



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
476 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406

SEP 26 1989

Allegation No. RI-87-A-0113  
50-336

Mr. John Del Core  
244 Saint Johns Street  
New Haven, CT 06511

Dear Mr. Del Core:

This responds to your undated letter to Mr. E. C. Wenzinger, which was received in the Region I office on August 4, 1989. In it you contended that NRC follow-up regarding your personnel safety and procedure compliance concerns, reported in Inspection Report No. 50-336/88-13, was cursory, inadequate, and improper.

Regarding the "operator in attendance" tagging issue, inspector inquiries were unable to reconcile the conflicting claims involved. We acknowledge the Stephen Scace memorandum of January 29, 1988 which you enclosed in your letter. We note that the event to which it refers occurred in a site outbuilding not subject to nuclear tagging controls at the time. No connection relevant to nuclear safety is discernible. On-going review of Millstone nuclear power plant performance continues to confirm proper nuclear safety attitudes, and controls and procedures adequate to protect the radiological health and safety of the public.

As is evident in this case, persons of good will may continue to differ. At this point, we believe that further NRC review of these allegations would divert limited inspection resources from other issues of potentially greater nuclear safety significance, and therefore be counter-productive. Since your letter presents no new facts or examples of licensee failure to control nuclear safety activities, we intend to close your allegations as unsubstantiated.

The NRC will continue to monitor licensee performance in the areas of work control and tagouts of plant systems important to nuclear safety through routine resident inspector coverage.

Thank you for your concern.

Sincerely,

Samuel J. Collins  
Deputy Director of Reactor Projects  
Division of Reactor Projects

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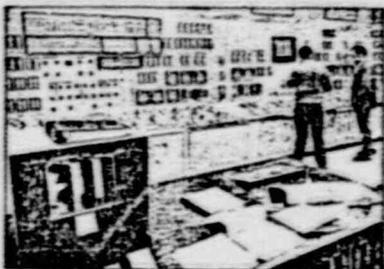
# The Day

TUESDAY, SEPTEMBER 26, 1989, NEW LONDON

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## Millstone 3 Fails NRC Tests



■ The control room of Millstone 3

These were the results of the requalification tests administered by the Nuclear Regulatory Commission:

- Two of the three nuclear plant operating crews failed.
- Six of the plant's 12 operators failed on individual tests.
- Northeast Utilities obtained interim approval to operate the plant contingent on passing grades this week by two additional crews.

# Millstone 3 operators flunk

## Shutdown possible if other crews fail NRC tests

By ROBERT A. HAMILTON  
Day Staff Writer

**Waterford** — Federal regulators flunked six of 12 operators of the Millstone 3 nuclear plant who took requalification tests last week, and Northeast Utilities officials scrambled Monday to keep the largest power plant in New England from being shut down.

Late Monday, regulators agreed to NU's plan to keep the plant open until at least the end of the week, provided two other operations crews scheduled to be tested this week pass the tests.

*'We are absolutely admitting there were procedural difficulties.'*

Louis J. Keezing, Northeast Utilities

"If they do all right on the tests, that will be the basis for continued operation," said Karl Abraham, a spokesman for the U.S. Nuclear Regulatory Commission. "It all depends on how well they do."

If the crews do not pass, the NRC could take any action deemed necessary, including the immediate and unprecedented shutdown of the plant, he said.

A spokesman for the New England Power Pool said power from the 1,150-megawatt plant, the largest commer-

cial generating plant in New England, is needed to run heaters and lights in New England this winter.

Also as a part of the agreement, the company must deliver to the NRC, by the end of business today, a letter committing itself to short- and long-term changes in its training and operations procedures that were negotiated in meetings Monday.

Abraham said he could not comment further on the tests because a final report has not been issued.

### Training to be revised

"We are absolutely admitting there were procedural difficulties," said Louis J. Keezing, a spokesman for NU, which owns and operates the Millstone complex. He said the training program will be revised, "as fast as is safely possible."

He said the company has taken

several short-term measures to address the problem, including putting additional technical advisers in the control room of the plant during all shifts.

Keezing said the company has begun an intensive training program for the plant's other operators, who will be tested in the wake of the poor test results. It also will institute several long-term changes in its training programs.

The operators flunked a requalification test the NRC began giving about a year ago. Before that, requalification of plant operators was

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■ Scientists opposed to nuclear power say they are disturbed by the reports of test failures. A8

# Millstone From A1

left largely up to utilities. Keezing said the NRC uses more stringent requalification requirements. Most of NU's operators passed under the company's grading of the procedures, he said.

Operators at Millstone's Connecticut Yankee power plant in Haddam Neck, a 582-megawatt plant that began operation in July 1967, already passed similar tests this year, Keezing said.

Operators of the two other Waterford plants, Millstone 1, a 666-megawatt plant that went on line in December of 1970, and Millstone 2, an 870-megawatt plant that began operation in December 1975, are scheduled to undergo the tests later this year. Millstone 3 began commercial operation in April 1986.

NU owns two-thirds of the Millstone 3, New England Power Co. owns 12.2 percent, and a dozen smaller utilities own up to 5 percent each.

## NRC tests 12 operators

The NRC was at Millstone 3 Sept. 18-22 to test 12 operators in a special two-part requalification test. The operators make up three of the plant's 12 four-person control room teams.

The first part of the test is job performance measures, where control room operators are required to perform emergency procedures within the plant. Each operator is supposed to perform 10 procedures. The NRC failed six of the operators in that portion.

"Several of the operators either were unable to perform the hands-on activity or were shaky on them," Keezing said. Operators had to perform at least eight of the 10 procedures.

Three areas of the test gave most of the flunked operators problems, Keezing said. They included:

- A process for isolating a system to add or dilute boric acid in the reactor's coolant system.
- Starting an emergency diesel system that provides backup power to the plant's safety systems.
- Running a program to recover the plant from a loss of power.

Keezing said one of the reasons for those failures was that one team of operators consisted of supervisors or trainers who oversee operations, but do not routinely get involved in day-to-day operations, particularly operations as delicate as those tested in the job performance measures.

But, Keezing acknowledged, in the event of an emergency those employees would be required to help out or take over in the control room, "which is the reason we're taking this so seriously."

The second part of the test is done in a control room simulator. The operators must respond to emergency situations that NRC officials program into the equipment.

Operators were tested on the simulator in teams of four.

One of the tests involved simulating the rupture of a steam generator tube, followed by the failure of several small safety systems. Operators had to quickly bring the plant back to a stable condition.

Keezing said the plant's manufacturer, Westinghouse Inc., provided the company with emergency procedure guidelines that outlined what had to be done in an emergency.

"It was left to an operator's experience and training to decide which sequence of procedures

should be done and at what time," Keezing said.

But the NRC inspectors said operators should have a sequence to follow in any emergency — push switch A, then switch B, then switch C, and never push C before A, for instance.

"Quite a few of the operators were performing tasks out of sequence," Keezing said. "The procedures should have all along included this sequencing information."

Keezing said none of the simulations ended in a catastrophe. In all cases, the problems were brought under control, though not in the time or in the manner proscribed by the NRC.

As a result of the failures, a team of the company's top nuclear operations officers, including Senior Vice President Ed Mroczka, Millstone Station Superintendent Stephen Seace, and Millstone 3 Superintendent Carl Clement, went to King of Prussia, Pa., Monday to work out a plan to keep the plant open.

Shortly before 7 p.m. the team reached an agreement with regulators.

"We have allowed them to continue operation until the two crews can be tested later this week," Abraham said. If the crews do not pass the tests, the plant could be shut down immediately.

The NRC has never shut a plant down for failing to meet training and operations requirements, although one Florida plant was brought down by its operators when it became clear the NRC was about to take that action.

William P. Sheperdson, a spokesman for the New England Power Pool, said the region will need the plant this winter.

"Anytime a plant that size is in an unexpected shutdown, for whatever reason, with New England's power situation as tight as it is, things are going to be tough," Sheperdson said.

Sheperdson said the power from the plant is not needed now, but will be by mid-November.

Keezing said it could take "weeks or months" to revise the company's operating and training procedures, then train and retest the crews, in the event of a shutdown.

The agreement with NU also provides for delivery of a letter, today, outlining measures that will be taken to correct deficiencies.

Keezing said as a short-term measure, the company will remove from duty all the operators who failed the test, and have an extra licensed, qualified operator in the control room at all times to oversee operations.

In addition, all incoming shifts will be briefed on the step sequences that are to be used in emergencies, he said.

The company agreed to two long-term measures as well: to conduct a speedy review of all training and operating procedures, and to make necessary changes in the procedures as quickly as possible.

NU has been under scrutiny of the NRC for a failure of its contamination controls that allowed mildly radioactive equipment to leave the plant for a warehouse.

The failure of operators at the plant is expected to provide ammunition to opponents of the Seabrook nuclear plant in Vermont. NU is attempting to take over that plant and its owner, Public Service Co. of New Hampshire.

# Test scores shock anti-nuclear activists

By **ROBERT A. HAMILTON**  
Day Staff Writer

Daniel Caldi, an associate professor of physics at the University of Connecticut and a member of the Union of Concerned Scientists, an anti-nuclear group, called it "scandalous" that the operators at Millstone 3 failed federal recertification tests after passing internal tests for three years.

"It leaves one with the feeling, what have we been living under for the last few years?" Caldi said. "The results clearly show this (outside testing) should have been done a long time ago."

"The scary thing about these plants is that the people who run them may not know what they're

doing," Caldi said. "It's the human factor that's the major problem, as we've seen in every nuclear plant accident so far."

"I'm more than surprised, I'm shocked," said Charles W. Prewitt Sr., a professor at Eastern Connecticut State University and spokesman for the People's Alliance for Clean Energy, another anti-nuclear group, of the results of operator tests. "Our health is in their hands."

Prewitt said at Chernobyl and Three Mile Island, the worst nuclear plant disasters, "it was a series of mistakes that let those situations get out of control," and the same thing could happen when operators are not aware of the proper sequence to control an

emergency.

"When the emergency occurs, you don't have time to consult the manual, if you know where the manual is," Prewitt said.

The Union of Concerned Scientists is opposed to the development of nuclear power and nuclear weapons because of what it says is the inherent danger in nuclear fission.

But Caldi said privately-owned nuclear plants make no sense, because investor-owned utilities are interested mainly in profits.

In particular, Caldi said, private companies should not be allowed to evaluate themselves when it comes to the operation of nuclear plants.

"It's just too easy to start compromising," Caldi said. It does not

even have to be corruption, he pointed out. It might be a case of someone not wanting to make the boss mad by flunking an operator, or not wanting to flunk a friend.

Caldi also pointed out that his group does not particularly trust the NRC, because of its coziness with the nuclear power industry, as outlined in a Congressional report last year.

"If even for the NRC these operators didn't pass, that's very, very worrisome," Caldi said. "The problem with nuclear power plants is that they're not like other pieces of equipment. If you make a mistake with most machinery it's too bad, but it's not cataclysmically bad, and with a nuclear plant it can be."

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# Millstone 3 operators hold 'temporary' posts

## NU says job status doesn't affect safety

By ROBERT A. HAMILTON  
Day Staff Writer

**Waterford** — One of two Millstone 3 nuclear plant shift supervisors who face relicensing tests this week has been an acting manager for more than a year, but has never been officially promoted to the job.

In addition, one of the six people who flunked the test last week, raising the possibility of a shutdown for the plant, was also a long-time "temporary upgrade," a source familiar with the control room operations said.

One other shift supervisor and three of the approximately 15 supervising control room operators, whose jobs are the minute-to-minute manipulation of equipment to keep the plant safe, have been on "temporary upgrade" for as long as three

years, the source said.

Northeast Utilities confirmed Tuesday that these key operators were on temporary assignments.

The source said the operators have not been promoted because of questions about whether they are qualified for the jobs, but a

spokesman for NU, which owns and operates the plants, vigorously disputed that allegation.

"These are all qualified people and it has no bearing on how they do their jobs," said Louis J. Keezing, the spokesman. "This has no bearing on their ability to run the plant or to take the test."

Carl Clement, superintendent of Millstone 3, said he expects to announce promotions to fill the jobs permanently within the next two to three weeks. He said temporary upgrades are used to evaluate someone in a new job.

"I would agree it's not optimum," to make such long-term

use of temporary appointments, Clement said. But he said situations at the plant dictated the arrangement.

The U.S. Nuclear Regulatory Commission Monday declared NU's operator training program "unsatisfactory" and flunked six of the 12 operators it tested last week.

NRC spokesman Karl Abraham said Monday the plant could be closed unless two other control room crews, scheduled to be tested later this week, get passing grades.

But Tuesday the NRC backed off, saying the plant is in little danger of being shut down. Abraham said NU documented it has 54 licensed operators, including the six who passed the test and 48 others who are to be tested over the next two weeks.

The plant needs only 16 operators to keep the plant open short-term, although the NRC requires additional operators for long-term operation, Abraham

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## Adequacy of training programs raises questions in some quarters

By ROBERT A. HAMILTON  
Day Staff Writer

Two-thirds of the nuclear plant operators in the United States do not hold college degrees, and their training programs are approved by an industry group without U.S. Nuclear Regulatory Commission approval.

Northeast Utilities, which operates the Millstone 3 nuclear power plant where six of 12 operators tested last week flunked, contends federal training and education requirements are unnecessary, but others disagree.

"It's a formula for disaster," said Kenneth Bossong, director of the Critical Mass Energy

Project, an anti-nuclear arm of Ralph Nadar's group, Public Citizen. "The public perception is of white-coated physicists running these plants, but that's limited to the movies."

Bossong said industrywide, 25 percent of nuclear plant operators are failing new NRC

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said. Even if half the remaining operators fail the test, NU would have enough licensed personnel to keep running.

Abraham said the NRC has also scheduled tests for operators at Millstone 1 for the last two weeks of October, and for Millstone 2 next summer.

## Emergency response

A major problem is that NU has never instructed its operators in specific sequences that should be followed when handling an emergency. While the crews could control simulated disasters programmed by NRC inspectors, they could not do it in the time or manner required by NRC regulations.

Two of the three four-person control room crews tested last week failed simulator tests, and six of the 12 control room operators, tested individually, flunked.

The control room crew consists of a shift supervisor who oversees plant operations and would make a decision, say, to reduce power output; a supervising control room operator who oversees the rest of the crew; and two reactor operators, who keep an eye on the control board. They are supported by four plant equipment operators, who are in the plant to relay information on actual conditions, and perform functions such as manually closing a valve that cannot be done remotely.

While the company scrambled Tuesday to revise the training of all the crews, and especially the

two crews that will be tested this week, a source who requested anonymity said managers who have not earned permanent status are often in charge of the control room.

Keezing acknowledged one of NU's employees had been on a temporary upgrade for a lengthy period of time before promotion, and then failed the test a few months after he was appointed to the job permanently.

"But there are others who failed also. Five others failed," Keezing said.

Clement said he does not know of any supervisors who had been on temporary upgrade for more than 18 months, but he acknowledged some have served "in and out of their capacities," for longer periods, and the number used at Millstone 3 was higher than at other plants.

"Generally they're not employed for as long a time as that at the other units," Clement said.

Neither the NRC or NU has a time limit on how long someone can remain in a temporary upgrade position, Clement said.

He said he hired a new operations supervisor about a year ago for Millstone 3, who wanted time to evaluate the people who were doing the jobs on a temporary basis.

Clement said there are two levels of NRC licenses, that for a senior reactor operator, who can be a shift supervisor or supervising control room operator, and that for a reactor operator, who can stand watch in the control room.

Clement said all the people acting in any capacity held the appropriate licenses.

"I have more people who are qualified than I have positions to fill," Clement said.

## Morale question

The source also said the widespread use of lengthy temporary upgrades has affected morale at the plant.

"Three years is an awful long time to leave someone hanging," the source said. "These guys are on tenterhooks. Management just leaves them dangling."

The source said not only are the two shift supervisors and three senior control room operators affected, but so are the plant equipment operators who have been put on temporary upgrades to fill their jobs. Those promotions cannot be made permanent, either, until the supervisors' and senior operators' promotions are made permanent.

Another problem, the source said, is that the company has not communicated the problems to control room staff.

"As of Monday, we had no idea who had passed and who had failed the tests," the source said. "And until (Tuesday), no one was told who would be taking the test Thursday."

Clement acknowledged that long periods of temporary assignments could damage morale, but the operations supervisor has recently made his promotion recommendations, and those jobs will be filled permanently in October.

# Training From A1

requaification tests. At Northeast Utilities' Millstone 3 nuclear power plant, 50 percent flunked last week.

"Those results represent a real need for additional education and training," agreed U.S. Rep. Sam Gejdenson, D-Bozrah, whose report, "NRC Coziness with Industry," in 1987 blasted regulators for not doing their job.

"The good news is we caught this in a test instead of in a catastrophe," Gejdenson said. "This is a very unforgiving technology, and it's important for NU to keep its people trained to the very highest level."

Gejdenson said NU has long enjoyed a reputation as one of the best nuclear plant operators in the country. "I hope this isn't a sign they were resting on their laurels," Gejdenson said.

Bossong's group is suing the NRC to force it to implement a training program review process.

NRC officials, asked for comment on Bossong's charges, provided eight pages of "policy statements" on the subjects issued on training and education two years ago. Those statements said the process in use is adequate.

Louis J. Keezing, a spokesman for NU, said educational and training requirements are not necessary.

"If you look at the record of our nuclear training programs themselves, you'll see they're the most comprehensive industrial training programs ever developed," Keezing said. The industry is doing the job well enough that additional regulation is not needed, he said.

"And to say it takes a college education is just not true," Keezing

said. Most of NU's operators, he said, have put in several years aboard nuclear-powered Navy vessels, and have come up through the plant learning each system.

"More important than having a piece of paper is having that experience," Keezing said.

Keezing said, however, that NU has a program with Thames Valley State Technical College for plant operators to earn college degrees in nuclear plant operations.

Keezing said it was not the fault of the six operators who flunked last week. He said the company wrote emergency procedures that allowed operators to use their own judgment; the NRC requires strict outlines of the sequence to follow in an emergency. Though the operators were able to control simulated emergencies, they could not do it in the time or manner required by the NRC.

"What happened here is not a training problem. These people followed the procedures exactly as they were written," Keezing said. "The problem is they were written improperly."

But Bossong said the failure rate at NU and other plants in Florida and New York, where as many as half the operators flunked, indicates a much deeper problem than the industry acknowledges.

Bossong said one of the problems is that the NRC is not allowed access to information on training programs, which are reviewed and approved by the Institute of Nuclear Power Operations, a trade group.

Of more than 600 programs INPO has reviewed, all but four were approved, and those were

quickly approved after some minor changes, Bossong said.

"One interpretation of that would be that the programs as proposed are great," Bossong said. "But given the failure rate on requalification testing, that's obviously not the case."

Moreover, though the operators are supposed to be reviewed every two years, Bossong said his group found instances of plants going as long as six years between reviews. The testing at Millstone 3 last week was the first since the plant opened in 1986.

Bossong said his group reviewed the records of the 7,000 NRC-licensed nuclear plant operators in the country, and found only one-third had a college education.

"The NRC recently proposed requiring a college degree for a supervising reactor operator, but the industry opposed that," Bossong said. "The only requirement on the books right now is that reactor operators must have a high school degree, and in a few cases even that's been skirted and the operator has taken a high school equivalency exam."

Bossong said that is disturbing because in the event of a plant emergency, those operators might have to read and quickly interpret some complex operations manuals.

"It's not surprising that with poor training and limited education, they do so poorly on requalification tests," Bossong said. "The overall training provided to plant workers has been poor, and the reason it's so poor is the NRC has no standards."

# Failures concern local officials

By ROBERT A. HAMILTON  
Day Staff Writer

Local officials reacted with disbelief and concern Tuesday at news that six of 12 operators of the Millstone 3 nuclear power plant had failed federal recertification tests.

"They have to come up to the standards, and that's it. That's the way it has to be," said Waterford First Selectman Lawrence J. Bottencourt.

He said officials at Northeast Utilities, the owner and operator of the Millstone complex, told him the problem stemmed from stricter U.S. Nuclear Regulatory Commission standards.

"I deal with the NRC all the time on drills, and I don't always agree with them," Bottencourt acknowledged. "But whether you like the procedures or not, you follow them."

"You have to have trained operators for water systems and sewer systems so you don't muck up the environment," said New London City Manager C. Francis Driscoll. "Problems at a nuclear plant, which can be far more dangerous than a sewage spill, have to be dealt with quickly."

A prepared release from the state Public Utility Control Authority stated, "We are deeply concerned about this situation. We trust the company and the NRC will take all appropriate and timely action to assure the safe operation of all our nuclear units."

The statement also observed that if the plant is shut down, NU could be forced to swallow the cost of replacement power, because the PUCA position in the past has disallowed those costs where company negligence has been responsible for the misoperation of a nuclear unit.

But the reaction in New Hampshire is the one NU has to watch most closely, because there NU has asked to take over operation of the Seabrook nuclear power station, a sister plant to Millstone 3.

"We're still getting information about (what has happened at NU), but obviously this is a source of major concern," said Larry Smukler, senior assistant Attorney General in New Hampshire. The attorney general and governor of that state had backed NU's bid.

"After we have all the facts we'll make a judgment of what, if any, effect this will have on our endorsement," Smukler said.

Attorney Robert Backus, head of the Seacoast Anti-Pollution League in New Hampshire, a group that has opposed Seabrook from the start, said NU's problems will provide ammunition to block its bid.

"We would oppose a license transfer, but that's really premature because they haven't even applied yet," Backus said.

"I think this says a lot about the ability of the entire industry," Backus said. "NU has had a record of being one of the best operators in the country. If NU can't pass the test, we've really got to be worried."

"It doesn't surprise me," said Kathryn Perkins, a spokeswoman for the Clamshell Alliance, a coalition of New England anti-nuclear groups. "Nationwide, the operators of these plants just are not well trained enough to run them."

But Ms. Perkins said nuclear opponents also do not place a lot of

faith in the NRC.

"Probably all the NRC will do if operators continue to fail the test is change the test," Ms. Perkins said.

But she said the nuclear industry requires people trained sufficiently to make the right decisions quickly in extremely stressful situations.

"These decisions have to be made in seven seconds, that's how long it took Chernobyl to go up," Ms. Perkins said, referring to the famous nuclear disaster in the Soviet Union.

NU has made a \$1.0 million bid

for Seabrook and its parent utility, which is in bankruptcy because the plant that was supposed to cost \$1 billion and be on line in 1979 has cost \$5.2 billion and is only in low-power testing.

Competitors for the Seabrook plant have been quiet on NU's problems, as is common within the industry.

At United Illuminating in New Haven, which has made its own bid for Seabrook, a spokesman declined to comment on NU's situation.