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**RESPONSES TO USEPA COMMENTS ON SECTION
8,6.1, CALIBRATION OF FIELD EQUIPMENT, OF
THE FINAL SAMPLING AND ANALYSIS PLAN
OPERABLE UNIT 2 WORK PLAN ADDENDUM**

07/09/93

**DOE-FN/EPA
DOE-2381-93
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LETTER
OU2**



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Department of Energy
Fernald Environmental Management Project
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JUL 09 1993

DOE-2381-93

Mr. James A. Saric, Remedial Project Director
U.S. Environmental Protection Agency
Region V - 5HRE-8J
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

Mr. Graham E. Mitchell, Project Manager
Ohio Environmental Protection Agency
40 South Main Street
Dayton, Ohio 45402-2086

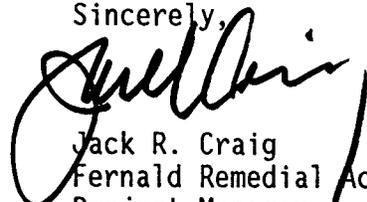
Dear Mr. Saric and Mr. Mitchell:

RESPONSES TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY COMMENTS ON SECTION 8.6.1, CALIBRATION OF FIELD EQUIPMENT, OF THE FINAL SAMPLING AND ANALYSIS PLAN OPERABLE UNIT 2 WORK PLAN ADDENDUM

Enclosed for your review are the responses to the United States Environmental Protection Agency (U.S. EPA) comments on Section 8.6.1, Calibration of Field Equipment, of the Final Sampling and Analysis Plan Operable Unit (OU) 2 Work Plan Addendum. Also enclosed are the modified pages incorporating these comments.

If you or your staff have any questions, please contact Rod Warner at (513) 648-3156.

Sincerely,


Jack R. Craig
Fernald Remedial Action
Project Manager

FN:Warner

Attachment: As Stated

cc w/enc:

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RESPONSE TO U.S.EPA COMMENTS ON THE FINAL SAMPLING
AND ANALYSIS PLAN OU 2
REMEDIAL INVESTIGATION WORK PLAN ADDENDUM (APRIL 1993)

Commentor: Gene Jablonowski, Radiation Section, U.S.EPA

1. COMMENT: A Ludlum Model 12 meter, if intended to be used for alpha particle surveys, would be configured with a ZnS scintillator or air proportional alpha detector, rather than the pancake probe (Geiger-Mueller) that is indicated in the Work Plan.

RESPONSE: For the purpose of meter configuration, an air proportional or scintillator alpha detector, and not a pancake probe is used. Page 8-60 of the Work Plan Addendum will be corrected to reflect this.

2. COMMENT: The Ludlum Model 2 meter, when configured with a Ludlum 44-9 pancake Geiger-Mueller detector as indicated in the response to comments, should be calibrated by exposing the detector to a calibrated gamma field rather than a background concentration that is indicated in the Work Plan.

RESPONSE: Exposure of the Ludlum Model 2 meter to a beta source is not for calibration purposes; rather, the purpose of this activity is to perform a Field Response Check. This Field Response Check is performed once per day. Page 8-60 of the Work Plan Addendum will be corrected to clarify this section.

3. COMMENT: An inconsistency exists between the stated calibration period of the Eberline ESP-1 meter and its SPA-3 NaI detector; the Work Plan states a daily calibration while the responses to comments states a weekly calibration.

RESPONSE: A daily calibration is not performed; only daily field response checks are performed. The instruments are checked daily for operation, and a logbook of each field instrument is maintained, and is available for inspection, if requested. Actual calibration is performed semi-annually. Page 8-61 of the Work Plan Addendum will be changed to clarify this section.

SCQ, which are currently being transitioned and integrated into one sample shipping procedure.

8.6 FIELD EQUIPMENT METHODS

8.6.1 Calibration of Field Equipment

Field equipment to be used during this investigation is divided into the categories of health and safety monitoring, field screening and monitoring, and geophysical investigative instruments. At a minimum, all equipment will be operated and calibrated according to the equipment manufacturer's specifications. Written logs of equipment calibration are maintained by the appropriate personnel in charge of performing the instrument calibrations.

Health and Safety monitoring equipment consists of the following instruments:

HNu PI-101 Photoionization Detector - equipped with a 10.2 EV lamp. This instrument is calibrated daily using isobutylene gas as a standard. During use, in order to spot check the instrument for proper operation, a hydrocarbon based felt tipped pen is commonly used. However, this practice is not a substitute for routine instrument operation checks.

Ludlum Model 12 Alpha Meter - equipped with a ZnS scintillator or air proportional alpha detector. The instrument is calibrated against a background concentration. If the background concentration exceeds 2 counts per minute (cpm), then the instrument is not used. The instrument is calibrated to a known standard once per week.

Ludlum Model 2 BetaGamma Meter - This instrument is exposed once per day against a background standard to perform a field response check. If, during routine use, the operator notes that the background concentration exceeds 300 cpm, then the instrument is not to be used.

Ludlum Model 19 Micro-R-Meter - this meter is calibrated to a known standard once per week.

Ludlum Model 9 Ion Chamber - This instrument is calibrated to a known standard once per week.

Field Screening and Monitoring equipment consists of the following instruments:

HNu PI-101 Photoionization Detector - equipped with a 10.2 EV lamp. This instrument is calibrated daily using isobutylene gas as a standard. During use, in order to spot check the instrument for proper operation, a hydrocarbon based felt tipped pen is commonly used. However, this practice is

not a substitute for routine instrument operation checks.

Orion Model 250A pH Meter - This instrument is calibrated daily, and is compared to known calibration standards at least twice prior to each reading. The buffer solutions typically used for calibration are pH 4 and pH 7 Standard Units.

YSI Model 33 S.C.T. Conductivity Meter - The conductivity meter is calibrated daily to a known standard.

Solonist Water Level Indicator - There is no known standard to which a water level meter is calibrated. The meter is, more than calibrated, maintained by ensuring that it is in proper operation, and that the batteries are charged.

Hach Turbidity Meter - This instrument is calibrated to a known standard on a daily basis.

YSI Model 51-B Dissolved Oxygen Meter - This instrument is calibrated to a known standard on a daily basis.

ESP-1, Model 141, SPA-3 Sodium Iodine Scintillation Detector - This instrument is used for radiation surveying. Field response checks to a known standard are performed on a daily basis.

Geophysical Investigative equipment consists of the following instruments:

Magnetometer - The magnetometer is typically returned to a pre-established base station periodically to calibrate the instrument during surveying. The typical interval is two hours, but may be subject to change depending on survey conditions.

Electromagnetic (EM) Meter - The EM meter is periodically returned to a pre-established base station to calibrate the instrument during surveying. The typical interval is two hours, but may be subject to change, depending on survey conditions.

All instrumentation will be maintained, calibrated and operated according to the manufacturer's specifications or FEMP specifications. Written records of these activities will be maintained in a daily log, chronological format.