See above for description).

Mr. Manteuffel called for a N.D.S. service man at approximately 8:00 A.M. and than called me about the problem. Mr. Moscarello of N.D.S. verified proper shutter action by measuring the dose rate profiles. The shutter in the bottom head of the gauge (Serial No. 2061B, AM 241, General License) was covering the source properly, but was not tripping the switches in measuring head which control the shutter position indicating lights.

On March 24, 1980 this measuring head was removed from the Coating Gauge by N.D.S. service man and on March 25, 1980 it was returned to the N.D.S. plant in Irvine, California.

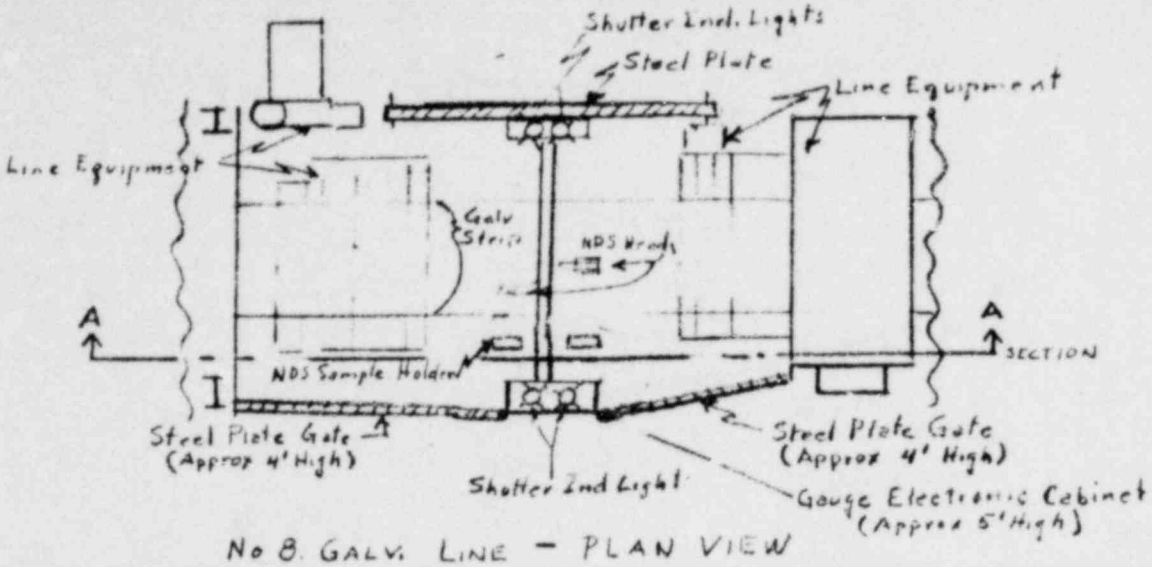
The measuring head was returned to Gary Works on May 22, 1980. It was reinstated on the Coating Gauge by the N.D.S. service man and placed in service on May 28, 1980.

I'm sorry that this report is to late, but I had a heart attack on March 21, 1980, which kept me from working for a while.

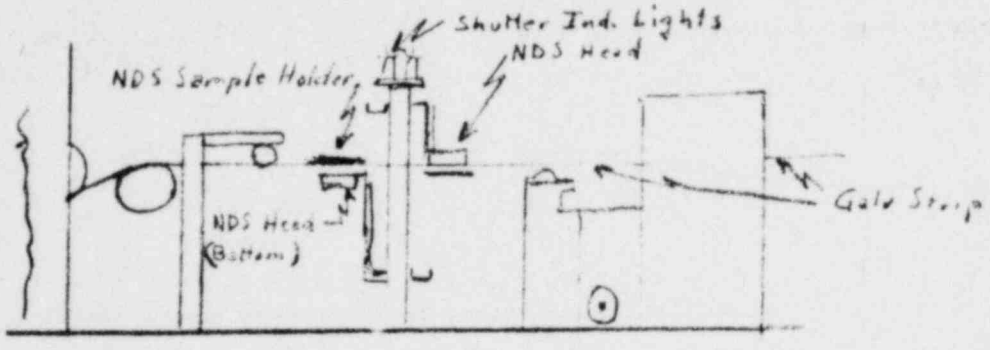
R. B. MacLeod

R. B. MacLeod
Plant Radiation Officer, Gary Works

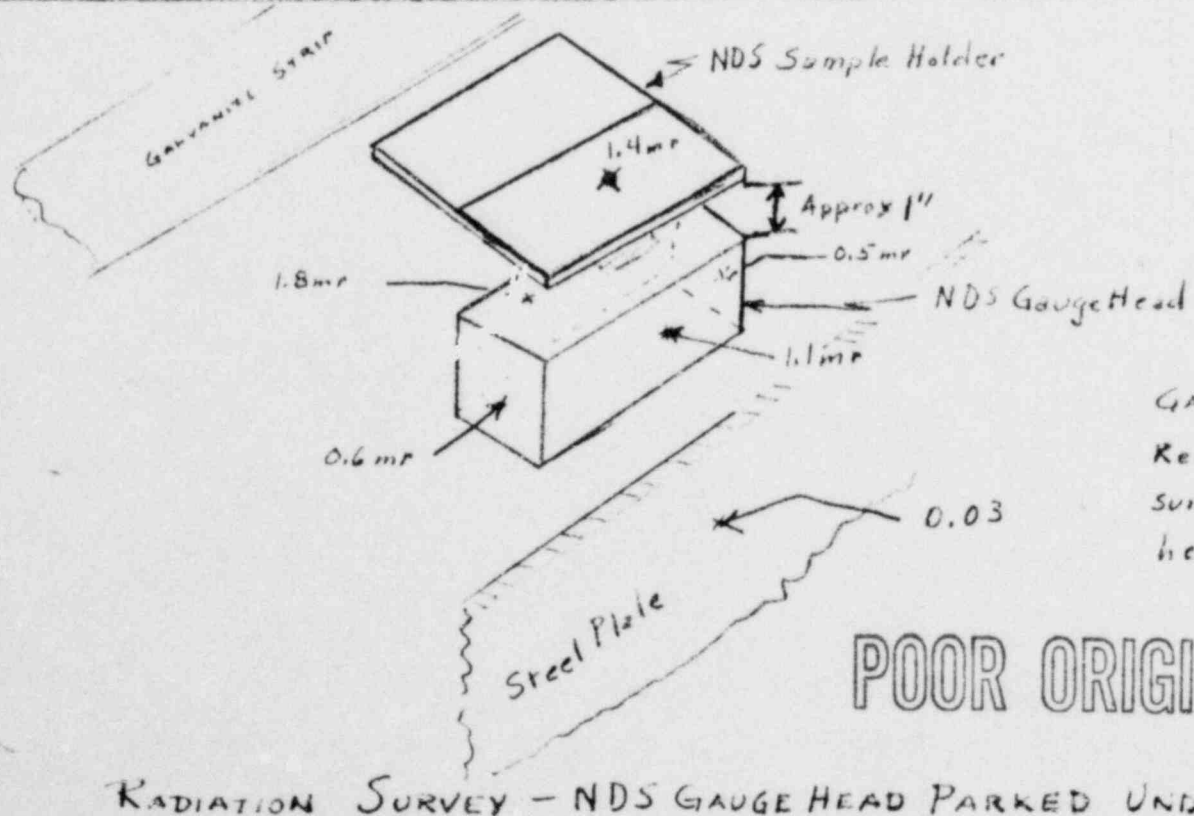
RBM/lf
Enclosures
cc: L.A.Antilla
R.C.Espy
W.C.Janes



No 8. GALV. LINE - PLAN VIEW



SECTION A-A



GAUGE HEAD SER. No 2072
Readings made on the surface of the gauge head and sample holder

POOR ORIGINAL

RADIATION SURVEY - NDS GAUGE HEAD PARKED UNDER SAMPLE HOLDER
SHUTTER OPEN. by K. D. MacLeod 3-4-80
VICTOREEN METER SERIAL No 694 MODEL 489 Back ground 0.02 - 0.03 mr