BEFORE THE
NUCLEAR REGULATORY COMMISSION

Vera M. English
and
General Electric Company

NRC Inspection Reports Nos.
70-1113/82-18
70-1113/84-04
70-1113/84-05
70-1113/84-08
70-1113/84-13
70-1113/84-15
70-1113/84-16
70-1113/84-17
70-1113/84-18

SUPPLEMENTAL PETITION UNDER 10 CFR § 2.206 FOR WITHDRAWAL OF REPORTS 84-17 and 84-18, ISSUED JANUARY 18, 1985; 82-18, ISSUED SEPTEMBER 27, 1982; 84-04, ISSUED AUGUST 23, 1984; 84-05, ISSUED MAY 9, 1984; 84-08, ISSUED JULY 19, 1984; 85-10, ISSUED JULY 27, 1984; 84-13, ISSUED NOVEMBER 15, 1984; 84-15, ISSUED FEBRUARY 7, 1985; 84-16, ISSUED FEBRUARY 13, 1985; ISSUANCE OF NEW REPORTS CORRECTLY DOCUMENTING AND FINDING ALLEGED VIOLATIONS AT THE G.E. WILMINGTON, N.C. NUCLEAR MANUFACTURING PLANT; ISSUANCE OF NOTICE OF VIOLATION ON ALL SUBSTANTIATED ALLEGATIONS, ASSIGNMENT OF APPROPRIATE SEVERITY LEVELS TO EACH FOUND VIOLATION, AND TO ALL VIOLATIONS CONSIDERED AS A WHOLE; AND COMMENCEMENT BY NRC OF APPROPRIATE ENFORCEMENT ACTION, INCLUDING THE ASSESSMENT OF CIVIL PENALTIES

CHAPTER II

J. The Inspector's Findings In 84-17 (h), p. 7, That "Marking Off Contaminated Areas Is Not Required By NRC Regulations, License Conditions or Licensee Procedures" Is Predicated Solely Upon G.E.'s Misrepresentation To The Inspector

Since submission of Chapter I, G.E. has filed in Case No. 85-ERA-2, a motion to dismiss or for summary judgment based upon the Inspector's finding quoted and refuted in Chapter I, par. G, pp. 22-23. G.E. Motion, filed March 5, 1985, p. 11, n. 18. G.E.'s misrepresentation to the Inspector,

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upon which he necessarily relied in making his finding, was made during the investigation on November 27-30, 1984. General Manager Lees was first confronted with the documents quoted at pp. 22-23 of Chapter I on December 15, 1984. He then admitted, under oath, that the "Criticality Safety Control Chemet Lab," (Exh. 3a in 85-ERA-2) is an authentic company instruction issued to employees (Lees' Dep. p. 24), but claimed that he had never seen it before! (Id.) Such instructions are required by G.E.'s license. (Rept. No. 84-10, p. 3, par. 8(a) (last three lines), p. 4, par. 9, penultimate sentence).

Lees also claimed that he could not authenticate the "Hourly Course Outline" (Exh. 3b, Lees' Dep., p. 25). But nuclear safety training is required by 10 CFR Part 19 (Rept. No. 84-13, p. 5, par. 7), and by G.E.'s license. Rept. No. 84-10, p. 3, par. 7; p. 4, par. 9. G.E. has yet to produce a scintilla of evidence that Exh. 3(b) (temporarily rejected for want of adequate foundation) is not authentic.

Having been caught in the lie that G.E.'s instructions to employees do not provide for roping off or otherwise marking uranium spills and areas contaminated by others, G.E. invokes the Inspector's finding to assert (Motion, p. 11, n. 18), that "the only proper action an employee must take if he or she observes a spill of radioactive material * * * is to immediately clean it up * * *." Thus, G.E. uses the Inspector's false finding, predicated on G.E.'s own misrepresentation to the Inspector, to disprove the truth!

G.E.'s argument is not only falsely premised in fact, but utterly absurd in law, since it would require "whistle blowers" to destroy the hard evidence of management's violation of nuclear safety regulations which management constantly demanded that Mrs. English produce to substantiate her charges, and without which NRC inspectors would, as their reports amply show, make no finding in her favor. If G.E.'s argument were valid, the whistle-blower would have a choice only between two intolerable alternatives -- (1) destroy the proof of management's violations, about which the law gives her the right, without discrimination or reprisal, to complain to NRC and to support her charges by producing evidence, or obtaining and preserving hard evidence, at the expense of losing her statutory protection. If these were the only alternatives, G.E. would have discovered a loophole which enables it to violate both the safety requirements of the law and the "employee protection" provisions with impunity.

K. The Inspector's Conclusion, 84-17 (d) (pp. 4-5) That There Was No Violation In Requiring Lab Employees To Accept Visibly Contaminated Sample Vials and Paperwork Into The Lab Is Patently False

Once again, the Inspector's report is fatally defective in that it fails to recognize G.E.'s ALARA obligation. It is also defective in that it fails to recognize that Condition 9, Appendix A, Sec. 4.1, of G.E.'s license, binds G.E. by law to all "written operating procedures." Rept. No. 81-11, issued Oct. 26, 1981, p. 5, par. d(1) (first two

sentences); Rept. No. 84-04, "Notice of Violation," first two sentences, p. 5, par. 13.

G.E.'s written safety procedures and practices impose on all submitters of vials and paperwork to the lab the duty to clean "visible contamination" from vials and paperwork before leaving them to be picked up by lab employees. (App. A hereto, Nuclear Safety Rules B, 14, issued 4/27/78). Report No. 84-15, p. 9, c.(3), finds that G.E.'s "approved procedures" require that "(c) equipment must be wiped clean of visible contamination." Report No. 84-04, p. 7, second par., last sentence, finds that "Samples received from the production area for analysis were * * * found to have external contamination on the containers." Had the Inspector in 84-17 not been blinded by G.E.'s misrepresentations, he might have recognized the distinction drawn by G.E. in its operating procedures between "presumably contaminated" and "visibly contaminated."

The Inspector, however, bought G.E's purely diversionary argument that because precautionary measures were required of Chemet Lab employees, there was no violation in management's allowing submitters to leave "visibly contaminated" vials and paperwork for lab employees to pick up and handle, and in requiring Chemet Lab employees to accept and handle such materials. Of course, that is a complete non-sequitur.

Just how bad this Report is can be judged from the fact that, two weeks after its exoneration of G.E. from Mrs. English's charge, Chemet Lab Manager Winslow, on February 19,

1985, issued a notice to all "Submitters of U-Samples to Chemet Lab" stating that: "To effectively meet radiation safety guidelines in the Chemet Lab," vials and paperwork which "show evidence of excessive or accumulated exterior contamination cannot be accepted." (App. B, infra).

L. The Inspector's Finding, p. 5, That Allegation (e) "Could Not Be Substantiated" Results From The Inspector's Misrepresentation Of The Allegation

The Inspector was able to dismiss this allegation only by misrepresenting it. Mrs. English had actually charged that her work table top and legs, and the floor of her work area, were repeatedly contaminated by Chemet test operators on the prior shift, either "deliberately," or "being sloppy" or "didn't care," and that "management was condoning this." The Inspector misrepresented this charge by confining it to "deliberate" contamination, and addressed himself only to that. Mrs. English herself had refused so to restrict the charge, recognizing that "deliberateness" could not be proved. The Inspector's "discussion" of this incident is, therefore, entirely beside the point. He asked the wrong questions and, not surprisingly, got answers unresponsive to the true allegation.

Under Mrs. English's actual charge, whether the work bench surface, legs and floor were contaminated by the prior shift, deliberately, or willfully, or accidentally, is utterly irrelevant. The only relevant fact is that when Mrs. English

arrived at work she repeatedly found her work place contaminated. The penultimate sentence in the "discussion," about an individual other than Mrs. English having used poor work practices which resulted in contamination of Mrs. English's work area, is substantiated by at least three witnesses. Yet, management did nothing about the workers on the prior shift who were doing the contaminating.

The statement of "two witnesses" referred to in the preceding sentence is patently incredible on its face, since, admittedly there were no eye witnesses to Mrs. English's alleged "spill." Did the Inspector even ask these so-called "witnesses" how they "knew"?

In short, the "specific cause" of the contamination of which Mrs. English complained could have been conclusively determined; indeed, employee witnesses identified the guilty individuals to the Inspector. On the facts known to the Inspector, the violation alleged was proven beyond possibility of doubt.

M. The Inspector's Finding (a), pp. 2-3, That Management Did Not Discourage Employees From Answering Questions of NRC Inspectors Is Erroneous

The Inspector found (p. 2), that one employee (obviously Mrs. English) "did state that [her] supervisor once told [her] to refer NRC inspectors to the supervisor if they had any questions." That finding contrasts with the finding in Rept. No. 84-16, p. 4, 3a (3), that "Two of the twelve

technicians interviewed indicated that they were told to refer any questions asked of them by NRC inspectors to their supervisors * * *." Both findings sustain the allegation of "discouragement." If instructions to refer NRC investigators' questions to supervision is not "discouragement" of free and full discussion by employees with inspectors, what is it?

Mrs. English was known by every member of management and every worker in the Chemet Lab to be the person most concerned and most knowledgeable about uranium safety hazards and violations of safety practices and procedures. Other Chemet Lab employees were neither as knowledgeable or as safety-concerned as she. It is, therefore, not surprising that she (and one other potential "subversive," as management characterized Mrs. English, App. C, infra) were the only ones management may have felt compelled to "discourage." The Inspector chose to overlook this obvious fact. Yet he does not articulately discredit Mrs. English or state any possible reason he might have for doing so.

The 84-17 Inspector states that he interviewed a total of twelve Chemet Lab technicians, test operators and first-line supervisors, in this connection. How many were rank and file employees and how many supervisors he does not say. The 84-16 Inspector interviewed "twelve laboratory technicians." (p. 4, par. (3)), and found two, not one.

Moreover, the 84-17 Inspector asked the wrong question, "whether or not they had been advised or told not to talk to

NRC inspectors." That was not what Mrs. English claimed she had been told. The 84-16 Inspector asked the right question and got the answer that what Mrs. English and another technician were told was "discouragement." 84-16, p. 4, par (3). Nevertheless, incredibly, even the 84-16 Inspector found "no violations."

N. The 84-17 Inspector's Finding (b), p. 3), That the Posting Allegation, Although "Partially Substantiated," Is Not A Violation, Is Factually and Legally In Error

The Inspector's assertion that "the documents required by 10 CFR § 19.11 were conspicuously posted," upon which his dismissal of this allegation was based, overlooks (1) that some of the items required to be posted by § 19.11(a), were never posted, e.g., Parts 19 and 20 of 10 CFR; "the license, license conditions, or documents incorporated into a license by reference and amendments thereto," and "any response from the licensee to any notices of violation involving radiological working conditions." What was "posted" was enclosed in a plexiglass covered bulletin board located at the gateway to the walk to the Chemet Lab, at least 500 yards away from the entrance to the Lab building, instead of at the entrance to each controlled area (84-17, pp. 10-11).

The single bulletin board was observable by Chemet Lab employees only on their way to and from work, at a time when hordes of employees congested at the gateway (id.), and everyone was in a hurry to punch in or get home. Any employee

who stopped to look at what was on that bulletin board rendered himself or herself conspicuous and subject to hostile surveillance by the ever present G.E. uniformed guard. The whole point of the § 19.11(a) "conspicuous" posting requirement is that employees shall be able to "observe" the posted documents. Webster's Third New International Dictionary, unabridged (1965), p. 1558, defines "observe" as "5: to see or sense, especially through directed, careful, analytic attention."

Obviously, no employee could "observe," in this sense, the multi-page documents, which § 19.11(a) and (c) requires the employer to "post," enclosed tightly as they were in the plexiglass-covered case. If all that § 19.11 required was that employers post "conspicuously" so as to permit employees to "observe" that the employer has complied with the posting requirement, and not to enable employees to read and study the posted documents, the requirement would be ludicrous and self-defeating. Fortunately, that construction is foreclosed by § 19.11(b), which specifies that "[i]f posting of a document specified in (a)(1)(2) or (3) of this section is not practicable, the licensee may post a notice which describes the document and states where it may be examined." (Emphasis added.)

In short, the object of posting is to enable employees to examine the specified documents, not merely to ascertain that the employer has "posted" them. Since study and analysis

of multi-page documents "posted" within a plexiglass covered bulletin board is not a "practical" means to accomplish the purpose of § 19.11(a) and (d), G.E. was legally required at least to post a "conspicuous" notice in compliance with (b). This G.E. did not do, and this is, in itself, a most serious violation.

The details to which the Inspector confined himself exclusively simply compound this real basic violation. The Inspector found the "postings [were] less accessible than in the past." Apparently, he did not even require what past practice was and why it was changed, although the effect of the change was to diminish the employees' right to know, which the Act protects. He treated minimal compliance with the literal text as fully satisfying the employer's legal obligation. This, as we have seen, he had no legal right to do.

Moreover, the Inspector by implication found that even the portions of the documents visible through the plexiglass were barely legible during the night hours (when Mrs. English worked) without improved lighting. Instead of finding this a violation, the Inspector "advised" management to "install better lighting," as if that would wipe out management's current and past violations.

O. The Inspector's Conclusion (c), pp. 3-4, That Dumping Uranium Powder Outside Hoods Is Not A Violation Is Utterly Untenble

Whether or not some workers develop or aggravate sinus conditions as a result of dumping uranium powder outside

hoods, the practice is a flagrant violation of G.E. nuclear safety practices, by which G.E. is legally bound, and, as such, should have been found unlawful by the Inspector. Sources cited, Chapter I, pp. 24-26, and appended thereto. We requote one. Rad Safety, Lab Operating Procedures, App. D, hereto, 3, H, issued April 3, 1973, provides, p. 2:

> "H. All compounds of uranium that could become airborne shall be handled inside of hoods with air flow of 80-120 LFM through the apertures. Examples of this is (1) Opening of powder sample containers (2) Crushing of pellets, weighing, etc., (3) Dumping and compositing samples for return to Shop Operations, (4) Dissolution and concentration of uranium samples by heating."

P. The 84-17 Inspector's Conclusion That G.E. Did Not Violate Procedures By Having "Dichromate Titrations Done In The Open and Not Under A Vented Hood" ((j), pp. 8-9) Is False

We showed in Chapter I, pp. 27-29, that the Inspector's conclusion that G.E. did not violate procedure by having dichromate titrations performed outside vented hoods is legally untenable. G.E. management guided the Inspector to <u>one</u> document which happens not to specify that such titrations <u>must</u> be done under a hood. Cf. authorities cited in "O" above. He then swallowed G.E.'s untenable thesis that without such precise specification there can be no violation, as if ALARA did not exist.

The 84-17 Inspector's finding (p. 9) that the fumes released by dichromate titrations outside the hood do not materially increase "the radiological hazards of working at

this station" relies entirely on "radiological contamination surveys performed by the licensee in 1984, [which] did not identify contamination above the action level at this station." But elsewhere in his same Report, pp. 17-18, the Inspector finds correctly that G.E.'s radiological contamination surveys for this station during 1984 are utterly unreliable, because the single monitor was geographically far removed from the work station in question and was seven feet off the floor (at least four feet above the level of the work station), so that the surveys were literally worthless! Moreover, the Inspector also found (id., p. 13, first par.) that G.E. uses airborne exposure values derived "from the time spent in the work area" and "air concentration measured in the work area," to "calculate the internal dose assigned to the individual." That system could not produce results relevant to contamination "at the [work] station."

Further, the Inspector ignored the findings of Rept. No. 81-11, p. 2, par. 4(a), that G.E.'s air sampling system "could [sic] result in underestimating radioactivity levels to which an employee was exposed," in violation of 10 CFR § 20.103.3 and § 20.401, G. 2.:

> "a. The licensee has several work areas that contain multiple air samples individually placed at the different work locations. Timekeeping for personnel at specific work locations is not maintained by the licensee and therefore for purposes of assigning MPC hours the multiple air sample activity is averaged. The inspector stated that this was not a good health physics practice and in certain areas could result in underestimating radioactivity levels to which an

employee was exposed. Failure of the licensee to accurately determine the MPC-HRS for an employee would be in violation of 10 CFR 20.103.3 and 10 CFR 20.401.G.2." (Emphasis added.)

Indeed, misplacement of the single air filter must have rersulted in underestimating radioactivity levels to which Chemet test operators were exposed. The finding of "no violation" is an incomprehensible as it is illegal.

Q. The 84-17 Inspector's Finding That "General Airborne Radioactivity Levels In the Lab Have Been Minimal" (o, pp. 15-16) Is Based On G.E. Surveys Which the Inspector Himself Found Worthless and Conflicts With the Findings in 84-04.

The 84-17 Inspector admitted that "Step 3.11 of COI 409 requires the tray of crucibles to be removed from the microwave oven and placed in a hood to cool." (p. 15). He also found that for an undetermined period of time prior to early 1984 (p. 11), last sentence in third par. from bottom), and "until early 1984," i.e., after Mrs. English complained to NRC, "the cooling rack set outside the hood next to the microwave oven," not under a hood. Instead of finding that this was a violation, the Inspector, swallowing G.E.'s hook, embarked on a frolic and detour minimizing the resulting hazard, as if this could justify the deliberate violation.

To exonerate G.E. from this charge, the Inspector found (pp. 15-16) that exposure to the fumes from the cooling crucibles was not serious. See also, Chap. I, pp. 23-26. He relied on bioassay data (id., pp. 15-16)), which earlier (pp. 13-14) he had condemned as inadequate and deficient. See

also Rep. No. 84-04, p. 2, a describing deficiencies in G.E.'s whole body count system. An internal management report (App. E, infra, p. 4, par. VI A), dated December, 1981, establishes that G.E. could not even evaluate the "Semitrx UA-3 analyzer" used in "bioassay analysis." Yet, even the 84-17 Inspector's results showed (p. 15), that "20 out of 28 individuals checked had at least one positive urinalysis result (greater than the minimal detectible activity value of 5 micrograms per liter)." The 84-17 Inspector dismissed G.E.'s fdailure to include "results of urinalysis on the ground that "low levels" were "normally reported for Chemet personnel" (p. 13, last two sentences). The results shown in those "reports" are virtually worthless.

The Inspector's key justifiction for excusing G.E.'s proven violations was that "general radiation levels in the lab have been minimal." (p. 16). Chap. I, p. 27, et seq. He predicated that conclusion upon a "surface contamination survey in the recirculation system intake ducts * * * [done between November 27-30, 1984]. The highest survey result was 300 dpm/100 cm^2." (p. 16, 1st full par.). But, two pages later, the Inspector found that such contemporary survey results were irrelevant because "the exhaust ventilation system had been modified within the past year," and that air flow studies of airborne radioactivity were unreliable because the air-intake monitors were misplaced so they could not detect the actual airborne radioactivity to which Chemet test operators

were subject. This internal contradiction the Inspector did not even undertake to explain.

Further, the 84-17 Inspector's report of the survey he witnessed contrasts sharply with the results reported in 84-04, p. 5, first two pars:

> "The inspector also reviewed the results of airborne radioactivity surveys performed in February and March 1984 using the fixed station air samplers installed throughout the controlled area. [sic., cf. 84-17, p. 18].
>
> "During the review of contamination surveys, the inspector noted that on several occasions work areas in the CHEMET laboratory were found to be contaminated above the administrative limit of 220 dpm/100 cm^2. At the request of the inspector, and under the direct observation of the inspector, the licensee performed a special contamination survey in the CHEMET lab. Three work areas were found which exceeded the licensee's administrative limit. The contamination levels in these areas ranged from 317 dpm/100cm^2 to 5,100 dpm/100cm^2.

There is some difference between "300 dpm/100cm^2" (84-17, p. 16) and "317 dpm/100cm^2 to 5,100 dpm/100 cm^2."

In Silkwood v. Kerr-McGee Corp., ___ U.S. ___ (1/11/84), 52 L.W. 4043, 4044, n. 5, and accompanying text, the Supreme Court observed tht Kerr-McGee violated the law by failing to account for an inventory difference of .022%, the excess over the permissible inventory limit of .500%. In the instant case, the airborne radioactivity level reported in the February 21-24, 1984, survey by far exceeded G.E.'s action level, as G.E. admitted by "taking prompt action to decontaminate these

areas" (84-04, p. 5). G.E.'s conduct prior to decontamination is not only a violation of ALARA, but of 10 CFR 70.57(b)(11) and (12).

The February-March, 1984, study, with all of its blatant inadequacies and deficiencies, is far more representative of the airborne radiation to which Chemet Lab test operators were constantly subject from at least 1980 through at least March 31, 1984, than the phoney results of the November 27-30, 1984, study reported in 84-17. Thus, the basic premise of G.E.'s exculpation in 84-17 is, on NRC's own finding in 84-04, disproved.

The question remains, what happened to G.E.'s blatant violation for "an undetermined period" (and why was it left undetermined) before early 1984? The Inspector's failure to address that question demonstrates that this Report cannot stand.

R. The 84-17 Finding ((k), pp. 9-10) That G.E. Had Not Violated Safety Rules By Removing Posted Instructions Concerning Required Monitoring of Small Items Such as Paper, Notebooks and Personal Items When Removed From the Controlled Area Cannot Stand

G.E. admitted that "at one time," signs were posted requiring that "items such as paper, notebooks, and personal items" be surveyed prior to exiting the controlled area. However, the Inspector inexplicably failed to find that it has been "Standard Operating Procedure" since April 3, 1973 (App. 8, Chapter 1, "D," second sentence), that "a separate log

is provided for individual clearance of small personal items such as clip boards and paperwork."

The Inspector obviously did not inquire when, or if, this Standard, by which G.E. is legally bound, was ever removed. Nor did he purport to find that the legally required procedure was followed. He exonerated G.E. from the violation solely on the ground that, during the brief time he was there, the Inspector "found no evidence that * * * contaminated material is being removed from the controlled area without proper control."

Again, of course, this is not the legal test which NRC must apply. The legal standard is ALARA, and licensee safety practices which G.E. was required by law to have followed. In point of law, G.E.'s admitted failure to follow that procedure itself establishes the violation. In point of fact, dozens of employees support Mrs. English's testimony that during her time in the lab she observed management, engineers, etc., removing items such as papers and notebooks from the controlled area without logging and frisking. Again, the Inspector's "no violation" conclusion cannot stand.

S. The 84-17 Inspector's Treatment of Mrs. English's Allegation (1) (pp. 10-11) Is Gratuitously Insulting, Disparaging And Misleading

The Inspector spends a whole page of his 16 page discussion on Mrs. English's charge that "some laboratory personnel were not monitoring themselves for contamination when

leaving the job at the end of the workshift." The Inspector treated the charge as if it related to conditions at the time of his investigation (November 27-30, 1984), failing to note that the latest date Mrs. English's charge could possibly have referred to was March 16, 1984, her last day in the Chemet Lab. Finding that G.E. had thereafter apparently taken effective steps to contain this endemic violation, he gratuitously concluded that Mrs. English's allegation was "not substantiated."

The Inspector ignored that Mrs. English's charge in this respect had already been fully sustained in Report No. 84-04, based on an investigation conducted February 21-24, 1984, pp. 5-6, par. 13, and that corrective action had been noted in No. 84-13, p. 2, par. 3. He also ignored the fact that Report No. 81-11, p. 2, found a wholesale violation [25% of the workers] (p. 5, (d)(2), in that

> on September 23, 1981, approximately thirty workers were observed exiting the controlled area. Twenty-five percent of these workers were observed holding the probe a much greater distance than 1/4 inch, and moving the probe at a rapid rate.

The Inspector's failure to consider prior violations in this frisking area is a violation of NRC's enforcement rules, 49 F.R. at 8585, V, B, C:

> "In considering prior performance, prior enforcement history, including previous Severity IV and V violations in the area of concern, and escalated enforcement actions will be considered."

Subsection (e) (id.), provides:

"The Commission believes that escalation of a penalty may be appropriate where multiple examples of a violation are identified, regardless of who identifies them."

The Inspector's failure to acknowledge repetitive violations in this area is a particularly egregious offense since subsection 3 of par. B provides (id.):

"[C]onsistent with the addition of the factor on past performance [March, 1984], the policy now states that in cases involving willfulness, flagrant NRC-identified violations, repeated poor performance in an area of concern, or serious breakdown in management controls, the NRC intends to apply its full enforcement authority where such action is warranted. * * * The Commission expects management to be closely involved in the control of licensed activities to prevent violations of regulatory requirements. If management causes or condones violations of regulatory requirements, sanctions will be appropriately escalated." (Emphasis added.)

T. The 84-17 Inspector's Failure To Find (n, pp. 12-14) That G.E. Violated 10 CFR 19.13(b) and (c), and 20.408(b) and P/P Nuclear Safety Instruction E-60, Rev. 11, "Personnel Dose Reporting," By Admittedly Failing To Furnish Mrs. English and Other Employees Upon Request With "Complete Radiation Exposure Results" Is Flagrant Error

A perfect illustration of Region II Inspectors' propensity to overlook and bury meaningful, substantive, violations under a diversionary finding of purely technical violation is the 84-17 Inspector's treatment of allegation "n", p. 12. Mrs. English reported to NRC that the report she received on July 17, 1984, pursuant to her request, immediately before her termination, was incomplete on all factors: radiation exposure, film badge (or TLD), urinalysis and whole

body counts. The Inspector found that her allegation was correct in all respects (pp. 12-14). He even found that furnishing an incomplete report to a terminated employee was a violation of 10 CFR § 19.13(a), 20.401(a) and (c), and 20.408(b) (p. 14).

Nevertheless, he avoided finding this major, substantive violation! He excused non-resolution on the absence of film badge or TLD results between 1972 and 1976 merely because "a [G.E.] representative stated that he believes Chemet Lab personnel were not issued film badges prior to 1976" (p. 12, last par.). Admittedly, 10 CFR 20.202(a) has always required dosimetry equipment for workers who "are likely to receive a dose in a calendar quarter in excess of 25 percent of the applicable value specified in paragraph (a) of § 20.101." To determine whether 202(a) was applicable, the Inspector reviewed the exposure data for Chemet Lab personnel since 1976 (p. 12), either failing to note or to remember that those records had been conclusively found grossly to understate Chemet Lab test operators' exposure levels. Relying exclusively on those defective records, the Inspector concluded that the "personnel monitoring required by 10 CFR 20.202, probably would not have been required by Chemet Lab personnel" (id., p. 12).

On this blatantly illogical reasoning, the Inspector made the issue turn on whether dosimetry was provided between 1972-1976. Ignoring Mrs. English's plain and clear statement

that it was, in favor of the G.E. representative's wholly unsupported "belief," the Inspector classified the matter as "unresolved" (p. 14).

As for exposure records, the Inspector found that "the data for the period of February 1979, through May, 1982, was omitted from the [report] data available on some individuals" (R. 13). That period had no data on the report given Mrs. English. G.E. admitted that "assignment of airborne exposure personnel in the Chemet Lab began in late 1973." So what was the excuse this time for finding no violation? Simply that a G.E. spokesman said the omission was due to "a change in computer programs and the data for the period was available" (p. 13). But what does this have to do with whether G.E.'s failure to furnish a complete report to Mrs. English on July 17, 1984, and again on October 19, 1984, was a violation of 10 CFR 20.408(b), (cited at p. 14)? Absolutely nothing!

With respect to whole body counts, the Inspector found that no data appeared on Mrs. English's report for the period from 1972 through 1977 - 5 years. G.E. representatives "told the Inspector that they began using whole body counts for evaluating the uptake of insoluble radioactivity in 1977," but "they could not provide any evidence to support this belief." (Emphasis added.) Mrs. English reported unequivocally that G.E. began making whole body counts in 1972. Instead of finding that the burden of proof was on G.E., which was legally required to maintain records of all body counts (records would

have revealed precisely when the practice started), the Inspector left the issue "unresolved" (p. 14), first full par.):

> "pending establishment by the licensee of the dates when whole body counts, external monitoring, urinalysis and assigned airborne programs began and the preparation of revised dose reports for CHEMET Lab personnel and a review of the reports during a subsequent inspection (84-17-01)."

This basic, substantive, violation of Mrs. English's rights was manifestly overripe for a finding. Why was it not made?

Instead, of making that finding (which could hardly have been discounted to severity level IV or V), the Inspector fixed on a diversionary timeliness technicality -- failure to provide the report to NRC within 30 days "after the exposure was determined." He found this a violation of 10 CFR 20.408(b). G.E. may well savor its temporary, tactical, victory over truth and justice.

U. The 84-16 Inspector's Treatment Of G.E.'s "Out of Control" Situations As A Mere Technical Violation Is Unlawful

Another excellent example of Inspectors' proclivity for substituting technicality for substance is the finding, implicit in 84-16 (pp. 4-5, b, Table I), that the number of G.E.'s "out of control" measurements was unacceptably high (p. 5) (e.g., 5 out of 32 for the TMI method or 16%. Cf. Rept. No. 84-15, p. 6 (e), ("104 (9%) items exceeded the 0.05 alarm control limits and only one exceeded the 0.001 control

limits"). Those results meant that G.E.'s entire quality control testing system was out of whack. So what did the Inspector do? Did he cite G.E. for violating 10 CFR § 70.51? No indeed.

Instead, he pointed to a letter dated May 14, 1984, from NRC to G.E. instructing G.E. to make timely internal reports when "a single or two consecutive data points * * * fall between the .05 and .001 control limits." And he found a violation, classified as Severity Level IV, for violation of this interal reporting requirement.

But what happened to the obvious, substantive, violation of § 70.51, 70.57 and 70.58, which resulted in so large a percentage of out-of-control conditions? What was G.E. doing to reduce that percentage? Of course, those question were not asked by the Inspector, and he made no findings on that!

V. The Failure of the Inspectors in 84-17 And 84-13 To Find That Use and Placement Of a Single Air Monitor In the Chemet Lab Was a Flagrant Major, Substantive, Violation, Which Destroyed the Validity of All of G.E.'s Airborne Uranium Intake Surveys, Is Unlawful

Report No. 84-13, based on an inspection dated September 17-21, 1984, issued November 15, 1984, p. 3, shows that on September 21, 1984, Inspector Perry discussed "in detail" with G.E. representatives (p. 4, par. 2) the fact that "one air sample in the lab may not be representative of the concentrations at all work stations in the Lab." (Emphasis added.) G.E.'s response was irrelevantly diversionary.

Company representatives "stated that documentation should be retrievable from old files that would furnish information on evaluations made to determine the air sampling program in the Chemet Lab."

How was that in any way responsive to the observed deficiency? Were the "old files" going to reveal that at one time G.E. had more, and better placed, air monitors in the Chemet Lab? If so, why did they reduce the number? If not, what conceivable relevance do the "old files" have? But that G.E. song and dance was enough to deter Inspector Perry from making the requisite violation finding. He did no more than flag this as an "unresolved" item (p. 3, (b)).

Report No. 84-17, based on an inspection dated November 27-30, 1984, issued January 31, 1985. On September 21, 1984, Inspector Hosey had warned management that the single air monitor in the Chemet Lab may not be enough. In the two-month interval between September 21 and November 30, G.E. did precisely nothing to increase the number of air monitors or improve the placement of the single air monitor in the Chemet Lab. That Inspector Hosey did not mention, although management's failure to take corrective action after being advised by NRC of a potential violation must materially increase the severity level of the violation.

True, Inspector Hosey did find (Notice of Violation in 84-17, pt. 1, second par.), that this illegal "condition * * * was believed to have existed from early 1984 to November 30,

1984." But, in point of fact, there is no evidence whatsoever to suggest that the period of violation began in "early 1984." The only evidence is that it existed at least since 1972! And it continued into 1985. Although G.E. has now installed more air monitors, they are still 7 feet off the floor, where they cannot possibly measure Chemet test operators' air contamination intake.

As already noted, Inspector Hosey (and all Inspectors who issued reports after his) ignored the vast ramifications of this violation of 10 CFR 20.103(a)(3). The defects noted at 84-17, pp. 17-18, necessarily discredit all G.E. air intake contamination surveys and results in the Chemet Lab from 1972 on. Is this not a most serious, deliberate, willful, violation of NRC nuclear safety regulations? Did G.E. thereby not destroy the whole NRC plan of nuclear safety protection for Chemet Lab employees?

Proof of historic management laxity and willful indifference to enforcement of nuclear safety standards referred to in 84-17 (cover letter, par. 4; Report Details, pp. 1-2, Exit Interview), is found in Rept. No. 81-11, issued October 26, 1981. There, the same Mr. Hosey, then Acting Section Chief, Technical Inspection Branch, Inspector in 84-17, noted in the "Exit Interview" on September 25, 1981, "that housekeeping in the fuel manufacturing area was in need of improvement. Cleanliness appears to have deteriorated over the past several years"! This completely corroborates Mrs.

English's statement to NRC that G.E. management's nuclear housekeeping and safety and quality concerns deteriorated from 1978 on. Why was this not found?

And why did Region II inspectors fail to uncover before Mrs. English filed her charges even the violations they reluctantly found afterwards? Report after report before February, 1984, purport to have looked into every aspect of G.E.'s Standard and Special Operating Procedures, without finding a violation or deviation. Is the manifest unwillingness to find violations on Mrs. English's charges a defense mechanism designed to shield the Region II Inspection Staff against charges of incompetence or worse? E.g., 81/11, pp. 3-4, pars. 6-9 a through c.

W. The Inspector's Failure In Report No. 81-11, p. 3, par. 1, To Discover And Condemn G.E.'s "JNF Blend Isotopic Reject" Is Inexcusable

The Quarterly Management Report for Fall, 1981, (App. E, p. 2, par. c, hereto), describes rejection of a G.E. shipment by JNF

> "for failure to meet the isotopic acceptance plan. This required rework at JNF and associated communication/negotiation that goes with a failure. WMD must pay approximately $6000 to the Japanese for the required rework and the image of WMD as a vendor was not improved."

Report No. 81-11 issued October 26, 1981, was based on an inspection conducted September 21-25, 1981. That Report says (p. 3, last sentence), that "Radioactive material shipment

records for the period January 1980 to August 1981 were selectively reviewed." Obviously, G.E., not the NRC Inspector, must have made the "selection," for the Inspector did not discover the JNF rejection. If the Inspector had done his job competently, he could not have failed to find the multiple violations of 10 CFR § 70.57 and 70.58 by G.E. which this JNF rejection reflects. See particularly 70.58(g)(2), (3)(4).

X. The Inspectors' Failure In All Reports To Find And Condemn G.E.'s Improper Assays Of UO_2 Content and Improper Verification of Out of Control Conditions Is Inexcusable

A. The Quarterly Management Report for Fall, 1981 (App. E, infra, p. 3, III, D, 2), notes that the Chemet Lab reports "only oxygen to uranium ratios" because it "does not know the metal impurity content in the UO_2 being assayed." "P&OAO" requested "LMCS to make a percent uranium calculation." The request was not honored, however, because "LMCS does not know the impurity levels of the UO_2 being assayed either"! What kind of a farcical "measurement" system is this that G.E. operates in flagrant violation of 10 CFR § 70.57? Why didn't any of the Inspectors find this crucial violation?

B. The same G.E. internal Report admits, (id., III, D, (3)), that

> "The Chemet Laboratory does not always verify that an Out-of-Control condition has been corrected using the same standards which indicates the condition. P&OAO is concerned that, if other than the same Out-of-Control standard is used for verification,

the analytical region initially indicated as out-of-control will not be checked. Neither Federal Regulation #10CFR70.57 nor the FNMCP require more than one level be checked by standards after calibration or that the same standard (or region) be used to verify control. To resolve this concern, a request will be made to revise the FNMCP to specifically allow the use of multiple verification standards and the verification of return to control using a certified standard which the responsible Engineer/Chemist feels is appropriate." (Emphasis added.)

What happened to this projected scheme for exempting G.E. from legal requirements which, as P&OAO knew are explicit, let alone implicit, in § 70.57 b (8), (9), (10) and (11)?

The Report is signed by Chemet Lab Manager Winslow. So far as we are aware, Winslow is not a lawyer. Where does he get the chutzpah to interpret what 10 CFR § 70.57 and FNMCP do or do not legally require? The only rational explanation is that Winslow believes G.E. can get away with anything!

Y. The 84-16 Inspector's Failure To Find Improper Tag Removal (pp. 1-3, par. 3) For Want Of Physical Evidence Can Be Ascribed Only To His Failure To Look At That Physical Evidence Provided NRC By Mrs. English

A. The 84-16 Inspector dismissed Mrs. English's charge that "an out-of-service tag was improperly removed from an analyzer on August 23, 1982, in violation of a General Electric procedure" on the "basis of discussions with licensee employees (who ostensibly couldn't remember the incident although the laboratory manager and the technician who

originally placed the tag on it did), and "lack of physical evidence," i.e., the tags themselves, pp. 1-3, par. 3(a)(1).

Obviously, the Inspector did not even purport to interview Mrs. English, the charging party, because, at the time of the investigation, November 27-30, 1984, she was no longer a "license employee." If he had, she would have provided him not only the testimonial verification the Inspector looked for elsewhere, but the physical evidence he claimed he needed to examine, zeroxed, photographed, copies of the tags themselves, which she had supplied to Mr. Uryc and which we append as Appendices F and G, hereto.

B. In the course of disposing of this allegation, the Inspector reflects his naive acceptance of another of G.E.'s legal fairy tales. He says "applicable shift logs" reflecting out-of-service equipment, while maintained by the licensee pursuant to a procedure entitled "Administrative, Lock, Tag and Try, No. 302" (p. 2, 1st par.), are not "required to be maintained by the licensee and are used primarily for trend analysis related to equipment failures." (Emphasis added.)

What G.E. induced the Inspector to overlook is that license condition 9, App. A, Sec. 4.1, binds G.E. to all "written operating procedures." See "K," supra, p. 3. What G.E. chooses to use this "log" for is as irrelevant as the flowers that bloom in the spring.

Y. Multiplication of Additional Erroneous Failures To Find Violations Is Unnecessary and Impractical

There remain literally dozens of erroneous failures to find violations in the subject reports. We believe we have sufficiently established the pattern and that additional proof would be cumulative.

This is not to say that we do not challenge failure to sustain every one of Mrs. English's charges. Proper investigation of the facts and correct application of the law would sustain them all. We shall cite only one more example. Report No. 84-15 finds that the password system is "reasonably protected from unauthorized changes" and that Mrs. English's "concerns" were therefore "not substantiated." But Mrs. English complained that in fact her results were changed behind her back and without informing her, to make her work look bad. Winslow admitted this could have happened! (App. H, p. 1). How can it rationally be said that her "concerns in this area were not substantiated"?

Moreover, even if an exhaustive list would be helpful, the exigencies of time simply do not permit. The hearing of Mrs. English's case before ALJ Brissenden is scheduld to begin on March 18, 1984, and, at present, is scheduled to conclude March 27, 1984. We hope you will have reached a decision in this matter on or before that date. As for ourselves, we must from now on spend every available moment in other phases of preparation for hearing.

AA. The Violations Found Must Be Viewed Collectively, To Assign Appropriate Severity Levels

NRC's March 8, 1984, revision of its Enforcement Policy explains that (49 F.R. 8584, III, 2):

> "this change is being made to recognize that individual violations, when viewed collectively, may have a greater significance than when considered separately. Be aggregating the violations to evaluate the severity level, the Commission hopes to focus attention on the underlying problem or programmatic deficiencies where appropriate."

We understand that under the Rules (VII, Responsibilities, 49 F.R. 8591), only the Director, Office of Inspection and Enforcement, subject to Commission review in certain cases, can assign Severity Levels I, II and III to a licensee's violations, individual or cumulative, and attach civil penalties thereto. In our opinion, the Administrator of Region II should have forwarded all of the subject reports to you, without assigning any Severity Level, but with recommendation that you view the found violations collectively, and in the light of "B. Civil Penalty, 1-t," assign to them Severity Level I, and impose the heaviest possible civil penalty.

Our instant petition seeks more than that. It requests that you re-examine all the failures to find, particularly those addressed in the original petition and Chapters I and II, cumulate all the violations so found and assign the appropriate Severity Level and civil penalty. Short of that, as a temporary measure, in part to satisfy the emergency needs of

the DOL litigation, we suggest that you select those violations which, without further factual investigation, we have demonstrated that the Inspection Reports erroneously fail to find. Adding these to the found violations, properly considered, establishes a pattern of Severity Level I dimensions, calling for the most severe civil penalties.

We appreciate your understanding and cooperation. NRC's interests, and the public interest, in effective enforcement of the Act, and Mrs. English's interest as "private attorney general" for enforcement, depend on your prompt decision.

Please address your ruling (and any correspondence, or telephone inquiry) to me at my temporary Wilmington, North Carolina office: c/o Rountree & Seagle, 11 South Fifth Avenue, Wilmington, North Carolina 28401 (Telephone: (919) 763-3404).

Respectfully submitted,

MOZART G. RATNER
Mozart G. Ratner, P.C.
Suite 610
1900 M Street, N.W.
Washington, D.C. 20036
(202) 223-9472

ARTHUR M. SCHILLER
Suite 1300
1000 Connecticut Avenue, N.W.
Washington, D. C. 20036
(202) 331-8508

March 12, 1985

4/27/78, 1

NUCLEAR SAFETY RELEASE : General Requirements -- Chemet Lab
Page

COMPANY CONFIDENTIAL

B. RADIOLOGICAL

1. Chemet Lab operations must be planned and undertaken in such a manner as to limit the spread of radioactive materials. Unnecessary movement of radioactive materials and personnel handling radioaction materials must be avoided.

✓ 2. Work areas involving radioactive materials must be monitored frequentl with a properly calibrated detecting instrument.

3. Laboratory access by non-essential personnel must be limited when Chem Lab operations are in progress which involve radioactive materials.

4. Equipment, glassware, and tools which are used with radioactive materi must be washed regularly and kept in labelled/posted controlled areas.

5. Major items or large pieces of equipment which come into contact with radioactive materials may not be removed from the Chemet Lab as non-contaminated items until decontaminated and released by Radiation Protection.

6. Care must be taken to avoid contamination of items not required by operating procedures to come into contact with radioactive materials. This especially applies to expensive equipment.

7. Operations involving liquids outside of approved enclosures must be performed over trays with sufficient absorbent material to contain possible spills.

8. All partially contained, radioactive materials (solutions and dry material) must be kept and/or transported in secondary containment.

9. Sources of external radiation (beta or gamma) must be kept in approved and significantly shielded containers.

10. Pipettes, stirring rods, etc. must not be placed directly on bench or table tops but must be placed on absorbent paper in trays.

11. All equipment and supplies no longer required must either be decontaminated or discarded as radioactive waste.

12. Radioactive wastes must be disposed of in containers lined with polyethylene bags which are labeled with a "Radioactive Materials" or "Contaminated Waste" sign

a. Solid wastes (with the exception of sharp objects, glassware, heavy objects, liquids, aerosol cans, etc.) that are known to be contaminated shall be placed in the radioactive waste container.

(12-(2)

b. Contaminated glassware, sharp objects, etc., shall have a separate container. The best container is a cardboard box with a polyethylene bag in it. When the bag is full, it is tied off and the box is taped shut, labeled, and disposed. This technique eliminates handling the bag with possibly broken glass in it.

c. Wastes known not to be contaminated shall not be placed in the radioactive waste container but shall be placed in ordinary trash cans located such that the janitorial service can dispose of the contents. This applies to cardboard boxes that once contained new equipment, chemicals, etc.

13. Spills of radioactive materials must be cleaned up immediately.

14. Containers and equipment used to handle radioactive materials must be wiped clean of visible contamination.

15. Chemet Lab personnel must wear lab coats, glasses, and other applicable protective clothing (gloves, etc.) when engaged in Chemet Lab operations or activities involving radioactive materials.

16. All personnel exiting from laboratory controlled areas must monitor themselves for radioactive contamination. If radioactive contamination involves personnel (skin, hair, etc.) and cannot be removed, Radiation Protection must be notified immediately.

17. Eating and smoking in the Chemet Lab semi-controlled area is prohibited.

COMPANY CONFIDENTIAL

Approved: [signature] 4/27/78 Ref. Instruction(s) N/A

A. Mehrbacher, Manager

GENERAL ELECTRIC COMPANY
NUCLEAR FUEL MANUFACTURING DEPARTMENT - QA
SITE SUPPORT QUALITY - CHEMET LABORATORIES
Wilmington, NC 28402

February 19, 1985 cc: CL-85-118

TO: SUBMITTERS OF U-SAMPLES TO CHEMET LAB

SUBJECT: CONTROL OF CONTAMINATION

To effectively meet radiation safety guidelines in the Chemet Lab, sample containers, request forms or secondary containers (bags) which are associated with nuclear material sampling and show evidence of excessive or accumulated exterior contamination cannot be accepted by the Chemet Lab. Samples determined not to be acceptable will remain at the sample window and the submitting unit notified to correct the excessively contaminated submittal.

Additionally, to assure that lab paperwork contamination levels are maintained as low as practical, the current practice of placing the lab request form in plastic bags with uranium containing samples must be discontinued. The use of separate plastic bags should be used when mutiple samples/requests are delivered at the same time.

Your assistance is requested to instruct personnel responsible for sampling of this change by 03/11/85. After this date, request forms will not be accepted when received in bags along with uranium samples. The submitting unit will be notified to destroy the submitted forms and initiate new request forms.

Your timely co-operation in this effort will be appreciated. Thanks.

T.P. Winslow, Manager
Chemet Laboratories
Mail Code: H-92
Dial Comm: 8*292-5461

TPW/dvc

Appendix B

STRICTLY PRIVATE

GENERAL ELECTRIC

DIAL COMM. 5461 DATE. March 13, 1984 COPIES.

DEPT. WMD-QA-FQ-Chemet Labs

ADDRESS. M/C K-10

SUBJECT. VERA ENGLISH SAFETY CONCERNS

L. A. Sheely, Manager
Fuel Quality
Mail Code K-10

During the morning shift on 03/08/84, Pete Jasinski, Acting Supervisor for Paul Bann, was informed by Carl Rochelle of Vera English's concern that the microwave oven used for isotopic dissolutions was operating improperly due to salt accumulations being found on the inside of the oven door. Mr. Jasinski completed a check-out including surveying the microwave oven with the microwave radiation detection instrument. Mr. Jasinski found no indications of improper operating conditions - a) Normal salt deposits within the oven which are cleaned during each shift and b) No measurable microwave radiation readings. After completing these checks, Mrs. English stated she still felt the oven was operating improperly as she could smell nitrous oxide fumes coming from the unit. Mr. Jasinski reported that he and others could not smell the fumes, but to be positive of the unit's proper ventilation to the 3" vent duct he decided to have Maintenance recheck the ventilation. Just prior to the end of the shift, Maintenance personnel, including Bennie Beane, checked the system and confirmed the ventilation was working properly.

At this point, it was the end of day shift and Mrs. English had not processed any isotopic samples through the microwave pending Mr. Jasinski's check-outs for each of her concerns. Additionally, C. F. Shipp, Plant Safety Specialist, advised that nitrous oxide at the OSHA air limit of 5 ppm would be very nauseous with an obvious odor. Since no problems were found, the microwave was used by other assigned operators on the following shifts with no unusual conditions being noted.

At 11:00 p.m., March 09, 1984, when Mrs. English reported for her first night of graveyard shift, Mr. Coke McLamb reviewed with her the quick letter written by HVAC Specialist, Bennie Beane, stating the ventilation principles and the basis of salt formation. Mrs. English asked why the Maintenance review was not done on Thursday, March 08, when she was complaining. Mr. McLamb stated that the review was made on Thursday and Mr. Beane's letter was based on his review of the oven on Thursday. During the weekend shift very little isotopic work was available and Mrs. English performed her assigned duties using the oven Friday and Saturday nights (March 09 and 10) without incidence.

Appendix C

However on Sunday night (March 11) when Mr. Bill Lacewell, Shift Supervisor, reported to work, Mrs. English again raised concerns about the microwave. Mrs. English removed the alpha monitor used for personnel contamination surveys at the exit of the Chemet Lab and reported that she had found contamination on an exterior back panel of the microwave. Mr. Lacewell contacted Radiation Safety; they reported no contamination was found on the oven.

Mrs. English raised many concerns to Mr. Lacewell such as; the microwave is creating radiation that is harmful to her, that the door was loose and fumes escaped from the door, that fumes were affecting her sinuses and she was afraid of breathing radiation from the oven and that if a man was complaining then the problem would get fixed. Mr. Lacewell assured her that each of these concerns had been investigated by contacts with Maintenance, Radiation Safety and the Safety Specialist, etc., and that her discrimination accusation was unfounded.

In addition to these assertions, she told Mr. Lacewell that Radiation Safety did not find the contamination on the oven since she knew that they do not do a thorough job on their routine checks. She said "Last week I smeared some sample on a table before their check and they could not find it. They had to come back to find it." Mr. Lacewell states Mrs. English's use of the word "smeared" was used in the context to indicate she had contaminated a table surface with uranium sample material.

It is extremely difficult for Supervisors and other lab personnel to work effectively with Mrs. English's current continuous accusations, assertions, allegations, etc. Of extreme concern is her direct actions to promote her concern. First, removal of the personnel monitor from an assigned survey station without specific supervision approval and second, purposely contaminating an area which could potentially create hazards for others.

Her action may be bordering on being considered subversive and her relationship with Supervision and certainly her creditability for management is rapidly deteriorating. Consequently, it is imperative that specific steps be taken to reassign Mrs. English from the Controlled Area of the Lab to preclude any potential purposeful action on her behalf to support her concerns.

T. P. Winslow, Manager
Chemet Laboratories

W. Lacewell 3/14/84
Date

P. R. Pasinski 3/14/84
Date

C. G. McLamb 3/14/84
Date

FUELS MANUFACTURING OPERATION

GENERAL ELECTRIC

STANDARD OPERATING PROCEDURE

REACTOR AND FUELS MANUFACTURING OPERATION

SUBJECT	NUMBER
Radiation Safety - Lab Operating Procedure	0.3.4
	PROJECT

1.0 PURPOSE

The purpose of this procedure is to establish and outline the general radiation safety rules, practices, and precautions necessary to prevent airborne exposures, personal contamination, and spread of contamination within the Lab.

2.0 SCOPE

The scope of this procedure is to cover the radiation safety rules and practices and precautions of a very general nature for the Wet Chemical and Spectrography Labs. Special requirements outlined in the General Radiation Safety Procedure #1.2.2-8.2.2 and SOP C-2.0-QA-201 shall be followed.

3.0 POLICY

A. Eating, storing, or preparing food is not permitted in any areas where uranium is handled.

B. Smoking and storing of Tobacco is not permitted in the controlled area.

C. The use of food containers (milk bottles, thermos, etc.) for handling or storing uranium is not permitted.

D. Employees working with uranium and all other personnel leaving the Lab must completely survey themselves for uranium contamination before leaving the work area. A separate log is provided for individual clearance of small personal items such as clipboards and paperwork.

E. White labcoats, completely buttoned, and gloves, either rubber or disposable plastic type, is required for working or handling uranium or touching potentially contaminated equipment.

RECEIVED
APR 3 19

F. All spills or leakage of uranium must be cleaned immediately.

G. Radiation Protection must be contacted to perform release surveys of all equipment leaving the controlled areas.

H. All compounds of uranium that could become airborne shall be handled inside of hoods with air flow of 80-120 LFM through the apertures. Examples of this is (1) Opening of powder sample containers (2) Crushing of pellets, weighing, etc., (3) Dumping and compositing samples for return to Shop Operations, (4) Dissolution and concentration of uranium samples by heating.

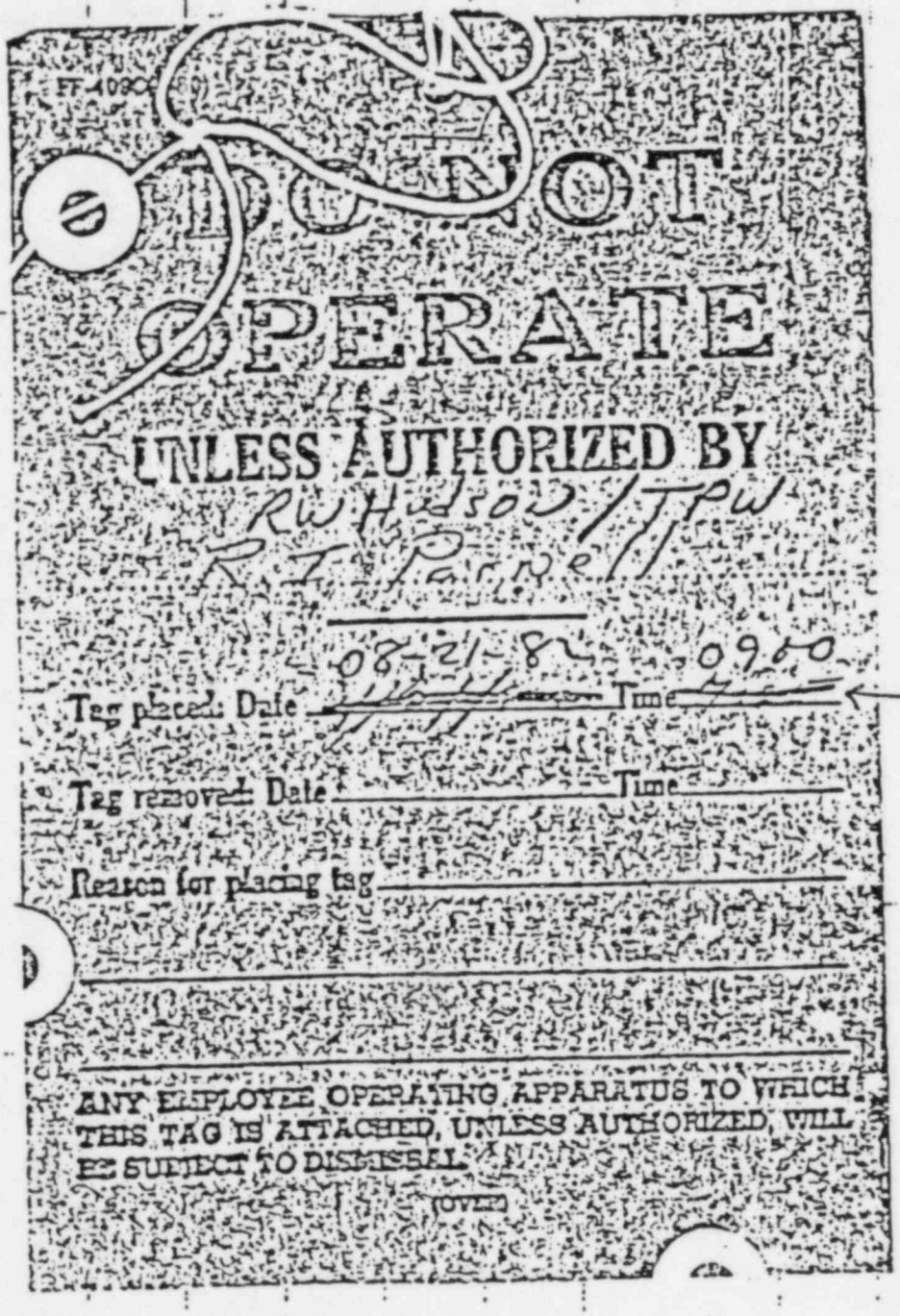
Prepared By Troyce A. Pew 4/2/73

Authorized By L. A. Berry 4/2/73

Engineering Concurrence D. F. MacMillan 4/6/73

Nuclear Safety Concurrence K. B. Haverty & J. E. Addison 4/12/73

Appendix E omitted - contains information proprietary to General Electric Company


FF-1030
DO NOT
OPERATE
UNLESS AUTHORIZED BY
RW Hudson / TPW
R T Farrell
08-21-85 0900
Tag placed: Date Time
Note Time
Tag removed: Date Time
Reason for placing tag
ANY EMPLOYEE OPERATING APPARATUS TO WHICH THIS TAG IS ATTACHED, UNLESS AUTHORIZED, WILL BE SUBJECT TO DISMISSAL
(OVER)

This exp accor to
J the attempt to falsify
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put in qualification of
the ANA my - Cabrera
very careful selection
paid in Carlsbad proper
at this time. Pennell
very cool terms.
Caught him at his game!
What will happen to
John Sutton? He was
the one called in
advance about the validity
of samples (Which sent
was not qualified) While
he be documented or dis-
missed? We did not

2/24/82 @ 2 PM

10 (2)

Appendix G

GENERAL ELECTRIC

DIAL COMM• 8*292-5461 DATE• January 19, 1984 COPIES• C.G. McLamb, H-92
L.A. Sheely, K-10
E.A. Lees, J-02

DEPT• WILMINGTON MANUFACTURING DEPARTMENT

ADDRESS• M/C H-92

SUBJECT• ACTION PLANNED PER OUR 01/12/84 MEETING

TO: Vera M. English
M/C H-92

As indicated to you in our meeting of 01/12/84, actions have/will be taken in the following areas.

- Flexibility for you to change your password has been limited due to the required interactions of two computers, LMCS and HP9887, both of which require exact password matching. Specifically, J. Garris, the only Lab LMCS authorized password accessor, will be set up by 01/25/84 to also be the only authorized HP9887 password accessor. At any time you are scheduled off for more than 48 hours, your in-process work on the HP9887 should be cleared such that you may contact John to effect a password change for you. Based on your 4-shift rotation, you should be able to change your password upon reporting to either the 3:00 - 11:00 shift or the 7:00 - 3:00 shift.

- LMCS 902/903 transaction password control, when initially set up, involved the ability to change values for standards results and, consequently, access was restricted to supervisor passwords only. Sometime ago, these transactions were modified to eliminate access to changing standards results. Use of the current 902/903 transaction by qualified lab personnel is appropriate for routine correction for input errors. However, if intentional falsification of results occurred, traceability to who/why changes were made would not be available. Therefore, transactions 902/903 will not be made available to others until they are modified to record and print out on each changed result report to document the person, reason and date of the changes. In the interim, all supervisory passwords will be changed on a continuing basis to eliminate indiscrete use by others.

C-15-a (1)

- When the HP9887 computer was implemented in November 1982, the pay number of the operator performing the sample solution weighing was used as the pay number to be reported on the LMCS results report. Since the possibility does exist that the shift operator who transacts the data on the HP9887 to LMCS may allow incorrect data to be transmitted, the LMCS results report will then show this incorrect results and the pay number of the non-transmitting operator. Since it is not possible to enter one pay number which will represent the performance of the total steps in completing a sample, I have decided to change the pay number reported to LMCS to be the pay number of the operator releasing the results. This change was implemented effective 01/17/84.

With respect to samples which you have identified on the rerun log as requiring rerun and subsequently being deleted by another operator, from the Lab viewpoint, I am confident that the deletions are being properly handled. Per procedure, a sample outside the expected range is to be rerun if C&R personnel indicate it is from a source which was expected to meet the range. Your C&R contact advises to rerun the sample and a subsequent C&R contact advises not to rerun. The problem lies with differing C&R decisions. From a quality viewpoint, samples outside the expected range which are not rerun will not be released by C&R. From a Lab viewpoint, we should not expend the retest labor to rerun samples not requiring reruns. As an overview of the total isotopic measurement/quality release system, no specific problems are apparent due to samples not being rerun which should have been rerun.

T.P. Winslow, Manager
Chemet Laboratories, M/C H-92

TPW/dvc

c 150(2)

UNITED STATES
..JCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

JAN 31 1985

General Electric Company
ATTN: Mr. Eugene A. Lees, General Manager
Nuclear Fuel Manufacturing Department
P. O. Box 780
Wilmington, NC 28402

Gentlemen:

SUBJECT: REPORT NO. 70-1113/84-17

On November 27-30, 1984, NRC inspected activities authorized by NRC License No. SNM-1097 for your Nuclear Fuel Manufacturing Department. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed inspection report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress.

The inspection findings indicate that certain activities violated NRC requirements. The violations, references to pertinent requirements, and elements to be included in your response are presented in the enclosed Notice of Violation.

In addition to the need for corrective action regarding the specific matters identified in the enclosed Notices, we are concerned about the implementation of your radiation protection program that permitted this situation to develop. Consequently, your response should describe those particular actions taken or planned to improve the effectiveness of your program.

Your attention is invited to unresolved items identified in the inspection report. These matters will be pursued during future inspections.

Please note that the enclosed report documents oral commitments (see page 1) made by a licensee representative and discussed in the exit interview. If your understanding of these commitments differs from the report statements, please inform this office promptly.

The responses directed by this letter and the enclosures are not subject to the clearance procedures of the Office of Management and Budget issued under the Paperwork Reduction Act of 1980, PL 96-511.

8505220160

Should you have any questions concerning this letter, please contact us.

Sincerely,

Daniel M. Montgomery for

J. Philip Stohr, Director
Division of Radiation Safety
and Safeguards

Enclosures:
1. Notice of Violation
2. Inspection Report
No. 70-1113/84-17

cc w/encls:
C. M. Vaughan, Manager
Licensing and Nuclear Materials
Management Unit

ENCLOSURE 1

NOTICE OF VIOLATION

General Electric Company
Nuclear Fuel Manufacturing Department

Docket No. 70-1113
License No. SNM-1097

The following violations were identified during an inspection conducted on November 27 - 30, 1984. The Severity Levels were assigned in accordance with the NRC Revised Enforcement Policy, (March 8, 1984, 49 CFR 8583).

1. 10 CFR 20.103(a)(3) requires the licensee to use suitable measurements of concentrations of radioactive materials in air for detecting and evaluating airborne radioactivity in restricted areas.

   Contrary to the above, the licensee failed to use suitable measurements of concentrations of radioactive material in air in that air samplers in the CHEMET Laboratory were not located where the sample collected would be representative of airborne radioactivity concentrations breathed by the workers in the laboratory. This condition existed on the date of the inspection and was believed to have existed from early 1984 to November 30, 1984. The CHEMET Laboratory is a restricted area.

   This is a Severity Level IV violation (Supplement IV).

2. 10 CFR 20.408(b) requires that when an individual terminates employment, the licensee shall furnish the NRC with a report of the individual's radiation exposure within 30 days after the exposure of the individual has been determined.

   Contrary to the above, the NRC was not furnished a termination exposure report within the 30 day limit in that a worker terminated employment on July 26, 1984, the individual's exposure was determined on July 17, 1984 and the exposure report was furnished to the NRC on October 19, 1984.

   This is a Severity Level V violation (Supplement IV).

Pursuant to 10 CFR 2.201, you are required to submit to this office within 30 days of the date of this Notice, a written statement or explanation in reply, including: (1) admission or denial of the alleged violations; (2) the reasons for the violations if admitted; (3) the corrective steps which have been taken and the results achieved; (4) corrective steps which will be taken to avoid further violations; and (5) the date when full compliance will be achieved.

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Security or safeguards information should be submitted as an enclosure to facilitate withholding it from public disclosure as required by 10 CFR 2.790(d) or 10 CFR 73.21.

Date: JAN 31 1985

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

JAN 31 1985

Report No.: 70-1113/84-17

Licensee: General Electric Company
Wilmington, NC 28401

Docket No.: 70-1113 License No.: SNM-1097

Facility Name: Nuclear Fuel Manufacturing Department

Inspection Conducted: November 27 - 30, 1984

Inspector: C. M. Hosey 1/24/85
Date Signed

Approved by: G. R. Jenkins, Section Chief 1/25/85
Date Signed
Division of Radiation Safety and Safeguards

SUMMARY

Scope: This special, unannounced inspection entailed 38 inspector-hours on site in the areas of followup on worker concerns and an unresolved item.

Results: Two violations - Failure to make suitable measurements of concentrations of radioactive materials in air in the CHEMET Lab and failure to furnish the NRC a report of a terminated individual's radiation exposure within 30 days after the exposure had been determined.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. E. Bergman, Manager, Fuel Manufacturing
*W. C. Peters, Manager, Nuclear Safety Engineering
*C. M. Vaughan, Acting Manager, Regulatory Compliance
*T. P. Winslow, Manager, CHEMET Lab
*R. L. Torres, Manager, Radiation Protection
D. T. Barbour, Radiation Protection Shift Supervisor
*S. P. Murray, Nuclear Safety Engineer
*P. S. Stansbury, Nuclear Safety Engineer
E. L. Jeffords, Nuclear Safety Engineer
*B. J. Beane, Senior Engineer
J. R. Swepson, Foreman, Special Material Order and Control
J. Williams, Radiation Protection Technician
H. W. Ganious, CHEMET Lab Technician
R. L. Brown, CHEMET Lab Test Operator-A
G. M. Coronado, CHEMET Lab Technician
G. W. Shiver, CHEMET Lab Test Operator-A
H. W. Fields, CHEMET Lab Technician
L. W. Brown, CHEMET Lab Test Operator-A
W. A. Wells, CHEMET Lab Technician
H. B. Pierce, CHEMET Lab Technician
C. G. McLamb, CHEMET Lab Shift Supervisor
W. Lacewell, CHEMET Lab Shift Supervisor
J. R. Sutton, CHEMET Lab Test Operator-A
O. L. Swepson, CHEMET Lab Technician

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on November 30, 1984, with those persons indicated in paragraph 1 above. The failure to make suitable measurements of concentrations of radioactive materials in air in the CHEMET Lab (paragraph 5) and failure to furnish the NRC a report of a terminated individual's radiation exposure within 30 days after the exposure of the individual had been determined (paragraph 4) were discussed in detail. The licensee acknowledged the inspection findings and took no exceptions.

The weaknesses in the contamination control program in the CHEMET Lab, were discussed. Aspects of program discussed included frequency and scope of contamination surveys, survey requirements for removing paperwork, samples and personal items from the lab, and management attention and commitment to a radiologically clean working environment in the laboratory. Licensee

management agreed to review this area and to take appropriate actions to improve the program.

Improved lighting for the bulletin board where the documents required by 10 CFR 19.11 are posted was discussed. Licensee management agreed to take action to improve the lighting in the vicinity of this bulletin board.

The installation of local area exhaust systems to remove noxious fumes generated during various analyses was discussed. The licensee agreed to perform dichromate titrations in a vented hood or to install an exhaust directly over the work station.

3. Licensee Action on Previous Enforcement Matters

(Closed) UNR (84-13-01) This item was determined to be a violation and is discussed in paragraph 5.

4. Allegations, Discussions and Findings

Note: The pronoun "he" is used throughout this report without regard to the sex of the individual to protect the identity of confidential sources to the maximum extent possible.

a. Allegation

Employees were told not to talk to or answer questions of NRC inspectors.

Discussion

10 CFR 19.15(b) states, in part, that during the course of an inspection any worker may bring privately to the attention of the inspectors, either orally or in writing, any past or present condition which he has reason to believe may have contributed to or caused any violation of the Act, the regulations in this chapter, or license condition, or any unnecessary exposure of an individual to radiation from licensed radioactive material under the licensee's control.

In addition, Form NRC-3, Notice to Employees, states that an employee may talk with an NRC inspector. This form is required to be posted by 10 CFR 19.11 in a sufficient number of places to permit individuals engaged in licensed activities to observe them on the way to and from any particular licensed activity location to which the document applies.

A total of twelve CHEMET Lab technicians, test operators and first-line supervisors were asked whether or not they had been advised or told not to talk to NRC inspectors. Each individual stated that they had never been so advised. One individual did state that his supervisor once told him to refer NRC inspectors to the supervisor if they had any questions.

During inspections at the licensee's facility between 1982 and 1984, the inspector has never encountered an individual who refused to talk with him. The inspector has on occasion been stopped by workers and asked questions.

Findings

This allegation was not substantiated. The inspector found no evidence which would indicate that workers were prohibited or discouraged from talking with NRC inspectors. No violations or deviations were identified.

b. Allegation

10 CFR 19.11 required posting has become less accessible to employees than in the past. At the near guard house location, the bulletin board is poorly lighted. Dust and dirt make posted material almost illegible.

Discussion

10 CFR 19.11(d) requires that documents, notices, or forms posted pursuant to this section appear in a sufficient number of places to permit individuals engaged in licensed activities to observe them on the way to or from any particular licensed material activity location to which the document applies, shall be conspicuous, and shall be replaced if defaced or altered.

The inspector observed the posting of the documents required by 10 CFR 19.11 at the personnel entrance to the licensee's controlled access area during daylight and night hours.

Findings

The allegation was partially substantiated. Although the postings may be less accessible than in the past, they met the requirement of 10 CFR 19.11 in that employees engaged in licensed activities could observe them on the way to and from any particular licensed activity. The documents required by 10 CFR 19.11 were conspicuously posted and have been neither defaced nor altered. The postings were legible during the daylight hours. The postings were also legible during the night hours, although lighting in the area could be improved. Licensee management agreed in the exit interview to install better lighting in the vicinity of the bulletin boards.

c. Allegation

Dumping of uranium powder outside hoods and the release of gas fumes in the lab may be the cause of sinus problems and other nasal difficulties experienced by lab personnel.

Discussion

Twelve laboratory personnel were asked if they had experienced sinus problems or other nasal difficulties while working in the lab. One individual stated that he had a nasal rash from nitric acid fumes four or five years ago when performing isotopic analysis and has had a problem with hydrofluoric acid fumes at times in the lab. The remaining eleven individuals interviewed stated they had not experienced sinus or nasal problems while working in the lab.

Findings

The allegation was not substantiated. One individual out of the twelve interviewed indicated he had any sinus or nasal problems while working in the lab. It appears that nasal or sinus problems are not as pervasive in the lab as indicated in the allegation. No association between dumping Uranium Powder and sinus problems was established. Industrial exposure to concentrated acid is outside the purview of the NRC's responsibilities. However, this worker concern has been referred to OSHA. No violations or deviations were identified.

d. Allegation

There was a violation of a laboratory procedure in accepting contaminated sample vials and paperwork in the lab. Supervisors were lax and condoned this.

Discussion

Plant Procedure Calibration and Operation Instruction (COI) 6, Rev. 1, Control of Samples in the CHEMET LAB, states in Paragraph 3.1.6 that "samples received in the controlled lab are to be handled as contaminated material." In addition, Nuclear Safety Release 6.1.0, Radiological Safety Requirements for the CHEMET Lab, specifies that all personnel working in the CHEMET Lab must wear lab coats and safety glasses and that gloves will be worn when handling samples coming from the controlled area, working with visibly contaminated laboratory waste or equipment, working inside hoods, and any time the individual feels gloves are required.

The inspector made several unannounced visits to the CHEMET Lab on different shifts and observed laboratory personnel's adherence to the requirements of the Nuclear Safety Release.

Findings

The allegation was not substantiated. The licensee recognizes that samples that come from the production area may be contaminated. Plant Procedures caution CHEMET Lab personnel that samples may be contaminated and require the use of appropriate protective clothing for lab personnel. The inspector did not observe any violations of the

Nuclear Safety Release while he was in the laboratory. No violations or deviations were identified.

e. Allegation

Alleger's work area was deliberately contaminated by another person or persons on a previous shift.

Discussion

A total of five CHEMET Lab personnel were asked if they knew of any cases where a lab worker's work station was deliberately contaminated by someone else. One individual states he was not aware of such an incident. One individual stated he had no first hand knowledge, however, he had heard that it happened. Two individuals stated that they knew that the alleger contaminated his own work station to test whether or not radiation safety personnel could find the contamination during a routine survey. Another individual stated that he and the alleger observed another worker using poor work practices which resulted in a spill and didn't tell anyone. They used the spill to test radiation safety personnel's ability to find the contamination on a routine survey.

Findings

This allegation could not be substantiated. It is conceivable that either the work bench was accidentally contaminated on a previous shift rather than deliberately contaminated, or contaminated as indicated by the individuals interviewed, however, the specific cause could not be determined. No violations or deviations were identified.

f. Allegation

Radiation Safety personnel were lax on monitoring for contamination and requiring cleanup.

Radiation safety people who cover the analytical lab do not know what to look for. Radiation Safety visits were rare and they never got after people and told them to decontaminate.

Discussion

License Condition 9 requires that licensed material be used in accordance with statements, representations and conditions of Part I of the licensee's application. Part I, Section 3.2.4.6 discusses the minimum frequency, action limits for removable surface contamination, and maximum delay permitted in initiating decontamination action. Plant Procedure Nuclear Safety Instruction 0-6.0, Rev. 14, Contamination Measurement and Control, provides the guidelines for the conduct of the contamination measurement program, evaluation and documentation

of the results and the required action based upon the contamination survey findings.

The inspector reviewed the weekly contamination survey results for 1984 and the licensee performed special surface contamination surveys, under the direct observation of the inspector. The inspector discussed the frequency, scope and time of day of the surveys with licensee representatives.

Twelve CHEMET Lab personnel were questioned concerning the frequency of surveys by the radiation safety staff and the timeliness of decontamination if contamination was identified during the survey. All twelve individuals indicated when radiation safety identified a contaminated area in the lab, the lab was notified and the area was promptly cleaned up, and then resurveyed by radiation safety.

Findings

This allegation was partially substantiated. Contamination surveys were performed at the minimum frequency required by the license. The inspector found no evidence which would indicate that radiation safety did not notify the laboratory of contamination and that decontamination was not initiated within the time limit imposed by the license. Licensee representatives stated that the CHEMET lab surveys were performed weekly on the day shift. If an individual was assigned to a back shift in the CHEMET Lab, he might conclude that radiation safety didn't perform frequent surveys in the Lab. The review of the contamination survey results and observations by the inspector indicate that surveys performed by the radiation safety technicians are generally in the same locations which are often not the areas with the highest potential for becoming contaminated. The inspector stated that the licensee should familiarize the radiation safety technicians with the operations in the CHEMET Lab so that they can ensure that they survey those areas where the potential for spills exist (sample preparation area, weighing area, etc.). Random surveys for contamination should be performed at least daily and detailed surveys of the entire lab should be performed weekly since the licensee utilizes the same administrative limits for contamination as are required for uncontrolled areas and there is a greater potential for a contaminating event. The licensee has no policy requiring notification of radiation safety in the event of a spill in the Lab. The inspector stated that the radiation safety group should be notified in the event of a spill so that a survey can be performed after decontamination to ensure the area is clean prior to resuming work in the area. A licensee representative stated that this area would be reviewed and appropriate actions taken. The inspector stated that this area will be reviewed during a subsequent inspection (IFI 84-17-04). No violations or deviations were identified.

g. Allegation

The 1979 change of the analytical lab from a "controlled area" to "semi-controlled area" was a violation of the employee relations manual. Supervisor's putting the employee manual under lock and key was a violation of GE Policy.

Discussion

In discussions with licensee representatives, the inspector determined that the change in the designation of the laboratory to "semi controlled" in the early 70's only involved a change in the types of protective clothing worn. Personnel in the lab were permitted to wear lab coats and surgical gloves rather than full protective clothing required in the production area.

The inspector reviewed the GE Employee Relations Manual.

Findings

This allegation was not substantiated. The change in the designation of the CHEMET Lab is not discussed in the Employee Relations Manual. The clothing requirements for work in the CHEMET Lab are considered acceptable to the NRC and are typical of what is used at similar NRC licensed facilities. The accessibility of the Employee Relations Manual is a matter reserved to the licensee and is outside the purview of NRC regulations. No violations or deviations were identified.

h. Allegation

Spill areas, and contamination areas, were not marked off to caution other people in the analytical area.

Discussion

Plant Procedures Nuclear Safety Instruction 0-6.0, Contamination Measurement and Control, requires that contamination surveys be reviewed with the foreman or supervisor of an area if contamination above the action level is found. This action should apprise the supervisor/foreman of that part of his facility which is contaminated. The licensee does not have a procedural requirement, nor do they rope off or otherwise mark contamination areas.

Findings

This allegation was substantiated. However, the marking off of contaminated areas is not required by NRC regulations, license conditions or licensee procedures. No violations or deviations were identified.

i. Allegation

The practice of dumping heated Uranium pellets into open containers and allowing them to cool in uncovered containers outside a vented hood is unsafe.

Discussion

This pertains to samples of scintered pellets removed from the LECO Hydrogen and Oxygen analyzers.

The inspector reviewed the technical manual for the LECO Model RR-IEN Automatic H2 Determinator and plant procedure CM&S 1.2.8.4, Rev. 11, 12/16/83, Hydrogen Determination. The analyzer is equipped with a purge system which is vented to an exhaust system. The analyzer raises the temperature of the pellet to approximately 1800C. During heat up the pellet fractures due to rapid thermal expansion. The analyzer measures the hydrogen which evolves during this heating cycle. The inspector observed the analysis of samples using the LECO Hydrogen Analyzer. The pellet pieces are cooled substantially before the cycle ends and the analyzer is opened to remove the pieces. Upon removal, the pieces are placed in a stainless steel container for cooling.

Twelve CHEMET Lab personnel were questioned concerning the emission of fumes while the samples are cooling in the open container. Seven of the twelve indicated that fumes were not given off during the cooling process, one individual thought fumes were a problem and four individuals had never performed the test and stated they didn't know.

Finding

The allegation was not substantiated. Based on observation by the inspector and interviews with laboratory personnel the cooling scintered pellets in the open is not a radiological or industrial safety problem. No violations or deviations were identified.

j. Allegation

Dichromate titrations were done in the open and not in a vented hood and this was a safety hazard.

Discussion

The licensee's Chemical, Metallurgical and Spectrochemical Laboratory Manual, Section 1.2.21.6, Rev. 5, 8/25/82, Determination of Uranium by Dichromate Titration, describe the procedure for preparing the samples and performing the dichromate titration. In step 5.1 under special precautions, the procedure states that "proper radiation protection should be taken to prevent inhalation or ingestion of solid or liquid samples containing Uranium during all handling operations." However, the procedures does not specify what specific actions should be taken.

The procedure contains no precautions concerning the inhalation of acid fumes that evolve from the titration.

Of the twelve CHEMET Lab personnel questioned concerning the evaluation of fumes from this titration, six of eight individual who have performed the titration stated that fumes are given off and most believed it should be performed in a hood. The remaining four individuals had not performed the titration and had no comments.

The inspector observed a CHEMET Lab technician perform the dichromate titration and noted that fumes, although not visibly could be smelled during the addition of concentrated acids to the sample.

Findings

The allegation was substantiated. Based on observation by the inspector and interviews with laboratory personnel the performance of the dichromate titration outside a hood does release acid fumes into the laboratory in the immediate vicinity of the work area. The Uranium is in solution before the addition of concentrated acids thus minimizing the possible airborne radioactivity hazard. Since weekly radiological contamination surveys performed by the licensee in 1984, did not identify contamination above the action level at this work station, the radiological hazards of working at this station are minimal. The only potential safety hazard is that resulting from the evolution of acid fumes during the titration. In discussions with licensee management, the inspector stated that the titrations should be performed in a hood to eliminate the potential for inhaling noxious fumes. During these discussions, licensee representatives stated that the licensee would consider relocating the work station to a hood or installing a special exhaust system for this station. Neither NRC regulations, nor license conditions address industrial safety in the laboratory. This allegation was referred to OSHA.

No violations or deviations were identified.

k. Allegation

While working in an uncontrolled area of the plant, the alleger found a stores requisition with yellowed fingerprints on the lower right hand corner indicating contamination.

Discussion

The inspector accompanied a licensee representative to the archives for stores requisitions and had the representative pull several requisitions, including the one identified by the alleger. The identified requisition did in fact have yellow marking on the lower right hand corner. This requisition, along with several others were surveyed for radioactivity by the inspector and none was found.

Notices posted at the exits from the plant's controlled areas, including the CHEMET Lab, state that equipment and material must be surveyed by radiation protection prior to unconditioned release. During tours of the plant, the inspector noted that the posted instructions at the exits from the controlled areas did not specify what survey requirements should be followed when removing paper, notebooks and personal items from the controlled area. In discussions with the inspector, a licensee representative stated that small items such as paper, notebooks and personal items should be surveyed by the individual prior to exiting the controlled area and that at one time signs to this effect were posted at the exits. The licensee representative stated that signs specifying the survey requirements for all material and equipment would be reposted.

Findings

The allegation was not substantiated. The inspector found no evidence which would indicate contaminated material is being removed from the controlled area without proper controls.

No violations or deviations were identified.

1. Allegation

Some laboratory personnel were not monitoring themselves for contamination when leaving the job at the end of their workshifts.

Discussion

Plant Procedure Nuclear Safety Release 6.1.0, Revision 4, Radiological Safety for the CHEMET Lab, specifies that all personnel exiting from the laboratory controlled area must monitor themselves for radioactive contamination.

The general consensus of the individuals from the CHEMET Lab who were interviewed was that visitors to the lab are the ones in the past who have failed to monitor themselves when they exited the laboratory. The interviewees indicated that the violators of the monitoring requirement were generally individuals who entered the laboratory to deliver or pickup paperwork or to discuss sample results with laboratory supervisors and who did not enter the potentially contaminated part of the lab. Interviewees indicated that the number of individuals who were observed leaving the lab without monitoring has diminished and it is a rare occasion that individuals have to be stopped and asked to return to monitor properly.

The inspector, from an inconspicuous vantage point, observed the CHEMET Lab controlled area exit point, on several occasions during the inspection to determine if individuals were exiting the area without performing proper monitoring. These observations were made on all shifts and especially at times when the number of personnel exiting

would be the highest (e.g., end of shift and at meal times). The inspector did not observe anyone exiting from the CHEMET Lab without performing a proper survey.

In discussions with the inspector, a licensee representative stated that the radiation protection staff had performed more than 1000 special surveys of personnel after they had monitored themselves and have identified one individual with detectable contamination. This individual had exited the production area. The surveys are unannounced and personnel are randomly selected. The licensee has established disciplinary action for personnel who are observed not frisking or who frisk improperly as determined by the detection of contamination on personnel by the radiation protection staff during the special checks.

Finding

The allegation was not substantiated. The inspector did not observe, nor did he find any evidence which would indicate individuals are exiting the controlled area without monitoring properly.

No violations or deviations were identified.

m. Allegation

Answers to radiation safety tests are available before the test is given.

Discussion

A total of twelve CHEMET Lab personnel were questioned concerning the availability of answers to the radiation safety exam prior to taking the test, the instructor teaching the test or specifically identifying answers to test questions during the training or cheating during the exam. Ten of the twelve individuals indicated that they did not know of answers to the test being made available prior to the test, the instructor pointing out answers to specific test questions during training or cheating during the test. One individual indicated he had observed cheating during a past test and another individual indicated that the answers to the test were available before the test a number of years ago. In discussion with licensee representatives, the inspector ascertained that the licensee administers a written exam only after the employee's initial radiation safety training. No exam is required following the annual retraining.

Finding

The allegation was not substantiated. The inspector found no evidence which would indicate answers to test questions are systematically provided to trainees prior to radiation safety training. While the NRC does not condone cheating on an examination neither NRC regulations nor license conditions require the licensee to administer a written

examination following training. The written examination is a self-imposed licensee requirement. No violations or deviations were identified.

n. Allegation

The alleger has been furnished incomplete radiation exposure results. The record is incomplete for film badge (or TLD), urinalysis, and whole body count results.

Discussion

10 CFR 19.13(b) requires that at the request of any worker, each licensee shall advise such worker annually of the worker's exposure to radiation or radioactive material as shown in records maintained by the licensee pursuant to paragraph 20.401(a) and (c). 10 CFR 19.13(c) requires at the request of a worker formerly engaged in licensed activities controlled by the licensee, that each licensee furnish to the worker a report of the worker's exposure to radiation or radioactive material. Such reports shall be furnished within 30 days from the time the request is made, or within 30 days after the exposure of the individual has been determined by the licensee, whichever is later. Plant Procedure Nuclear Safety Instruction E-6.0, Rev. 11, Personnel Dose Reporting, requires that a worker be provided a report of his radiation exposure within 30 days of the request. Although how the request should be made is not specified in the procedure, discussions with licensee representatives indicate that the worker is asked to make the request in writing, so that compliance with 10 CFR 19.13 can be formally documented.

The inspector reviewed the exposure records for the alleger and several other licensee employees who worked in licensed activities. The inspector noted that radiation exposure data (film badge or TLD) for the period prior to 1976 was not available for personnel who worked in the CHEMET lab. In discussions with the inspector, a licensee representative stated that he believes CHEMET lab personnel were not issued film badges prior to 1976. However, the film badge issue records were at another licensee facility being microfiched and not available for review. 10 CFR 20.202(a) requires that each licensee supply appropriate personnel monitoring equipment to, and require the use of such equipment by each for individuals who enter a restricted area under such circumstances that he receive, or is likely to receive, a dose in a calendar quarter in excess of 25 percent of the applicable value specified in paragraph (a) of 20.101. In reviewing the exposure data for CHEMET Lab personnel since 1976, it appears that personnel monitoring required by 10 CFR 20.202 probably would not have been required by CHEMET Lab personnel. However, if dosimetry was provided, then the licensee is required to include the results in any report to the individual or the NRC.

The licensee uses an assigned airborne exposure value derived from the time spent in the work area and the air concentration measured in the work area to determine compliance with 10 CFR 20.103(b) and to calculate the internal dose assigned to the individual. During the review of the exposure records for CHEMET Lab personnel, the inspector noted that the data for the period of February 1979 through May 1982 was omitted from the data available on some individuals. The licensee determined that the omission of the data was the result of a change over in computer programs, and that the data for the period was available. A licensee representative stated that the assignment of airborne exposures of personnel in the CHEMET Lab began in late 1973. However, during the inspection the licensee could not provide evidence that would establish the starting date for the assigned airborne program.

In addition to using suitable measurements of concentration of radioactive materials in air for detecting and evaluating airborne radioactivity in restricted areas, 10 CFR 20.103(a)(3) requires the licensee to use measurements of radioactivity in the body, measurements of radioactivity excreted from the body, or any combination of such measurements as may be necessary for timely detection and assessment of individual intakes of radioactivity by exposed individuals. Paragraph 3.2.4.3.3 of Part 1, to the licensee's application for license renewal specifies that routine in vivo lung counting frequencies are established for individuals who normally work in areas where nontransportable uranium compounds are provided. Individuals are scheduled for in vivo lung counting based upon their airborne exposure assignments and previous counting results. Plant Procedure and Practices 40-19, Bioassay Program, implements the license requirement.

The alleger received an annual whole body count from 1977 through 1984. All were reported on the exposure report provided to the alleger. Licensee representatives, in discussions with the inspector, stated that they believe that the licensee began using whole body counts for evaluating the uptake of insoluble radioactivity in 1977. However, they could not provide any evidence to support this belief.

Nuclear Safety Release 0-2.0, Bioassay Urinalysis Program implements the licensee's internal monitoring program for assessing the uptake of soluble radioactive material. Appendix A, Paragraph D of this procedure specifies the frequency of sampling for CHEMET Lab personnel. The inspector reviewed the urinalysis data provided to the alleger in the termination report. During this review, the inspector noted that the data for the exposure period prior to January 1983 was not included. In discussions with licensee representatives the inspector was informed that the prior data was not included in the computer and therefore was not a part of the report. However, the licensee representative stated that the results of urinalysis performed prior to 1983 for the CHEMET Lab personnel were available in hard copy and could be included in the report. Due to the low levels normally reported for CHEMET Lab personnel, adding the results probably would not alter the

final estimate of internal dose reported for the alleger. However, the inspector stated that a complete report of bioassay results should be provided to each individual who requests the report or who terminates.

The inspector stated that failure to provide a worker with a complete report of exposure to radiation or radioactive material as shown in records maintained by the licensee pursuant to 20.401(a) and (c) would be a violation of 10 CFR 19.13(a). The inspector stated that this issue would be unresolved* pending establishment by the licensee of the dates when whole body counts, external monitoring, urinalysis and assigned airborne programs began and the preparation of revised dose reports for CHEMET Lab personnel and a review of the reports during a subsequent inspection (84-17-01).

10 CFR 20.408(b) requires that when an individual terminates employment, the licensee furnish the NRC with a report of the individual's exposure within 30 days after the exposure of the individual has been determined.

On July 26, 1984, a licensee employee terminated. The individual's exposure had been determined on July 17, 1984. On this date, a report of exposure was provided to the individual at their request. The date of last exposure was in March, 1984. The report of the individual's exposure sent to the NRC was dated October 19, 1984, 94 days after the exposure of the individual was determined. The inspector stated that failure of the licensee to submit the exposure report of a terminated employee within 30 days after the exposure was determined is a violation of 10 CFR 20.408(b) (84-17-02).

Finding

This allegation was substantiated. The licensee did not provide the alleger with complete urinalysis results, in that available data prior to 1983 was not included. Also, the assigned airborne exposure data for the period of March 1979 through May 1982 was erroneously omitted from the exposure report. The extent to which data required to be provided the individual by NRC regulations was omitted is an unresolved issue until the licensee provides documentation establishing the starting dates for performing whole body counts, assigned airborne exposure determinations, TLD/film badge issue and the performance of urinalysis and the information is reviewed by the inspector. A violation of NRC requirements to submit termination reports to the NRC in a timely manner was identified during the review of this allegation, although timely reporting of information was not a part of this allegation.

*Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations.

o. Allegation

An airborne hazard was created when bubbly hot uranium material was removed from a microwave oven and allowed to cool in the open and not in a vented hood.

Discussion

Licensee procedure Calibration and Operation Instruction (COI) 409, Revision 2, 7/25/84, Isotopic and U/O Preparation Using Gravimetric Techniques, Steps 3.9 requires that the crucible be covered immediately after the addition of nitric acid. Step 3.11 of COI 409 requires the tray of crucibles to be removed from the microwave oven and placed in a hood to cool.

Three of the twelve CHEMET Lab personnel interviewed commented on the location of the cooling rack for samples removed from the microwave. The three individuals indicated that up until early 1984 the cooling rack set outside the hood next to the microwave oven. In early 1984 it was placed in the hood. A total of twelve CHEMET Lab personnel were asked if they had noted any problems with fumes coming from the microwave oven during heating or while samples were being cooled outside the hood. One individual indicated he had a nasal rash 4 or 5 years ago as a result of nitric acid fumes, however since they started covering the crucibles with a watch glass after the addition of nitric acid he has not had a problem. Another individual stated that he had noted a problem with acid fumes one time when the hood was not working. However, the supervisor took prompt action to get the hood ventilation system restored. The remaining 10 individuals stated that they had not noted any problems with fumes from cooling samples.

During the inspection, the inspector used a smoke tube to evaluate the air flow in the vicinity of the hood and microwave oven. Smoke discharged in the immediate vicinity of the microwave oven door is drawn into the microwave by the exhaust system installed to remove any fumes generated during heating of samples. The flow in the work area around the microwave oven is toward the wall behind the microwave, up toward the ceiling and generally away from personnel who might be in the area of the microwave oven.

The inspector reviewed the bioassay data for selected personnel assigned to the CHEMET Lab. During the review of results of the weekly urinalysis for personnel in the CHEMET Lab for 1984, the inspector noted that 20 out of 28 individuals checked had at least one positive urinalysis result (greater than the minimum detectable activity value of 5 micrograms per liter). The highest value noted was 19 micrograms per liter. This value is well below NRC internal exposure limits and the licensee's action level. There was not a significant difference in the number of positive results before and after the cooling rack was placed in the hood, which would indicate the small intake of radioactive material occurred as the result of other activities in the

lab. A review of whole body counts indicated that depositions of radioactivity by CHEMET Lab personnel have been less than the minimum detectable level of the whole body counter of approximately 75 micrograms of Uranium 235.

The general air flow from the area of the microwave oven is toward the intake of the recirculation system. A review of results of contamination surveys performed while the cooling rack was outside the hood indicated that contamination has not been found along the path of the air toward the air recirculation system intake. At the request of the inspector and under the direct observation of the inspector, the licensee performed a surface contamination survey in the recirculation system intake ducts prior to the high efficiency filters. The highest survey result was 300 dpm/100 cm^2. These results indicate that general airborne radioactivity levels in the lab have been minimal. The recirculation system has been in operation since the lab started up. Licensee representatives stated that the duct work had never been decontaminated. The contamination is probably the result of a gradual buildup over the years since the system was placed in service. The contamination levels were very low, in fact Licence Conditions would permit this duct work to be released for unrestricted use.

Findings

The allegation was not substantiated.

The inspector could find no evidence which would substantiate the allegation that an airborne hazard was created by cooling samples outside a hood. Bioassay data indicate that uptakes of radioactivity by CHEMET Lab personnel have been very small and in most cases not significantly greater than the minimum detectable level for the instrument used for the analysis. Interviews with laboratory personnel indicated that only one individual noted fumes evolving from cooling samples, particularly since the use of watch glass covers over the crucibles was initiated several years ago. Interviews with lab personnel indicated that the cooling rack was located next to the microwave oven and outside a hood for an undetermined period of time prior to early 1984.

The current revision of Procedure COI 409 (Revision 2) and previous revisions of the procedure required the samples to be removed from the microwave and placed in a hood for cooling. During unannounced tours of the laboratory, the inspector observed that the cooling rack was in the hood as required by procedure. No violations or deviations were identified.

Air sampling in the CHEMET Lab was reviewed during an inspection performed September 17-21, 1984 (Inspection Report 70-1113/84-13). An unresolved item was identified. Followup on this item is discuss in Paragraph 6 of this report.

5. Air Sampling in the CHEMET Laboratory

Air sampling in the CHEMET Lab was identified as an unresolved item in Region II Inspection Report 70-1113/84-13, pending a review of the documentation which the licensee indicated would furnish information on evaluations made to determine the air sampling program in the CHEMET Lab.

Followup on the allegations listed below resulted in the identification of the unresolved item:

a. An airborne hazard was created when bubbly hot uranium material was removed from a microwave oven and allowed to cool in the open and not or a vented hood.

b. leaks around the microwave oven, used for dissolution of uranium samples in crucibles, created an airborne hazard from uranium gas vapors, and

c. uranium powers were dumped from crucibles outside hoods causing airborne contamination and surface area contamination and supervision was reluctant to do anything about it.

10 CFR 20.103(a)(3) requires the licensee to use suitable measurements of concentration of radioactive materials in air for detecting and evaluating airborne radioactivity in restricted areas.

The licensee's air sampling program in the main work area of the CHEMET Lab is a single air sampler located approximately seven feet off the floor in the north west corner of the lab. The filters are removed each shift and analyzed.

The inspector reviewed the contamination surveys performed by the licensee in the CHEMET Lab in 1984, air sample results for 1984, and interviewed laboratory personnel concerning operations in the lab. The inspector also used a smoke tube to evaluate the flow of air around the work stations where uncontained Uranium was handled. During tours of the lab, and through interviews with lab personnel the inspector determined that operations such as sample preparation and powder weighing take place at locations far removed from the single air sampler.

During review of the contamination survey data for 1984, the inspector noted that sample preparation areas (work bench and floor) in the vicinity of hood number 1 and the weighing stations are areas where loose surface contamination has been identified above the licensee's administrative action level for initiating cleanup.

The air flow studies performed by the inspector showed that air flow in the lab is away from the air sampler, even at the work stations in the immediate vicinity of the air sampler. The air flow studies also indicated that airborne radioactivity if it occurred would probably remain in the general area of the individual performing weighing operations at several places in the lab because of the partial enclosure around the balances. In discussion with licensee representatives, the inspector ascertained that the CHEMET Lab exhaust ventilation system had been modified within the past year. This system exhausts through the various hoods in the lab and is the principal air exhaust system for the lab. In addition, the lab has an approximately 5000 cfm recirculation system for general room air, which has several air registers above the grated ceiling in the lab and a single air return located on the north east corner of the lab. The inspector stated that air samplers should be located in the areas of the lab where potential exists for the material handled to become airborne, such as sample preparation areas, areas where samples are heated to high temperatures and weighing stations, and that the air samplers should be located where the sample collected is representative of the airborne concentrations breathed by the worker. Since the ventilation system had been modified after the previous evaluation of air sampling in the lab, that study was not considered relevant. The inspector stated that failure to make suitable measurements of concentrations of radioactive materials in air for detecting and evaluating airborne radioactivity in the CHEMET Lab was a violation of 10 CFR 20.103(a)(3). (84-17-03).

Wecker

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

JAN 31 1985

General Electric Company
ATTN: Mr. Eugene A. Lees, General Manager
Wilmington Manufacturing Department
P. O. Box 780
Wilmington, NC 28402

Gentlemen:

SUBJECT: REPORT NO. 70-1113/84-18

On December 17 - 21, 1984, NRC inspected activities authorized by NRC License No. SNM-1097 for your General Electric Wilmington facility. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed inspection report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress.

The inspection findings indicate that certain activities violated NRC requirements. The violations, references to pertinent requirements, and elements to be included in your response are presented in the enclosed Notice of Violation.

In accordance with 10 CFR 2.790(a), a copy of this letter, its enclosures, and your reply will be placed in NRC's Public Document Room upon completion of our evaluation of the reply. If you wish to withhold information contained therein, please notify this office by telephone and include a written application to withhold information in your response. Such application must be consistent with the requirements of 2.790(b)(1).

The responses directed by this letter and the enclosures are not subject to the clearance procedures of the Office of Management and Budget issued under the Paperwork Reduction Act of 1980, PL 96-511.

Should you have any questions concerning this letter, please contact us.

Sincerely,

R M Montgomery for
J. Philip Stohr, Director
Division of Radiation Safety
and Safeguards

Enclosures: (See page 2)

~~8502260223~~ 2pp

B13

Enclosures:
1. Notice of Violation
2. Inspection Report No. 70-1113/84-18

cc w/encls:
C. M. Vaughan, Manager
Licensing and Nuclear Materials
Management Unit

ENCLOSURE 1

NOTICE OF VIOLATION

General Electric
Wilmington

Docket Nos. 70-1113
License Nos. SNM-1097

The following violation was identified during an inspection conducted on December 17 - 21, 1984. The Severity Level was assigned in accordance with the NRC Enforcement Policy (10 CFR Part 2, Appendix C).

10 CFR 70.22(h)(i) states, in part, that Emergency Plans shall contain the elements that are listed in Section IV, "Content of Emergency Plans," of Appendix E to 10 CFR 50.

10 CFR 50, Appendix E IV(D)(1) states, in part, that administrative and physical means for notifying local, State, and Federal officials and agencies and agreements reached with these officials and agencies for the prompt notification of the public and for public evacuation or other protective measures, should they become necessary, shall be described.

Contrary to the above, though the Emergency Director is required by the Radiological Contingency and Emergency Plan to provide projected dose information and recommendations to off-site organizations for implementing effective emergency action, neither the Plan or Implementing Procedures were adequately prescriptive to assure prompt notification and protective action recommendations to off-site authorities.

This is a Severity Level IV violation (Supplement VIII).

Pursuant to 10 CFR 2.201, you are required to submit to this office within 30 days of the date of this Notice, a written statement or explanation in reply, including: (1) admission or denial of the alleged violations; (2) the reasons for the violations if admitted; (3) the corrective steps which have been taken and the results achieved; (4) corrective steps which will be taken to avoid further violations; and (5) the date when full compliance will be achieved.

Security or safeguards information should be submitted as an enclosure to facilitate withholding it from public disclosure as required by 10 CFR 2.790(d) or 10 CFR 73.21.

Date: JAN 31 1985

8502200229

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

JAN 31 1985

Report No.: 70-1113/84-18

Licensee: General Electric Company
Wilmington, NC 28401

Docket No.: 70-1113 License No.: SNM-1097

Facility Name: General Electric Company

Inspection Conducted: December 17-21, 1984

Inspector: J. R. Decker 1/25/85
T. R. Decker Date Signed

Approved by: 1/25/85
W. E. Cline, Section Chief Date Signed
Division of Radiation Safety and Safeguards

SUMMARY

Scope: This routine, unannounced inspection entailed 32 inspector-hours on site in the areas of emergency preparedness, fire protection and investigation of worker concerns.

Results: Of the areas inspected one violation was identified in the area of protective action recommendations.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees Contacted

*W. W. McMahon, Manager, Quality Assurance
*J. H. Bradberry, Emergency Preparedness Coordinator
*J. L. Harmon, Manager, Manufacturing Technology and Engineering Operations
*B. F. Bentley, Acting Manager, Manufacturing
*R. G. Patterson, Manager, Fuel Fabrication
*F. G. Welfare, Acting Manager, Nuclear Safety Engineering
*S. P. Murray, Senior Nuclear Safety Engineer
R. Folek, Senior Specialist, Licensing Engineering
A. Hobbs, Site Supervisor for Security
R. Lennon Chief, Training
P. Zorick, Fire Seargent/Burns Security

Other licensee employees contacted included operators, security force members, and office personnel.

Other Organizations

M. Murray, Emergency Room, Supervisor
New Hanover Memorial Hospital

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 21, 1984, with those persons indicated in paragraph 1 above. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection.

3. Offsite Support Agencies (88050)

The inspector held discussions with licensee representatives regarding the coordination of emergency planning with offsite agencies. Written agreements with those offsite support organizations specified in the Radiological Contingency and Emergency Plan (RCEP) had been renewed as required and appropriate. The inspector determined through discussions with licensee representatives that the licensee was periodically contacting local and State support organizations for purposes of offering training and maintaining mutual familiarization with emergency response roles and site orientation.

The inspector visited the New Hanover Memorial Hospital and interviewed cognizant staff there regarding plans to provide medical treatment for radioactively contaminated individuals as specified in the formal agreement between the hospital and the licensee. Hospital staff appeared to have an

acceptable working knowledge of their emergency response role with respect to the licensee's facility. The inspector was given a tour of the emergency treatment facilities. Hospital personnel used the facilities during the period of the inspection to treat a contaminated worker who was injured during an accident at the plant.

No violations or deviations were identified.

4. Emergency Plan, Procedures, Facilities, and Equipment (88050)

Based on discussions with a licensee representative and a review of documents, the inspector determined that there had been no significant changes in the RCEP other than the appointment of a new emergency director, since the last emergency preparedness inspection (March 1984).

The licensee's emergency call list was reviewed and found to be current (11/19/84). The list is updated on approximately a six month frequency. Emergency telephone numbers are conspicuously incorporated into the plant telephone book.

The inspector selectively examined emergency supplies and found them to be properly maintained. Inspection and inventory check lists were reviewed and an independent survey of the supplies listed for the emergency truck was performed. Survey meters were recently calibrated and operational and air tanks on respiratory equipment were full. The inspector toured the Emergency Control Center and onsite medical facility and determined that the equipment was appropriate and in place.

The inspector reviewed the plant evacuation routes and assembly points, and found no unusual impediments.

The inspector discussed the types of sampling and other actions to be taken during emergencies involving effluent releases and accidental criticality with a licensee representative. Several of the licensee's onsite air sampling stations were examined and found to be operating.

The RCEP requires that "the Emergency Director will provide projected dose information and recommendations to off-site organizations for implementing effective emergency action".

A review of the RCEP and procedures as well as discussions with licensee representatives disclosed that procedures for providing prompt protective action recommendations for the protection of the public were inadequate in that they were lacking in content and specificity. As written the procedures were vague as to the actions to be taken and priority and responsibility for such action. Licensee representatives were unable to provide implementing procedures describing appropriate licensee actions for promptly notifying offsite agencies and providing protective action recommendations. Any procedures which addressed notifying offsite agencies and providing the recommendations appeared to place those actions on a relatively low priority. The issue was discussed with licensee representatives during which the inspector described the benefit of more prescriptive procedures in order to promptly assess the situation, determine appropriate protective

action recommendations, notify the cognizant authorities, and make appropriate protective action recommendations to offsite authorities. The need for predetermined communications pathways which include a message format agreed upon by appropriate responcents was also discussed. The failure to provide for appropriate procedures to identify and communicate protective action recommendations to offsite authorities is a violation of 10 CFR 70.23(11) and 10 CFR 50, Appendix E.

4. Test and Drills (88050)

The inspector reviewed a schedule for emergency preparedness training exercises. Seven exercises included events such as bomb threat, confrontation, fire and explosion, radiological, severe weather, criticality and chemical hazards. Records of previously held drills were reviewed. The inspector noted that critique comments were evaluated and tracked.

No violations or deviations were identified.

5. Onsite Fire Protection Equipment and Procedures (88050)

The inspector noted that the local fire department does not participate in onsite drills. This non-participation is at the request of the fire department due to its small, all volunteer nature. Facility orientations are provided for the fire company and rescue squad annually. Computer records for periodic surveillance testing of the diesel fire pump were reviewed and found acceptable. The inspector had no further questions.

No violations or deviations were identified.

6. Inspector Follow-up (92701)

a. (Closed) Inspector Followup Item (IFI) 70-1113/81-11-03: Wind speed and direction recorder installation. The equipment has been installed.

b. (Closed) IFI 70-1113/83-08-02: Determine stability index from local meteorological data. Same as (a) above.

c. (Closed) IFI 70-1113/82-03-01: No maintenance inspection and test procedure for fire pump. Maintenance and test records were reviewed and found acceptable.

d. (Closed) IFI 70-1113/82-03-03: Completion of fire brigade initial training and improved documentation of fire brigade training. Training records for the fire brigade were reviewed and found acceptable.

7. Investigation of Worker Concerns

An individual contacted the NRC Region II office expressing concern with regard to emergency preparedness related issues at the General Electric's Nuclear Fuel Manufacturing Department, Wilmington, North Carolina. As a

result, a Region II inspector investigated the following worker concerns during a routine inspection:

a. People on crutches and in casts were allowed to work in the FMO building, where at times, during drills and criticality tests, they were required to evacuate quickly.

b. In the case of criticality evacuation there might be a problem of workers getting out of the plant. Reference was specifically made to one area of the plant where "Fat Albert" and the fuel bundles hang. Here the corridors are blocked by bundle carriers.

The investigation took place during the December 17-21, 1984, inspection. The investigation consisted of observations, review of procedures, and interviews. The specific worker concerns were not discussed during the December 21, exit meeting with licensee management.

Conclusions

Neither of the allegations was substantiated.

The first allegation stated that: people on crutches were allowed to work in the FMO building where at times, during drills and criticality tests, they were required to evacuate quickly. A review of licensee documents indicated that it is plant policy to require medical verification of a workers ability to run prior to allowing that worker to return to duty in the FMO facility following an illness or injury which may affect that ability. Standing orders for the guard force state that no one using cane, crutches or wheel chair is allowed to enter the controlled access area unless they get a medical release from Dr. Schmidt in the medical unit. The inspector reviewed several medical orders, some of which allowed and some restricted access to the controlled access area. The inspector noticed no one in the area with apparent disabilities which would hinder running. Further, a guard was approached and asked to repeat his orders on the subject which he did appropriately. A licensee representative stated that there is a strong Company commitment to strict adherence to established requirements for evacuation capability.

The second allegation stated that: in the case of criticality evacuation there might be a problem of workers getting out of the plant. The alleger referred specifically to one area of the plant where "Fat Albert" and fuel bundles hang. Here, the corridors are blocked by bundle carriers. The inspector inspected the area noting the posted evacuation routes as well as the structures mentioned above. It was determined that these structures were, in fact, impediments to a clear egress but not unreasonably or unusually so. Any machine, large tool, desk etc., in the path of flight could be considered as blocking the evacuation. It is generally not reasonable (or possible) to provide an absolutely clear path for evacuation in the work place. Rapid egress could still be accomplished. Licensee representatives stated that evacuation routes in the area were designed to avoid routing workers through the most congested locations in the area and actions are taken at appropriate times to assure free egress.

[redacted]

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

FEB 07 1985

General Electric Company
ATTN: Mr. Eugene A. Lees, General Manager
Nuclear Fuel Manufacturing Department
P. O. Box 780
Wilmington, NC 28402

Gentlemen:

SUBJECT: REPORT NO. 70-1113/84-15

On November 13 through 16 and December 3 through 7, 1984, NRC inspected activities authorized by NRC License No. SNM-1097 for your Nuclear Fuel Manufacturing Department. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed inspection report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress.

The inspection findings indicate that certain activities violated NRC requirements. The violation, references to pertinent requirements, and elements to be included in your response are presented in the enclosed Notice of Violation.

In accordance with 10 CFR 2.790(d) and 10 CFR 73.21, safeguards activities and security measures are exempt from public disclosure; therefore, the enclosures to this letter, with the exception of the report cover page which presents a nonexempt summary and the Notice of Violation, will not be placed in NRC's Public Document Room.

The responses directed by this letter and the enclosures are not subject to the clearance procedures of the Office of Management and Budget issued under the Paperwork Reduction Act of 1980, PL 96-511.

Should you have any questions concerning this letter, please contact us.

Sincerely,

for J. Philip Stohr, Director
Division of Radiation Safety
and Safeguards

8502110056 4pp

Enclosures:
1. Notice of Violation
(Not Exempt)
2. Inspection Report No. 70-1113/84-15
(Exempt from Disclosure)

C. M. Vaughan, Manager

TABLE I

Current LEA Standards (1)
(70-1113/84-15)

Calibration Standards % Enrichment	Verification Standards % Enrichment
0.715	0.715
1.454	
2.223	2.238
2.999	
3.978	3.985

(1) These standards data are based on the mean of the Teledyne and Ledoux Laboratory analyses.

TABLE II

LEA Quality Test
(70-1113/84-15)

Container No.	Original Isotopic Measurement (%)	Remeasured Isotopic Measurement (%)	Difference (%)
2200AP4087	2.165	2.190	-0.025
2200AP4070	2.211	2.212	-0.001
2200AP4105	2.216	2.211	0.005
2200AP4121	2.217	2.189	0.028
Net sum difference (%)			0.007

[redacted]

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REPORT DETAILS

1. Licensee Employees Contacted

*J. E. Bergman, Manager, Fuel Manufacturing
*W. W. McMahon, Manager, Quality Assurance
*C. M. Vaughan, Acting Manager, Regulatory Compliance
*T. P. Winslow, Acting Manager, Site Support Quality
*R. M. McIver, Acting Manager, Site Operations and Materials Systems
*G. E. Green, Manager, Financial Operations
*H. Stern, Acting Manager, Microelectronics Technology and Equipment Operations
D. Starr, Manager, Site Support Quality
*B. F. Bently, Acting Manager, Fuel Manufacturing
*G. R. Pearson, Acting Manger, Fuel Fabrication Operation
*R. E. Parnell, Measurement Control Engineer, Chemet Laboratory
*G. R. Mallett, Senior Engineer, Measurements and Statistics
*R. H. Foleck, Senior Specialist Licensing Engineer
*C. Schlitz, Acting Manager, Microelectronics Technology and Equipment Operations
*V. P. Moore, Acting Manager, Site Operations and Materials Systems
*G. F. Finders, Shift Supervisor Radiation Safety

The inspector also interviewed several other licensee employees.

*Denotes those present at the November 16, 1984 exit interview and/or the December 7, 1984 exit interview.

2. Exit Interview

The inspection scope and findings were summarized on November 16, 1984 and December 7, 1984, with those persons indicated in paragraph 1 above. The following issues were discussed in detail:

Measurement Systems - Laboratory Enrichment Analyzer para. 3 ; Physical Inventory - Independent Measurements para. 4 ; and Worker Concerns para. 5 ; and one violation - failure to follow procedures for cleaning up visible contamination Para 5 .

The licensee acknowledged the inspection findings and took no exceptions.

3. Measurement Systems Laboratory Enrichment Analyzer 85207

The General Electric Company GE , Wilmington Manufacturing Department, Wilmington, North Carolina facility's LEA systems are located in the Chemet Laboratory and are comprised of measurement devices capable of measuring the enrichment % U-235, of sample quantities of UO_2, U_3O_8 and scrap materials.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

FEB 07 1985

Report No.: 70-1113/84-15

Licensee: General Electric Company
Wilmington, NC 28401

Docket No.: 70-1113 License No.: SNM-1097

Facility Name: General Electric Company

Inspection Conducted: November 13-16 and December 3-7, 1984

Inspector: E M c Alpine for 2/6/85
E. L. Clay, Safeguards Engineer Date Signed

Approved by: E M c Alpine 2/6/85
E. J. McAlpine, Chief, Material Control and Accountability Section, Nuclear Materials Safety and Safeguards Branch, Division of Radiation Safety and Safeguards Date Signed

SUMMARY

Scope: This routine, unannounced inspection entailed 77 inspector-hours (59 inspector-hours at the site during normal working hours, 18 inspector-hours on backshift at the site) in the areas of measurement systems, physical inventory, and worker concerns.

Results: One violation was identified: Failure to clean the LEA measurement room of visible contamination.

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F/t

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

FEB 13 1985

General Electric Company
ATTN: Mr. Eugene A. Lees, General Manager
Wilmington Manufacturing Department
P. O. Box 780
Wilmington, NC 28402

Gentlemen:

SUBJECT: REPORT NO. 70-1113/84-16

On November 27-30, 1984 and January 14-16, 1985, NRC inspected activities authorized by NRC License No. SNM-1097 for your Wilmington Nuclear Fuels Manufacturing Department. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed inspection report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress.

The inspection findings indicate that certain activities violated NRC requirements. The violation, references to pertinent requirements, and elements to be included in your response are presented in the enclosed Notice of Violation.

In accordance with 10 CFR 2.790(d) and 10 CFR 73.21, safeguards activities and security measures are exempt from public disclosure; therefore, the enclosures to this letter, with the exception of the report cover page which presents a nonexempt summary, will not be placed in NRC's Public Document Room.

The responses directed by this letter and the enclosures are not subject to the clearance procedures of the Office of Management and Budget issued under the Paperwork Reduction Act of 1980, PL 96-511.

Should you have any questions concerning this letter, please contact us.

Sincerely,

/ J. Philip Stohr

J. Philip Stohr, Director
Division of Radiation Safety
and Safeguards

8502170174 2pp

Enclosures:
1. Notice of Violation
   (Exempt from Disclosure)
2. Inspection Report No. 70-1113/84-16
   (Exempt from Disclosure)

16

cc w/encls: (See page 2)

cc w/encls:
C. M. Vaughan, Manager
Regulatory Compliance

March 20, 1985

3132 Camden Circle
Wilmington, N.C. 28403
(919) 343-8328

FREEDOM OF INFORMATION
ACT REQUEST

FOIA-85-208
rec'd 03/27/85

Vanessa Washington,
NRC Public Document Room
1717 H St. NW, First Floor Lobby
Washington, D.C. 20555

Dear Ms. Washington:

This request is made under the federal Freedom of Information Act, 5 U.S.C. 552.

Please send me copies of the following NRC documents:

70-1113 - 81/11
70-1113 - 82/10
70-1113 - 82/16
70-1113 - 82/18
70-1113 - 83/05

70-1113 - 84/04
70-1113 - 84/05
70-1113 - 84/07
70-1113 - 84/08
70-1113 - 84/10

70-1113 - 84/13
70-1113 - 84/15
70-1113 - 84/16
70-1113 - 84/17
70-1113 - 84/18

Also from Docket No. 70-1113, I seek the following documents for which I lack an index number:

- Letter from James M. Taylor to Mozart G. Ratner dated 1/10/85, with attachment marked 7590-01, Petitions for Action under Act 10 CFR Sec. 2.202.

- Motion to Institute Proceedings for Imposition of Civil Penalties and to Vacate and Reverse Inspection Reports, etc., signed by Mozart G. Ratner, and Chapters 1 and 2 thereto.

As you know, the FOI Act provides that if portions of a document are exempt from release, the remainder must be segregated and disclosed. Therefore, I will expect you to send me all nonexempt portions of the records which I have requested and ask that you justify any deletions by reference to specific exemptions of the FOI Act. I reserve the right to appeal your decision to withold any materials.

The FOI Act provides for waiver or reduction in fees if disclosure could be considered as "primarily benefitting the general public." I am a freelance journalist assigned by the **The News and**

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Observer, of Raleigh, N.C. to cover a U.S. Department of Labor dispute styled Vera P. English V. General Electric Company and apparently some or all of the above-referenced documents are relevant to that case, in which there is an considerable public interest. Therefore, I ask that you waive all search and duplication fees. I am aware that several of the requested documents are voluminous and that copying costs may be substantial. In the alternative, I may be willing to view the documents at the public document room, if I know which documents would be made available. If you deny these requests, please notify me of the estimated costs so that I may decide whether to pay the fees or appeal your denial of my request for a waiver.

As I am making this request in the capacity of a journalist and this information is of timely value, I will appreciate your communicating with me by telephone, rather than by mail, if you have any questions regarding this request. Thank you for your assistance, and I will look forward to receiving your reply within 10 business days as required by law.

Sincerely yours,

James R. Polson