

U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-341/79-19

Docket No. 50-341

License No. CPFR-87

Licensee: Detroit Edison Company  
2000 Second Avenue  
Detroit, MI 48226

Facility Name: Enrico Fermi 2

Investigation At: Enrico Fermi 2

Investigation Conducted: August 22-23, 1979

Investigators *C. E. Norelius*  
for R. J. Marsh

9/20/79

*C. E. Norelius*  
for J. C. Howell

9/20/79

Reviewed By: *C. E. Norelius*  
C. Norelius  
Assistant to the Director

9/20/79

*F. J. J. J. J.*  
R. C. Knop, Chief  
Construction Projects Section 1

9/20/79

Investigative Summary

Investigation on August 22-23, 1979 (Report No. 50-341/79-19)

Areas Covered: Two allegations received regarding an NDE subcontractor's operational procedures (improper source size) and training qualification program. Reviewed qualification and certification documentation for selected individuals performing nondestructive examinations (NDE), reviewed NDE work logs and radiation surveys, inspected equipment and inventory records, and conducted interviews of personnel. The investigation involved 20 man hours by two investigators.

Results: No items of noncompliance were identified and the allegations were not substantiated.

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## REASON FOR INVESTIGATION

On April 25, 1979 an ex-employee (identified as Individual A) telephonically contacted Region III and stated a series of general concerns with the operational activities of Nuclear Energy Services (NES) at the Fermi 2 site. Individual A's concerns were further defined in a personal interview conducted on July 30, 1979. At the conclusion of the interview it was agreed that NRC would investigate two allegations.

## SUMMARY OF FACTS

Evaluation of the information supplied by Individual A in his phone call of April 25, 1979 and interview of July 30, 1979 resulted in an agreement that the NRC would, as a minimum, investigate two allegations. These allegations addressed NES's utilization of specific radiographic technique (physical source size) and their training/certification program.

Subsequent communication with NES representatives and an investigation on August 22-23, 1979 of the NES operation at the Fermi 2 site failed to produce findings that would support or corroborate Individual A's allegations.

1. Allegation One was found to be unsubstantiated. Source size requirements were determined to be "guidance" standards with the resultant accuracy and clarity of the technique being the final judgment point.
2. Allegation Two was found to be unsubstantiated. No instances of record falsification or improper training were identified.
3. Minor administrative errors in certification records were identified but these were found to have been previously identified by internal licensee audits and were in the process of being corrected.
4. The high amount of employee turnover and the training of newly hired personnel were found to be potential problem areas. NES indicated their awareness and sensitivity to these subjects.

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## DETAILS

### 1. Persons Contacted

#### Individual A

#### Detroit Edison

*T. H. Dickson, Asst. Project Manager	E*
J. A. Cartmill, Asst. Project Superintendent	E, X
H. A. Walker, Site Project, Q. A. Engineer	E, X
E. H. Newton, Q. A. Engineer	X
G. Carter, Q. A. Engineer	
R. S. Lenart, Startup Engineer	X

#### Daniel International

D. E. Seifert, Project Manager	E, X
J. T. Blixt, Project Q. C. Manager	E
J. G. Bolt, Project Q. C. Manager	E, X
K. Dempsey, Asst. Construction Manager	E
J. Rotond, Q. C. Engineer	X

#### Nuclear Engineering Services, Automation Industries

J. Statham, Project Supervisor (Level III)  
NES Employees 1-3

\*E denotes attendance at Entrance Meeting  
X denotes attendance at Exit Meeting

The investigators also contacted and interviewed other licensee and contractor employees.

### 2. Background Information

The Fermi 2 Nuclear Power Station, licensed to the Detroit Edison Company, is under construction at a site near Monroe, Michigan. Sargent & Lundy is the Architect-Engineering firm for the plant, which is being constructed by the Daniel International Corporation. The facility will utilize a Boiling Water Reactor (BWR) designed by the General Electric Company.

The Nuclear Energy Services, Inc. (Automation Industries, Inc. Company) is one of several subcontractors supplying nondestructive examination services for the Fermi 2 site. Nuclear Energy Services (NES) is under contract to Wismer Becker Contracting Engineers to provide a variety of NDE services including liquid penetrant (PT), ultrasonic (UT), and radiographic (RT) testing.

### 3. Scope and Chronology

This investigation was conducted to determine the fact and substance behind allegations of use of improper radiographic technique and improperly trained/certified personnel. The investigation consisted of interviews with licensee and NES personnel; a review of training and qualification records, work logs, instrument calibration documentation and radiation survey records.

On April 25, 1979 Individual A, an ex-employee of NES telephonically contacted the USNRC Region III offices to discuss his concerns over certain aspects of NES radiographic operations at the Fermi 2 site.

Following a delay resulting from priorities established by the Three Mile Island incident Individual A was interviewed on July 30, 1979. It was decided two allegations would be investigated:

1. Use of improper radiographic technique - physical size of source.
2. Use of radiographers without proper certification training.

On August 2, 1979 RIII telephonically contacted NES Supervisor Carlton Tucher, at the Fermi 2 site and advised him that an investigation was being initiated. Preliminary queries were made regarding the status of certain individuals whose names arose in the discussion with Individual A of his concerns. Following telephonic discussions with Mr. Tucher on August 2 and again on August 6, 1979 it was determined only one (identified as NES 1) of four individuals mentioned by Individual A still held employment with NES.

On August 22-23, 1979 RIII conducted an investigation of Individual A's allegation at the NES facility, Fermi 2.

An investigation of NES facility at the Fermi 2 site was conducted by RIII on August 22 and 23.

### 4. Findings

#### a. Allegation One

"The physical dimensions of the radiographic source(s) used at Fermi 2 (during mid-1978) was incorrect. For a stationary source with fixed source to film distance panoramic exposures require a 1/10" x 1/10" source size. A 1/8" x 1/8" source was employed."

#### Discussion

Individual A alleges the larger (1/8" x 1/8") sealed source was used to accomplish radiographics which should have required a 1/10" x 1/10" source per Article 2 of Section V, ASME Boiler and Pressure Vessel Code.

### Finding

It was determined that ANSI B31.1 (1977) and Art 2, Sect. V, ASME Code establish image quality to be the essential parameter of radiographic technique. ANSI, B 31.1, Sect. 136.4.5 states the ASME Code (Para T-251) be utilized "as a guide". The substitution of a larger (1/8" x 1/8") source for the 1/10" x 1/10" specified source need not inherently have an adverse effect on image quality.

Review of NES source inventory records of the specified mid-1978 period revealed NES possessed a mixed inventory of source sizes. No evidence of improper source substitution or record falsification was identified. Hence, the allegation is not deemed substantiated.

#### b. Allegation Two

"Some personnel working alone with radioactive sources were not trained or certified as radiographers (during mid-1978)".

### Discussion

Individual A alleged that NES personnel of newly hired status were assigned radiography duties without benefit of full training. He further stated the NES supervisor would sign out several sources and then distribute these to the uncertified employees for the accomplishment of their assignments in an unsupervised manner.

### Findings

A review of qualification and certification records (including Wismer and Becker Form K5, dated 6/28/79) revealed NES to have experienced a heavy turn-over of examiner personnel over the last year. There were approximately 35 terminations/transfers since approximately June 1978. The NES Project Supervisor stated NES was aware of this loss rate and was in the process of attempting to transfer experienced people into the Fermi site to bolster NES experience level. He also said that NES was paying particular attention to the training (Radiation Safety as well as SNTC-1A training) of newly hired personnel. He stated he had no knowledge of untrained personnel being utilized as radiographers and that a practice of this nature would be against company (NES) policy.

A review of source logs and work records covering the last 12-18 months failed to reveal any instances where an examiner or supervisor had signed out more than one source at the same time.

Interviews with NES No. 1 indicated that although he had no direct knowledge or experience of personnel without training being assigned duty as a radiographer, he could not absolutely rule out the possibility of its having occurred. He did state that at times of high work load, training was normally curtailed. This was also confirmed by discussions with the NES Project supervisor who indicated that NES was calling this to the attention of first line supervisors to insure that an increase in work assignments did not result in the cancellation of training commitments.

No findings in support of this allegation were identified as a result of this investigation.