



**Department of Energy**

**Ohio Field Office  
Fernald Area Office**  
P. O. Box 538705  
Cincinnati, Ohio 45253-8705  
(513) 648-3155



AUG 05 1999

**2436**

Mr. James A. Saric, Remedial Project Manager  
U.S. Environmental Protection Agency  
Region V-SRF-5J  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

DOE-1001-99

Dear Mr. Saric:

**YEAR 2000 ISSUES AT THE FERNALD ENVIRONMENTAL MANAGEMENT PROJECT**

Reference: Letter, J. A. Saric to J. W. Reising, "Y2K Issues at the Fernald Environmental Management Project," dated June 9, 1999

The Fernald Environmental Management Project (FEMP) has been working Year 2000 (Y2K) issues since 1995. In the autumn of 1998, the Department of Energy (DOE) received a grade "F" for Y2K readiness from the Office of Management & Budget. The Department immediately set stretch goals to achieve Y2K compliance. FEMP met Secretary of Energy, Bill Richardson's stretch goal of having all business mission critical systems Y2K compliant before January 31, 1999. The site also met the goal of all mission essential environmental, safety and health systems Y2K compliant before March 31, 1999, except for the Advanced Wastewater Treatment (AWWT) Distributed Control System (DCS). All the other identified critical and essential systems have been Independently Validated and Verified (IV&V). The AWWT DCS will be compliant before September 30, 1999.

Please note, in order to install and test the software for the AWWT DCS system, FEMP will be requesting a maintenance shutdown of the system sometime in September; a separate letter will report on the shutdown. Enclosed is a sample of a completed DOE checklist used for the IV&V process.

Please contact me at (513) 648-3139 if you have any questions.

Sincerely,

Johnny W. Reising  
Fernald Remedial Project  
Project Manager

FEMP:Neyer

Enclosure

AUG 05 1999

Mr. James A. Saric

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cc w/enclosure:

N. Hallein, EM-42/CLOV  
G. Jablonowski, USEPA-V, SRF-5J  
T. Schneider, OEPA-Dayton  
F. Bell, ATSDR  
M. Schupe, HSI GeoTrans  
R. Vandegrift, ODH  
F. Barker, Tetra-Tech  
AR Coordinator, FDF/78

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cc w/o enclosure:

W. Murphie, EM-42/CLOV  
J. Neyer, OH/FEMP  
A. Tanner, OH/FEMP  
J. Bradburne, FDF/1  
T. Hagen, FDF/65-2  
J. Harmon, FDF/90  
R. Heck, FDF/2  
S. Hinnefeld, FDF/31  
T. Walsh, FDF/65-2  
ECDC, FDF/52-7

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United States Government

# memorandum

Ohio Field Office

**2436**

DATE: MAY 26 1999  
REPLY TO:  
ATTN OF: OH:COOKE  
SUBJECT: INDEPENDENT VALIDATION AND VERIFICATION  
TO: Jack Craig, Director, FEMP

OH-0808-99

The Ohio Field Office Year 2000 Project Team is working steadfast in its effort to assure that all Ohio Field Office systems are Year 2000 compliant. As a part of this project, we are required to have an independent validation and verification (IV&V) on our mission critical systems. In order to accomplish this at the Ohio Field Office, we are utilizing a team of contractors and federal employees from each of the projects. This team is charged with reviewing the documentation and methodology of each sites' remediation project.

During the period of March 16th - 18th, the OH IV&V Team conducted its review of the Fernald mission critical systems. Both the FEMP and Flour Daniel Fernald (FDF) staff were well prepared and presented the information in a format that was very helpful in our review. Attached is the completed assessment with suggested improvements. This report has been discussed with your staff as well as representatives from FDF.

Please submit a revised assessment, detailing corrective action taken by June 30, 1999.

  
Kenneth W. Briggs  
Assistant Manager for  
Human Resources

## Attachments

cc w/attachments:  
William Neyer, OH/FEMP  
Jan Arnett, FDF

## SYSTEM IDENTIFICATION

System Name: Fernald Analytical Computerized Tracking System (FACTS)

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System Owner: Jan Arnett, Flour Daniel Fernald (FDF)

Sponsoring Organization of the System: Flour Daniel Fernald (FDF)

Y2K Renovation Team Leader: Jan Arnett, FDF

Is the System in Operation? Yes

Additional Comments: FACTS is a Laboratory Information Management System (LIMS) that tracks samples from cradle to grave. The compliance process is very well documented, with very detailed guidance.

### 1. THE IV&V AGENT

IV&V Agents:

Kevin Cooke, Lead 937.865.5065  
Jeff Vaughn 937.865.3022  
Danny Punch 937.865.3784  
Jeff Hill 937.865.5103

IV&V Agent Organization: DOE-Ohio Support Office, Miamisburg Environmental Management Project and Babcock and Wilcox of Ohio, Inc.

Period of Review: March 16 - 18, 1999

Description of IV&V Methodology: *[provide or attach a summary of the IV&V approach, not to exceed one page]:*

The Ohio Field Office is comprised of a support office and five project offices, each having separate contractor organizations. This unique configuration allowed us to form a team of contractors and federal employees from these sites to accomplish the independent validation and verification of our Mission Critical Systems. The team led by the Ohio Field Office Year 2000 Project Manager, consists of a federal employee and a contractor from each site along with the Information Management Team Leader and the Environmental Safety and Health Year 2000 Coordinator representing the Ohio Support Office. The IV&V at each site will be conducted by the Year 2000 Project Manager, a representative from the Ohio Support Office and a federal employee and contractor from a different Project Office.

The steps of the IV&V are as follows:

1. The system owner will conduct a self-assessment based on the IV&V guidance adopted from DOE HQ.
2. The system owner will provide a system overview, description and Year 2000 Methodology.
3. The IV&V team will assess the methodology and documentation of the system using this guidance.
4. The IV&V team will provide the assessment to the DOE Project Office responsible for the system
5. The system owner will take any corrective action necessary and resubmit documents detailing these actions through the responsible Project Office.
6. These three assessments will make up the IV&V document.
7. After approving the Ohio Field Office Manager will provide documentation of IV&V Completion to DOE-HQ.

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| IV&V Element | Description  | Completed by the IV&V Agent (Y/N) | Comments   |
|--------------|--|-----------------------------------|--|
| 4.2          | Confirm the identification of trading partners and the existing of trading partner exchange agreements.                                    | Y                                 | Letters to Laboratories 98:1817 and 98:1821                        |
| 4.3          | Confirm the conversion of databases and archives.  | Y                                 | Bug Tracker, Implementation Plan 99:0018 and FACTS/SWIFTS 99:0021  |
| 4.4          | Confirm the completion of acceptance testing.  | Y                                 | Acceptance Tests, Bug Tracker and Presentation and IM Memo 99:0003 |
| 4.5          | Verify the availability of a contingency plan and/or updated disaster recovery plan.   | Y                                 | Readiness Plan and Draft Close out Memo                            |
| 4.6          | Confirm the reintroduction/reintegration of the repaired/replaced system and related components into the production-computing environment. | Y                                 | FACTS/SWIFTS Compliance Memo 99:0021                               |

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| IV&V Test Element | Test Data/Type           | Description   | Completed By the IV&V Agent (Y/N) | Primary or Secondary Review | Comments/Recommendations   |
|-------------------|--------------------------|---|-----------------------------------|-----------------------------|--|
| 3.0               | DATE FIELD TYPE          | Describe the type of date fields used by the system, in either application, software or database.   | Y                                 |                             | FACTS does not. WISDM allows some two-digit input MS Nearest Century Logic |
| 3.1a              |                          | Confirm whether the system uses two-digit year data fields.   | Y                                 |                             |  |
| 3.1b              |                          | If two-digit, verify if the system uses a windowing logic technique to correctly infer the century?   | Y                                 |                             | MS Nearest Century Logic   |
| 3.1c              |                          | If yes, identify the windowing date ranges that are used? Please provide "From" and "To" range in the Comments column]  | Y                                 |                             |  |
| 3.2               |                          | Confirm whether the system uses four-digit year data fields.  | Y                                 |                             | WISDM Form Update Test 2050  |
| 3.3               |                          | Identify when the windowing logic fix will fail.  | Y                                 |                             | Yes in parameter tables  |
| 3.4a              |                          | Determine whether there are any internal data types for date, such as character or variable character.  | Y                                 |                             | Data entry via format mask   |
| 3.4b              |                          | If yes, identify the range of dates that the date field can represent. [Please provide "Minimum Date" and "Maximum Date" values in the Comments column; and if character type date, please describe the process the system uses to convert the date date] |                                   |                             |  |
| 4.0               | VENDOR PROVIDED SOFTWARE |   |                                   |                             |  |
| 4.1               |                          | Confirm whether the system uses vendor-provided software packages or infrastructure components. [If yes, please provide the software name in the Comments column]   | Y                                 |                             | Yes it uses SQR, Oracle VMS, SQL LIMS and Oracle Repor                     |
| 4.2               |                          | Confirm whether the vendor-provided software has been verified to be Y2K compliant.   | Y                                 |                             | vendor certification and successfully ran in Y2K test environm             |
| 4.3               |                          | Describe how Y2K compliance was determined, such as vendor certification, in-house testing, etc. [Please provide the response in the Comments column]   | Y                                 |                             | vendor certification and successfully ran in Y2K test environm             |
| 4.4               |                          | If spare parts were provided by vendor(s), confirm whether they have been verified to be Y2K compliant, and how the compliance was determined.  | N/A                               |                             | N/A no spare parts provided  |
| 5.0               | EMBEDDED SYSTEMS         |   |                                   |                             |  |
|                   |                          |   | N/A                               |                             | No embedded systems in FACTS   |

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\_\_\_\_\_  
Kevin Cooke, DOE-OH, Lead

  
\_\_\_\_\_  
Jeff Vaughn DOE-OH, Team Member

  
\_\_\_\_\_  
Danny Punch DOE-MEMP, Team Member

  
\_\_\_\_\_  
Jeff Hill BWO, Team Member

# memorandum

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Ohio Field Office

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REPLY TO  
ATTN OF: OH: SCHMIDT

OH-0972-99

SUBJECT: INDEPENDENT VALIDATION AND VERIFICATION (IV&V) OF YEAR 2000 COMPLIANCE

TO: Robert D. Folker, Acting Manager, Ohio Field Office

The Ohio Field Office IV&V review teams have concluded their review of all mission essential safety and health systems belonging to OH and identified in the Department of Energy headquarter's database. The scope of the IV&V review was to determine the sufficiency and completeness of testing and corrective actions to assure that the intent for Y2K compliance was met at Ohio and its three major sites: West Valley Demonstration Project (WVDP), Miamisburg Environmental Management Project (MEMP), and Fernald Environmental Management Project (FEMP).

The IV&V teams observed a sufficient number of on-site tests of the safety and health systems to recognize that Ohio Field Office mission essential safety and health systems will be Y2K compliant for the year 2000 rollover and associated critical dates. The reviews conducted were considered to be "secondary reviews", i.e., primarily reviews of documentation of Y2K testing, renovation, and implementation activities to assure Y2K compliance.

The IV&V teams were comprised of members of the Ohio Field Office support staff, DOE members from each of the three major project offices, an employee from the three sites' prime contractor, and members from the independent outside organizations, HAZMED and Computer Technology Associates (CTA). DOE contractor employees did not review their own site's efforts for Y2K compliance and their sites were not reviewed by the site in which they participated as team members. The teams used DOE headquarter's supplied checklists ("Table 1 - Template for IV&V of Year 2000 Conversion Model Activities," and "Table 2 - Test Template for Y2K IV&V of the Validation Phase" for consistency of review between the sites.

Site specific reports are being distributed to the OH sites under separate cover letter. Each individual site report contains observations and recommendations to strengthen DOE/OH readiness for the year 2000 rollover. The corrective actions based on the recommendations are to be completed by August 30, 1999. Progress will be tracked by the site's Y2K coordinator. Insufficient documentation or lack of documentation of Y2K activities was the most common observation of the teams. In most cases, the associated Y2K activities have been completed but have not been adequately documented. The teams observed first-hand, field testing of a sufficient number of systems selected at random to recognize that the identified Ohio systems are Y2K ready.



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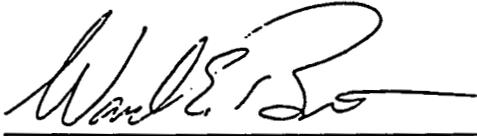
Robert D. Folker

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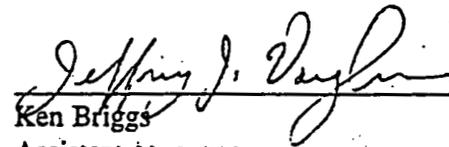
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All sites have created or are in the process of creating business continuity plans and system contingency plans to address site emergencies related to year 2000 rollover. To minimize any unexpected system downtime, each site is also creating a "Zero Day" work schedule to have all necessary personnel on site at the Year 2000 rollover on midnight December 31, 1999.

All Ohio mission essential safety and health systems are Y2K compliant and business continuity plans and contingency plans are being prepared to address any unexpected failures that could pose significant threats to the areas they support. Based on the site IV&V reviews and the pending corrective actions to the team's observations, the Office of Human Resources and Office for Compliance and Support believe that all mission essential safety and health systems of the Ohio Field Office and its project offices and their primary contractors are Y2K compliant; however, each observation listed in the site reports should be addressed in writing by August 30, 1999, to close out all validation and verification activity.



Ward Best  
Assistant Manager  
Office for Compliance and Support

for 

Ken Briggs  
Assistant Manager  
Office of Human Resources

- cc:  
Leah Dever, DOE-OK  
K. Cooke, OH/HR  
J. Craig, OH/FEMP  
B. Mazurowski, OH/WVDP  
R. Provencher, OH/MEMP  
I. Schmidt, OH/OCS