

Erwin Citizens Awareness Network, Inc.

P. O. Box 1151
Erwin, TN 37650

2010 OCT 13 PM 2:32

October 8, 2010

U. S. Nuclear Regulatory Commission
Chief, Rules, Announcements and Directives Branch (RADB)
Division of Administrative Services, Office of Administration
ATTN: Cindy Bladey
Mail Stop: TWB-05-B01M
Washington, DC 20555-0001

RECEIVED

9/23/2010
15 FR 57987

References:

1. Docket ID NRC-2010-0302
2. Federal Register/Vol. 75, No. 184/Thursday, September 23, 2010
3. NRC News Release No. 10-172, September 29, 2010

①

Subject: Potential Policy Issues Related to Nuclear Plant Groundwater Protection

NRC is to be commended for holding a workshop to discuss this critical issue; however, believe the public should be given at least 30 days, from the date of the Federal Register notice, to comment.

Site-Specific Comment:

In the case of the fuel cycle facility in our area, Nuclear Fuel Services, Inc. (NFS), Erwin, TN, (Docket 70-143, SNM-124), it is too late for groundwater protection, since the groundwater contamination already exists and is well-documented. See **Encl 1**, NFS Site Identification, paragraph 3.0 Major Technical or Regulatory Issues, "Some areas of the site (including groundwater) have become contaminated with radioactive material and chemicals." We do not want any more contamination.

This groundwater contamination is significant because the Town of Erwin takes its drinking water from wells and springs, one of which is the Railroad Well, located 0.5 miles from NFS, and others who live near NFS have private wells (**See Encl 2**). According to the 2009 Environmental Report, the Railroad Well is "cross gradient" from NFS. (Previous Environmental Reports described the Railroad Well as being "up gradient").

Additionally, 53 years of radioactive and chemical releases (intended or unintended) into the Nolichucky River appear to have resulted in wide-spread contamination. This is significant because the Nolichucky River is a source of drinking water for the historic downstream communities of Jonesborough (Tennessee's Oldest Town), and Greeneville (home of former U.S. President Andrew Johnson and famous pioneer, Davy Crockett).

SUNSI Review Complete
Template = ADM-013

E-REDS = ADM-03
Add = B. Miller (BWM1)

Subject: Potential Policy Issues Related to Nuclear Plant Groundwater Protection

Theme 1. Reassess NRC's Regulatory Framework for Groundwater Protection

How should the NRC's programs accommodate or encourage industry initiatives that go beyond NRC requirements, and should it be taken into account in NRC's regulatory framework? **The answer is "yes" – any programs that would strengthen groundwater protection should be taken into account in the NRC's regulatory framework. Without a regulatory framework, or even with one, from our experience, industry will likely do as little as possible to protect the groundwater and environment in general.**

How should NRC's programs address protection of the environment? Should requirements be promulgated to require prompt remediation of unintended releases of radioactive liquids? **The answer is "yes" and add to that "prompt public notification" and remediation of unintended releases of radioactive liquids, and add to that "and air releases."** (The public has a legal and ethical right to know about anything that could affect their health and safety).

Should the NRC consider modifying Part 20 to address those portions of International Commission on Radiological Protection (ICRP) 103 related to environmental protection? **Yes, the NRC should modify Part 20 and any other regulations that would strengthen environmental protection.**

Should a policy statement be developed based on NRC's existing regulations and guidance to address: (1) protection of the environment within NRC regulatory framework, (2) NRC's expectations of licensees, (3) the relationship to other regulatory schemes, and (4) NRC's desire to work cooperatively with other Federal agencies and States in protecting the environment? **The answer is an unequivocal "yes" – and further strengthen the already existing regulations. If we do not support the environment, it will not support us.**

Should NRC's regulatory framework be informed by experience or guidance developed or applied by the International Atomic Energy Agency, the international community or by other U.S. agencies, e.g. Department of Energy directives and activities? **IAEA's experience could be considered, however, in the U.S., if the NRC is in charge of nuclear material, then take charge. Certainly the DOE or TVA should not influence NRC regulations and decisions.**

Theme 2. Maintain Barriers as Designed to Confine Licensed Material

Should NRC's programs be modified to ensure that systems and components better contain radioactive liquids and gases? Are additional requirements appropriate for the design, operation, and maintenance of systems and components that contain radioactive liquids and gases? **Absolutely. When plants, either fuel cycle facilities or reactors, deteriorate and the equipment and infrastructures are degraded, then the chances of accidents, injuries to employees, and the public become "high likely." (The Bayesian Probability theory could be applied here). If the owners and managers of these industries do not conduct regular maintenance and back fits, and maintain a safety culture, then the NRC should not continue to license them. The fact that some of the facilities are supposedly "grandfathered in" by the DOE should not be a consideration. Additionally, location of**

Subject: Potential Policy Issues Related to Nuclear Plant Groundwater Protection

the plants away from populated areas should always be considered, especially in the processing of dangerous materials, such as UF6.

Should a more quantitative definition of the “As Low as Reasonably Achievable” (ALARA) concept be adopted with respect to leakage of radioactive liquids and gases? **Yes, because there are “no” safe levels of radiation. Additionally, ALARA takes into consideration “Reference Man” not children or the elderly. At least by quantifying the releases, the public could know what the cumulative exposure is over a period of time.**

Theme 3. Create More Reliable (and Timely) NRC Response

Should NRC’s programs be modified to ensure greater consistency when addressing low risk, high public interest/confidence issues? Should NRC’s oversight programs be modified to include more specific guidance on responding to reported incidents where risk is low, but there is a high stakeholder interest? Should this guidance address the follow up and disposition of a licensee’s immediate actions, extent of condition, root cause, corrective action, and communication with the stakeholder? **Absolutely, because it may not always be “what is,” but rather “what is perceived.” In the absence of a truthful explanation, the worst is always perceived and/or believed.**

How can the NRC improve communications and support to other regulatory agencies, such as the U.S. Environmental Protection Agency and the States, in understanding and exercising respective roles and responsibilities related to groundwater protection? **Very simple, delineate, in writing, the roles of the NRC, EPA, and States regarding radionuclides and chemicals. NRC should have this information anyway in case of an emergency or major accident, i.e. who is charge of what/when/where/why/how? This should be communicated to the public around any nuclear facility – whether reactor or fuel cycle. Currently, the roles are not clearly defined between Federal and State, which results in finger-pointing between agencies. The public is given the runaround, and therefore, the perception is that this lack of definition of responsibilities is intentional.**

Theme 4. Strengthen Trust

How can the NRC increase confidence in its actions and communications related to groundwater protection? **(1) Begin by telling the truth – even if it’s bad news, (2) Don’t make excuses for the licensees, or help them distort or cover up the truth, (3) Treat all licensees equally (Example at Encl 3 - Holding Event Reports for 8 days before posting to the NRC Event Notifications website); and, (4) Don’t insult or underestimate the intelligence of the public (Example at Encl 4: DOE/EIS-0240-SA1, page 11, 1 in 71 Latent Cancer Fatalities due to downblending at NFS, and subsequent NRC letters to Mayors attempting to explain that it was actually 1 in 71 years, which was so ridiculous that no one believed it).**

What role could third party verification or assessment play in responding to groundwater protection? **We believe it could make a difference, much like the two independent third party safety assessments regarding the lack of a safety culture at NFS.**

Subject: Potential Policy Issues Related to Nuclear Plant Groundwater Protection

What would be the benefit of using the International Nuclear Event Scale for communicating the safety significance of events at Levels 0 or 1 that attract high domestic or international public interest? Would this approach lead to confusion on the significance of the issue?

According to the INES Scale, Level 0 is considered a “Deviation,” with no Safety Significance. An example is a random failure in a redundant system discovered during inspections. Level 1: Is an “Anomaly Beyond the Authorized Operating Regime.” This may be due to human error or procedural inadequacies.

Our experience is with Level 2, because the March 6, 2006, 37-liter (9 gallon) spill of high-enriched uranium at NFS, Erwin, TN, and two near criticalities, was considered a Level 2 on INES, according to NRC Commissioner Gregory Jaczko in a Scientific American article, dated July 25, 2007. Level 2 is categorized as an “Incident.” The On-site Impact, according to INES, “was significant spread of contamination/overexposure of a worker.” The Defence in Depth Degradation indicated “incidents with significant failures in safety provisions.”

Since that time, the release of the 2007/2008 and 2009/2010 reports by the Independent Safety Assessment Team, known as SCUBA, have certainly confirmed the significant failures in safety provisions at Nuclear Fuel Services, Inc. (NFS), Erwin, TN.

We do not believe that Level 0 or Level 1 would be helpful in describing events that may have a high public interest – especially in the U.S. However, for incidents and accidents from Levels 2 through 7, INES appears to be very descriptive and understandable, and therefore, could be helpful.

How can greater clarity be given to the interplay between NRC regulations and existing State and other Federal regulations with respect to the objectives and level of protection provided by adherence to the regulations? **Written and widely distributed delineation of responsibilities regarding radionuclides and chemicals.**

Closing Statements:

1. It would appear that some standardization and more definitive language could improve the NRC regulatory process in general, because from a public perspective, it seems that certain practices and behaviors in the nuclear industry, whether reactor or fuel facilities, are common, expected, and/or mandated by Federal regulations, and also by State regulations.

The Reactor Oversight Process (ROP) seems to contain more of these standard procedures. And while the Fuel Cycle Facilities may have more physical differences between them than the reactors, the same good practices that are expected throughout the nuclear industry, should still apply. The Fuel Cycle Oversight Process (FCOP) that has been in the works for the past 10 years, if ever adopted, may be helpful in standardizing some of these procedures and making them more risk-informed. Currently, the ISAs, SERs and ORRs have not been effective in identifying potential accidents or risks associated with the various processes. It would also seem that the FCOP would facilitate more equal treatment of all fuel cycle facilities. Therefore, they would all be evaluated under the same criterion and have the same expectations, which currently does not always appear to be the case.

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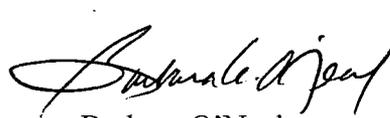
2. While these workshops, conferences and discussions are important, it is equally important that the desires of the Commission to make changes and improvements be communicated to the staff and to the Regions who deal with the licensees and public on a day-to-day basis. In many cases, while the philosophy seems to be positive at the top, it does not always resonate as strongly, if at all, where the rubber meets the road.

Thank you for the opportunity to comment. As a member of the panel commented in the October 4, 2010 workshop, the public will always have information and a perspective that the NRC can never have. With the frequent turnover in personnel, the continuity and history of a facility is often lost. Therefore, the public can provide a much-needed corporate memory.

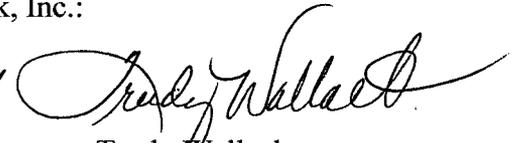
Respectfully submitted for Erwin Citizens Awareness Network, Inc.:



A. Christine Tipton

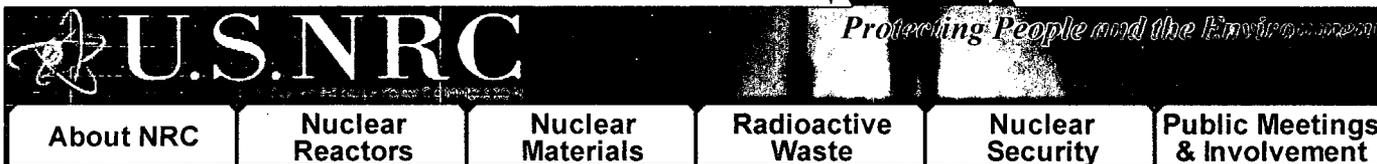


Barbara O'Neal



Trudy Wallack

4 Enclosures
as stated



[Home](#) > [Facility Info Finder](#) > [Sites Undergoing Decommissioning](#) > [Fuel Cycle Facilities](#) > [Nuclear Fuel Services](#)

Nuclear Fuel Services

1.0 Site Identification

Type of Site: Fuel Cycle Facility
Location: Erwin, TN
License No.: SNM-124
Docket No.: 07000143
License Status: Active License
Project Manager: Kevin Ramsey

2.0 Site Status Summary

The NFS plant is located in Unicoi County, TN. It is 0.5 miles southwest of the Erwin City limits and 0.2 miles from the Nolichucky River. The site occupies about 70 acres and the elevation is about 30 feet above the Nolichucky River.

NFS has conducted nuclear fuel fabrication and uranium recovery operations since 1959. The facility produces nuclear fuel containing both high-enriched and low-enriched uranium.

3.0 Major Technical or Regulatory Issues

Some areas of the site (including groundwater) have become contaminated with radioactive material and chemicals. NFS is engaged in various decommissioning activities that are expected to continue for several years.

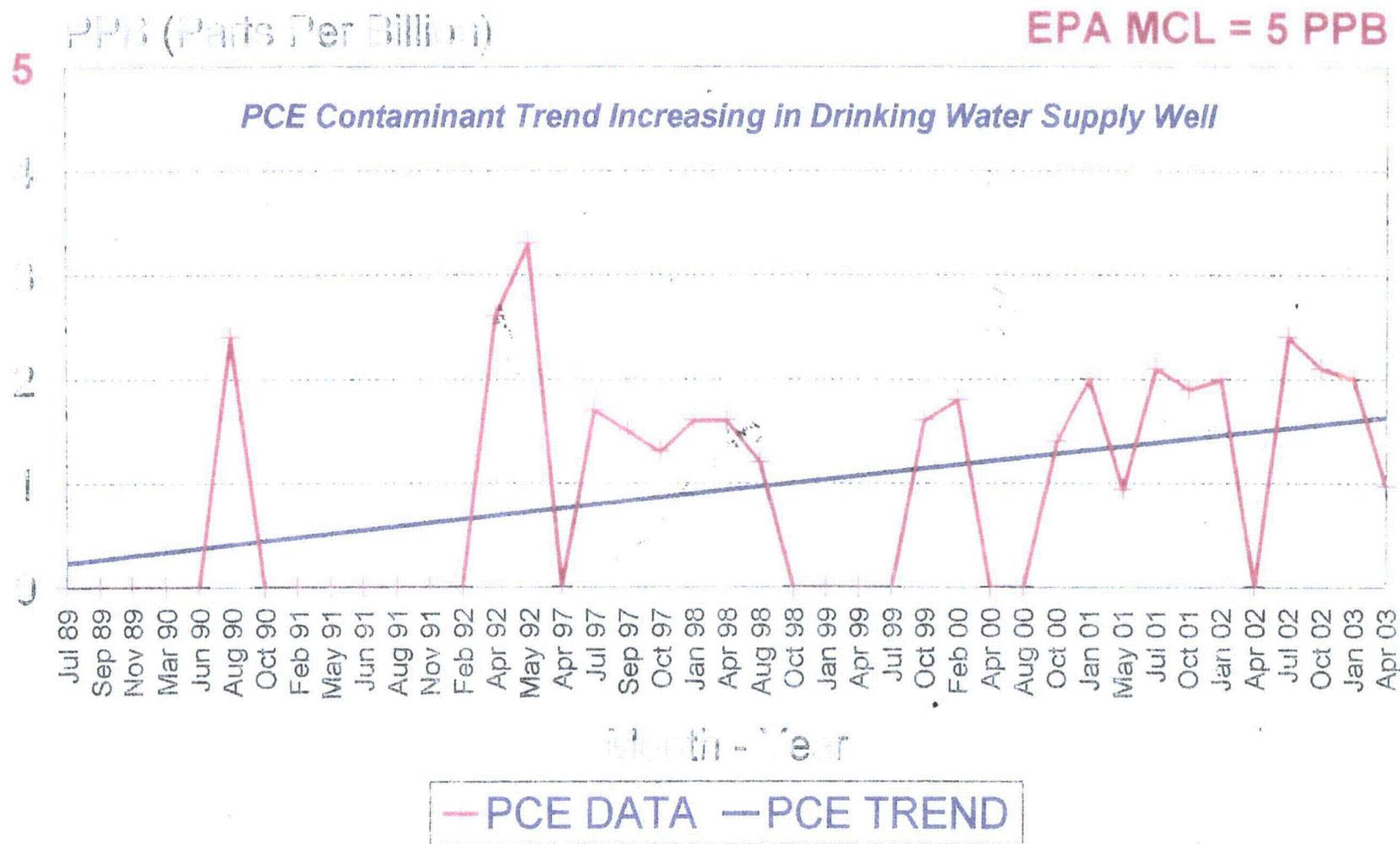
4.0 Estimated Date For Closure

[Privacy Policy](#) | [Site Disclaimer](#)
Wednesday, October 06, 2010

ENCL 1

Erwin Utilities Railroad Well

Tetrachloroethylene (PCE)



ENCL 2

"PCE is a CONFIRMED CARCINOGEN with experimental carcinogenic, neoplastigenic and teratogenic data."

-- Hazardous Chemicals Desk Reference, Third Edition, 1993

Johnson City Press

Empowering People Through the Press

Story Published on Tuesday, June 4, 2002

Click here to print this story (Macintosh users, please press Cmd + P on your keyboard to print story.)

NFS faces contamination suit

GREENEVILLE — A lawsuit filed in U.S. District Court seeks unspecified damages from Nuclear Fuel Services Inc. for alleged contamination of the groundwater and allowing nuclear and other contaminants to migrate outside the plant.

Impact Plastics Inc., Presston Tool and Mold Inc. and Gerald M. O'Connor Jr. are owner, lessor and lessee of the property at 1070-A Industrial Drive, Erwin, to the north of the NFS plant. They charge that NFS, in its business of recycling irradiated uranium in spent nuclear fuel, has allowed substantial contamination to occur to its property, leading to contamination of the groundwater in the area around the plant.

"We will vigorously contest this lawsuit. The complaint by Mr. O'Connor and his two companies . . . against NFS seeks exaggerated damages," said NFS General Counsel Neil J. Newman. "NFS has acted in a responsible and forthright manner in advising Mr. O'Connor and his companies about the subsurface groundwater contamination discovered by NFS."

Contaminants specifically cited in the suit include "chloroform, 1,2 dichloroethylene, tetrachloroethylene, trichloroethylene, vinyl chloride, tributyl phosphate, U-236, depleted U isotopic, Tc-99, 129-Iodine, uranium 233/234, uranium 235/236, uranium 238, plutonium 238, plutonium 239/240, thorium 228, 230, 232 and other chemicals regulated as hazardous substances under state and federal law."

O'Connor charges that NFS, in allowing the contaminants to migrate from its plant site, was negligent and showed complete disregard for the property rights and value of his property.

NFS officials said neither O'Connor, his plants nor his workers use or come into contact with the affected subsurface groundwater.

O'Connor cites environmental reports prepared by or on behalf of NFS over a number of years. "NFS or persons acting upon NFS' behalf have made available to the general public reports indicating that the groundwater beneath the plaintiff's property has been impacted by the hazardous substances," the suit says.

It cites violation of state law by discharging pollutants into the waters of Tennessee, allowing the migration to pass through the groundwater and into the waters of the Nolichucky River, an act the suit charges as an "ultra-hazardous activity."

ENCL 2

8/31/2007 9:28 PM

The depleted uranium, Tc-99 and 129 Iodine are said to be unique to the NFS operation.

O'Connor charges that the contaminants have stigmatized his property and led to a substantial diminution of its value, causing him to contemplate moving all operations away from the alleged hazardous area.

The plaintiffs ask NFS to take immediate steps to abate the presence of contaminants on or beneath their property and to stop the migration of further contaminants from NFS' property, in such a way as to prevent damage to the fair market value of the adjoining property.

A risk assessment of chemical contaminants in the affected groundwater was performed and submitted to the state Department of Environment and Conservation, the Environmental Protection Agency and the U.S. Nuclear Regulatory Commission. The assessment concluded that no further remediation of the groundwater was warranted, according to NFS officials.

They said NFS has initiated remediation activities on its property utilizing methods that have reduced contaminants by up to 80 percent in a pilot test.

"Sampling of the groundwater beneath Mr. O'Connor's plant property has been in compliance with all regulatory procedures and these samples have been tested by multiple independent laboratories. All results have been presented to and reviewed by TDEC, EPA and NRC," Newman said. "NFS fully agrees with the regulator's conclusion that subsurface groundwater beneath Mr. O'Connor's property does not present a risk to him, his employees or the public."

A second count in the suit cites NFS for maintaining a nuisance, which has caused damage to adjoining property. It seeks judgment for costs to move their manufacturing operations, legal costs and further relief the court finds proper.

A third count charges that allowing contaminants to migrate into the groundwater constitutes trespass, and seeks the same remedy.

A fourth count seeks compensation under the Comprehensive Environmental Response Compensation and Liability Act. Costs include assessment of the scope of the contamination, plus a declaratory judgment as to liability on any future response costs caused by the migration of contaminants onto their property.

The suit states that copies of the complaint were supplied to the U.S. Attorney General and the Administrator of the EPA.

"NFS has just received a copy of the lawsuit and is evaluating it further," Newman said. "NFS will respond more fully to the complaint in its future pleadings with the court."

(Contact James Brooks at jbrooks@johnsoncitypress.com or Alyssa Spradlin at aspradlin@johnsoncitypress.com).

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Fuel Cycle Facility	Event Number: 46284
Facility: NUCLEAR FUEL SERVICES INC. RX Type: URANIUM FUEL FABRICATION Comments: HEU CONVERSION & SCRAP RECOVERY NAVAL REACTOR FUEL CYCLE LEU SCRAP RECOVERY Region: 2 City: ERWIN State: TN County: UNICOI License #: SNM-124 Agreement: Y Docket: 07000143 NRC Notified By: RANDY SHACKELFORD HQ OPS Officer: JOHN KNOKE	Notification Date: 09/28/2010 Notification Time: 12:50 [ET] Event Date: 09/27/2010 Event Time: 13:41 [EDT] Last Update Date: 09/28/2010
Emergency Class: NON EMERGENCY 10 CFR Section: PART 70 APP A (b)(1) - UNANALYZED CONDITION	Person (Organization): MARK LESSER (R2DO) JAMES RUBENSTONE (NMSS) FUELS GROUP Email ()

Event Text**UNUSUAL BUILDUP OF MATERIAL IN ALUMINUM CENTRIFUGE AREA**

"During the unloading of centrifuges in the Building 333 U-Aluminum centrifuge area, a crusty buildup of material (~1/8" thick) was observed on the inside of the centrifuge 'jacket' that contains the centrifuge bowl. The buildup was also observed on the underside of the centrifuge lid ('cake pan'). This level of material buildup was unusual and had not been previously observed. It should be noted that some dusting or spattering had been previously observed. The system is designed with drains on the bottom that are designed to prevent the accumulation of liquid within the centrifuge 'jacket'. There is also a requirement to inspect the 'jacket' when solution is observed draining from the overflows. This was considered an unanalyzed or improperly analyzed condition because the mechanism for buildup of this extent was not considered in the safety analysis (i.e. there was no indication of buildup provided by the overflows).

"The following corrective actions were taken: 1) operations in the affected area were suspended; 2) the area was posted to maintain the integrity of the as-found conditions; 3) the area was inspected by safety personnel; 4) the issue was entered into the internal Problem Identification, Resolution, and Correction System (PIRCS); 5) an Unusual Incident Evaluation was performed; 6) calculations were performed with bounding conditions; 7) photographs were taken of the equipment; 8) the system was scanned to determine U-235 mass (~46 grams U-235); 9) material samples were taken and delivered to the laboratory for analysis; and 10) an investigation has been initiated."

There were no control or control system failures. There were no actual or potential safety consequences to workers, the public, or the environment. No degradations or failures have been identified. The system is currently in a safe and stable condition. An investigation has been initiated.

The licensee has notified the NRC Resident Inspector.

ENCL 3



SUPPLEMENT ANALYSIS

**DISPOSITION OF SURPLUS
HIGHLY ENRICHED URANIUM**

October 2007

**U.S. Department of Energy
National Nuclear Security Administration
Office of Fissile Materials Disposition
Washington, D.C.**

Table 4.2-2. Comparison of HEU EIS and Supplement Analysis Normal Operations Radiological Doses and Risks

Impact Parameter	Involved Workforce		MEOI		Offsite Population	
	HEU EIS	SA	HEU EIS ^a	SA	HEU EIS ^a	SA
Y-12						
Annual Dose (person-rem)	11.3	11.3	7.0×10^{-4} (rem) ^b	7.8×10^{-4} (rem) ^b	2.9	4.7
Risk (LCF per year)	4.5×10^{-3}	6.8×10^{-3}	3.5×10^{-7}	4.7×10^{-7}	1.5×10^{-3}	2.9×10^{-3} ^c
BWXT						
Annual Dose (person-rem)	11.3	11.3	3.4×10^{-5} (rem) ^b	3.8×10^{-5} (rem) ^b	0.30	0.37
Risk (LCF per year)	4.5×10^{-3}	6.8×10^{-3}	1.7×10^{-8}	2.3×10^{-8}	1.5×10^{-4}	2.3×10^{-4} ^c
NFS						
Annual Dose (person-rem)	11.3	11.3	2.5×10^{-3} (rem) ^b	2.8×10^{-3} (rem) ^b	21	25
Risk (LCF per year)	4.5×10^{-3}	6.8×10^{-3}	1.3×10^{-6}	1.7×10^{-6}	1.1×10^{-2}	1.5×10^{-2} ^c
SRS						
Annual Dose (person-rem)	11.3	11.3	4.5×10^{-5} (rem) ^b	5.0×10^{-5} (rem) ^b	2.9	4.0
Risk (LCF per year)	4.5×10^{-3}	6.8×10^{-3}	2.3×10^{-8}	3.0×10^{-8}	1.5×10^{-3}	2.4×10^{-3} ^c

^a Adjusted to include uranium-232, uranium-234, and uranium-236.

^b Unit for MEOI dose is rem because the receptor is a single individual.

^c This SA's calculated offsite population risk is equivalent to the following increased annual risk of an LCF occurring in the total offsite population: 1 chance in 357 for Y-12; 1 chance in 4,545 for BWXT; 1 chance in 71 for NFS; and 1 chance in 416 for SRS.

Key: BWXT=BWXT Nuclear Operations Division; DOE=U.S. Department of Energy; HEU EIS=Disposition of Surplus Highly Enriched Uranium Final Environmental Impact Statement; LCF=latent cancer fatalities; MEOI=maximally exposed offsite individual; NFS=Nuclear Fuel Services, Inc; SA=supplement analysis; SRS=Savannah River Site; and Y-12=Y-12 National Security Complex.

Source: Derived from DOE 1996a.

Table 4.2-3. Public Maximally Exposed Offsite Individual Radiation Doses (rem) from Annual Radionuclide Releases from All Site Activities

Site	2002	2003	2004	2005
Y-12	3.0×10^{-4}	2.0×10^{-4}	4.0×10^{-4}	8.0×10^{-4}
BWXT	3.7×10^{-4}	5.1×10^{-4}	3.9×10^{-4}	1.4×10^{-4}
NFS	5.0×10^{-5}	3.0×10^{-5}	2.0×10^{-5}	2.0×10^{-5}
SRS	1.8×10^{-4}	1.9×10^{-4}	1.5×10^{-4}	1.3×10^{-4}

Key: BWXT=BWXT Nuclear Operations Division; NFS=Nuclear Fuel Services, Inc.; ORNL=Oak Ridge National Laboratory; SRS=Savannah River Site; and Y-12=Y-12 National Security Complex.

Source: BWXT 2007c; NFS 2007b; ORNL 2003-2006; WSRC 2003-2006.

Whereas Table 4.2-2 presents analytically derived conservative estimates of MEOI dose due to down-blending activities, Table 4.2-3 presents recent measured dose information for the MEOI at each blending site. The conservative assumptions inherent in the calculated values in Table 4.2-2 include a high atmospheric release of radioisotopes and low air filter particle removal efficiency, as compared to actual measured releases and filter efficiencies that have occurred at each site. The largest calculated MEOI dose from down-blending activities would be 2.8×10^{-3} and would occur at NFS primarily due to the much closer proximity of the MEOI. In contrast, actual measured MEOI doses at all four sites from

March 12, 2008

The Honorable Gregg Lynch, Mayor
County of Unicoi
P.O. Box 169
Erwin, TN 37650

**SUBJECT: RESPONSE TO CONCERNS REGARDING THE DEPARTMENT OF ENERGY
SUPPLEMENT TO THE ENVIRONMENTAL IMPACT STATEMENT FOR THE
DISPOSITION OF SURPLUS HIGHLY ENRICHED URANIUM
(DOE/EIS-0240-SA1)**

Dear Mayor Lynch:

We wish to thank you for bringing the concerns of your constituents to our attention during our meeting at Nuclear Fuel Services (NFS) on February 28, 2008. As promised during the public meeting, we contacted the U.S. Department of Energy (DOE) to clarify statements in the "Supplement Analysis for the Disposition of Highly Enriched Uranium" (DOE/EIS-0240-SA1) dated October 2007.

DOE has informed us that the "1 chance in 71" estimate refers to the risk of a single latent cancer fatality in the entire population living within 50 miles of NFS based on one year of operation. This meaning could have been explained better. We regret the concerns the estimate has caused. NRC staff has reviewed the report and believes that the risk may be clearer when expressed as follows: The exposure of the entire population within 50 miles of NFS, to the annual doses estimated by DOE, for a period of 71 years, would be expected to result in no more than 1 cancer death in the entire population. Please note that the actual releases from NFS are much less than those used in the calculation.

In terms of individual risk, the population risk of 1 chance in 71 translates to an individual risk of 1 chance in 85 million of developing cancer as a result of downblending operations at NFS. This risk is consistent with an environmental assessment conducted by NRC in 2002. It is less than the risk of a person being struck by lightning which is about 1 in a million.

Should you have any questions concerning this letter, please contact Kevin M. Ramsey of my staff at 301-492-3123. We intend to schedule a public meeting in the near future to address this matter and any additional questions.

Sincerely

/RA/

Robert C. Pierson, Director
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards

Docket No. 70-143
License No. SNM-124

ENLL 4

GreenevilleSun.com



Sun Photo by Bill Jones Erwin resident Chris Tipton, shown standing wearing white suit, asks a question during Thursday night's "licensee performance review" meeting held by the Nuclear Regulatory Commission at the Nuclear Fuel Services, Inc., Training Center in Erwin.

Saturday, March 01, 2008
(Last modified: 2008-03-01 01:21:42)

Source: The Greenville Sun

Footnote Raises Fear
Of Higher Danger Of
Getting Cancer, But
Meaning Is Disputed;
NRC Will Investigate

By BILL JONES

Staff Writer

ERWIN – A document prepared by one federal agency put representatives of another regulatory body on the spot during a public meeting at the Nuclear Fuel Services, Inc., plant here on Thursday evening.

Representatives of the U.S. Nuclear Regulatory Agency (NRC), which regulates the NFS plant, on Thursday night claimed no knowledge of an October 2007 National Nuclear Security Administration (NNSA) "Supplement Analysis" of the Disposition of Surplus Highly-Enriched Uranium program in which NFS is involved.

NRC officials said, in response to a question from audience member Chris Tipton during a question-and-answer session, that they would study the NNSA document and post it on the NRC's Web site along with a response letter.

Tipton, of Erwin, told NRC Assistant Regional Administrator Victor McCree that she wants the NRC to hold a public meeting in Erwin about the cancer question once the NRC completes its investigation of the NNSA document.

The NNSA is a division of the U.S. Department of Energy, which owns the highly-enriched uranium currently being "down-blended" at the NFS plant to a low-enriched state suitable for conversion into fuel for use in commercial nuclear power plants.

Disputed Footnote

ENCL 4

Buried in a footnote to a table on page 11 of the NNSA Supplement Analysis document is a passage about possible impacts on cancer cases resulting from the uranium down-blending operations at NFS and other facilities.

Barbara O'Neal, a retired federal employee who lives in Erwin, said at the meeting that she found by chance the NNSA document and the troubling footnote on the U.S. Department of Energy Web site while researching NFS operations.

Prior to the start of the 6:30 p.m. meeting at the NFS training Center, she distributed copies of the NNSA's October 2007 Supplement Analysis to audience members and NRC and NFS officials.

O'Neal had brought the NNSA document to the attention of other Erwin residents, she said.

Troubling Footnote

"This SA's (Supplement Analysis) calculated offsite population risk is equivalent to the following increased annual risk of an LCF (latent cancer fatality) occurring in the total offsite population:

- * "1 chance in 357 for Y-12 (the Department of Energy's Y-12 National Security Complex in Oak Ridge);
- * "1 chance in 4,545 for BWXT (a fuel fabrication plant similar to NFS in Lynchburg, Va.);
- * "1 chance in 71 for NFS; and
- * "1 chance in 416 for SRS (the Department of Energy's Savannah River Site)."

Just what the footnote actually means remains in dispute.

A one-page document on Sierra Club letterhead that was distributed during Thursday's meeting claimed that the footnote means "one in 71 residents of Erwin, Tennessee, will fall victim to latent cancer and die as a result of Nuclear Fuel Services' down-blending operations."

But Tim Lindstrom, general manager of the NFS plant, disputed that claim in post-meeting comments.

"It's not that you have a one in 71 chance (of getting cancer)," Lindstrom said. "It doesn't say every person has a one in 71 chance. The total population has a chance for one latent cancer fatality."

Asked to what radius of the NFS plant he believed the footnote applied, Lindstrom said he didn't know. "Let the NRC do their analysis and we'll tell you then," he said.

However, Lindstrom said NFS operates in conformance with a radiation "dose rate" set by the NRC. "Our dose rates are well below the regulatory limit," he said. "Our dose rates are about 100 times lower than the limit."

Lindstrom also pointed out that the conclusion of the NNSA analysis document was that the new uranium down-blending operations at NFS would not result in new environmental impacts.

"You wouldn't have a number like a 1 in 71 chance of getting cancer and call that no impact," Lindstrom said of the NNSA document. "I wouldn't work at the facility if that were true."

NFS's Response

A written response to the Sierra Club claim furnished to The Greenville Sun by NFS spokesman Tony Treadway said:

"I believe that Ms. (Linda) Modica's claims are inaccurate and deliberately intended to create undue fear in the public," Treadway wrote.

"You must remember that she was a plaintiff in the lawsuit against NFS to shut down the company's down-blending project, and her claims were thrown out because they were unfounded.

"Today, NFS officials contacted an author of the report cited by Ms. Modica to identify the exact specifics of the report as it relates to the company (NFS). It is my belief that the statistic has been grossly misrepresented."

Erwin resident O'Neal also shared with The Greenville Sun a response to an inquiry she had made of Dr. David Lockbaum of the Union of Concerned Scientists about the possible meaning of the disputed footnote.

"A 1 in 71 latent cancer risk means that a population of 71 persons exposed to that amount of radiation would likely result in one additional cancer incidence due to that exposure, over and above the number of cancers

caused by other means," Dr. Lockbaum wrote in response to the question.

"So," he wrote, "a population of 710 persons would likely see 10 additional cancer incidences, etc."

Project Background

"Since the mid-1990s, the Department of Energy and the NNSA has maintained an ongoing program for disposition of surplus U.S.-origin HEU (highly-enriched uranium)," the NNSA Supplement Analysis says.

"In addition to continuing these activities, DOE/NNSA proposes to implement new initiatives and modify certain elements of the existing surplus HEU disposition program, including:

- * "Supplying potential new end-users with LEU from surplus HEU (approximately 17.4 metric tons) in support of the Reliable Fuel Supply Initiative;
- * "Establishing new disposition pathways for HEU discard material (approximately 18 metric tons);
- * "Down-blending additional quantities of HEU (approximately 20 metric tons)."

Reliable Fuel Supply

The NNSA document says, "The Reliable Fuel Supply Initiative is a series of mechanisms to be instituted by the United States to ensure that foreign countries with good non-proliferation credentials that refrain from developing and deploying uranium enrichment and reprocessing technologies continue to have access to the nuclear fuel market and the benefits of nuclear power."

As one component of this initiative, according to the document, "DOE plans to down-blend and hold a supply of LEU (low-enriched uranium) to serve as backup in case other market mechanisms fail."

Specifically, according to the document, "DOE/NNSA has procured commercial services to down-blend 17.4 metric tons of surplus U.S.-origin HEU to LEU, and maintain this supply of LEU until needed."

Primary Components

The primary components of this proposed action consist of:

- * "Processing and packaging the material for offsite shipment at Y-12 in Oak Ridge.
- * "Shipping 17.4 metric tons of HEU from Y-12 to a commercial blending site.
- * "Down-blending the HEU to LEU using the liquid UN process.
- * "Transporting the resulting LEU (approximately 290 metric tons) as uranyl nitrate hexahydrate (UNH) or oxide from the blending site to a U.S. commercial fuel fabrication facility.

"The fabricator would be required to maintain 40 metric tons of LEU in storage, and would be able to use the majority of the remaining LEU for working inventory, subject to contractual conditions for providing LEU when requested by DOE/NNSA.

"LEU storage would be accommodated within the facility's existing capacity and operating license, and would not require additional construction.

* "Shipping quantities of LEU, in the form of UF₆, to participating foreign countries as directed by DOE/NNSA and in accordance with procedures and requirements governing the sale of this material."

DOE/NNSA awarded a contract for this down-blending work on June 29, 2007.

Shipments of HEU to the blending contractor began in August 2007, and down-blending is scheduled to be completed in approximately four years.

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Explanations add up to big fat zero

NFS: Nuclear Fuel Services.

NNSA: National Nuclear Security Administration.

DOE: Department of Energy.

NRC: Nuclear Regulatory Commission.

ECAN: Erwin Citizens Awareness Network.

IDK: I Don't Know.

LOL: Laugh Out Loud.

I figure I might as well get all the acronyms out of the way at the very beginning. It's confusing enough, peppered through a newspaper article.

Don't feel bad, if you've been more than a little confused after reading the

FROM THE PUBLISHER'S DESK



By Mark A. Stevens

last two weeks of coverage about NFS and a report from NNSA.

First, there are way too many acronyms involved - NFS, the NRC, the NNSA, the DOE and ECAN, to name the top five. It's about as confusing to me as the "cyber" speak folks commu-

nicate with today on their iPhones, Blackberries and other digital devices - all machines smarter than I am.

If you've kept up with the NFS story, you probably know the gist of it: a footnote in a now-controversial NNSA report seemed to suggest that downblending operations at NFS could cause a fatal cancer in one out of every 71 people living in a 50-mile radius of the Erwin plant.

What it really says, apparently, is that one in 85 million could develop a fatal cancer.

The whole thing has been as clear as mud, and, truthfully, NFS has received a bad

rap throughout the whole thing.

Surprisingly, NFS' troubles stem less from ECAN and the Sierra Club, both of which have expressed concerns about the report, than from the organizations one would expect to offer some clear understanding of the situation.

That's not been the case. In fact, the NNSA, the NRC and the DOE's efforts to explain what the report meant in the first place has become confusing and muddled.

No one seems to be able to properly explain the one-in-85-million figure. That

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doesn't mean that it's wrong. It simply means that once you try to explain the use of a number that for all practical purposes equals zero, you've got more explaining to do than if you had just said it in simple English the first time around.

NNSA says that its one-in-71 footnote was meant to convey that there is a one chance in 71 that one additional person out of the 1.28 million people living within 50 miles of NFS would die from a fatal cancer over their lifetime.

A few days after the NNSA came out with that clear-as-mud explanation, the NRC decided it would take its own stab at explaining what a zero chance actually meant in the way of numbers.

The NRC decided to add 71 years to the equation, saying it was still one in 85 million. That is, if you didn't pay attention to another correlation listed for the chances of getting cancer. The NRC said the chances would be akin to your chances of being struck by lightning, which is about one in a million.

Later, Kevin M. Ramsey, a senior project manager at the NRC, admitted that "maybe we're causing more problems trying to explain it this way."

Now that's a clear statement.

Last Monday, the NNSA said the NRC's explanation wasn't "accurate" but on Tuesday morning, even the NNSA had changed its mind, saying that the NRC, in its own clumsy way, was essen-

tially correct.

Really? Again, thanks for clearing that up.

The NNSA, the NRC and the DOE are made up of a lot of very smart people - scientists, physicists, mathematicians, to name but a few, but they sure do have a hard time explaining when their own math adds up to a big fat zero.

IDK about you, but I bet officials at NFS might say that with friends like the NNSA, NRC and the DOE, who needs enemies?

You've got to admit that if all this didn't surround such a serious subject, it'd be downright funny. Oh, who am I kidding? Go ahead, LOL.

Chances are just about zero that you can't help but laugh at these people.

VIEWPOINT

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ON THE DRAWING BOARD with Charles E. Holt Jr.



Agency downplays NFS risk of cancer

Sierra Club official assails report as 'garbage'

By JIM WOZNIAK

Erwin Bureau Chief

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ERWIN — Addressing a controversy that has created confusion and heated debate for a month, the National Nuclear Security

Administration reiterated Wednesday that the risk for cancer as a result of the downblending of highly enriched uranium at Nuclear Fuel Services is low.

"This exposure... is much, much less than a single chest X-ray," said Dean Tousley, director of the NNSA's

program support division. "It's much less than a single round-trip, cross-country airplane flight."

The conclusion, which has led to disputes about the accuracy of figures, was the highlight in a recent supplement analysis conducted by

that federal agency. The 27-page report looked at whether current and proposed disposition of highly enriched uranium throughout the country required an update of a previously conducted environmental impact statement. The NNSA report concluded that was not necessary.

The report's contents did not sit well with those attending a meeting Wednesday at Town Hall. Linda Modica, chairwoman of the Sierra Club's Radiation Committee, called the report inadequate. She pulled out two thick binders that detailed activity by the Department of Energy, of which the NNSA is a division, on a different matter and compared it to the size of the report issued in October.

"And this is what you do for Erwin? she asked sarcastically. "Sirs, no, this is unjust. This type of review, I'm sorry, does not cut mustard. And I'll be perfectly frank. I think it's garbage. You could have done better. You could have done a lot better. And this really needs to be redone."

A footnote in one section of the report drew the attention of some regional residents. It said the off-site population risk is equivalent

to the following increased annual risk of a (latent cancer fatality) occurring in the total off-site population" and then provided a figure of 1-in-71 for NFS.

The number quickly became subject to differing interpretations. Modica issued a news release in late February that said one in 71 Erwin residents would die of a latent cancer from NFS' conversion of highly enriched uranium to a low-enriched form.

NFS' spokesman Tony Treadway said the company contacted the report's writer, Hitesh Nigam Sr., and was told the risk was actually one in 85 million that someone within 50 miles would contract a latent cancer.

On Wednesday, Tousley said the agency's "conservative" analysis examined the impact of downblending within 50 miles, which has a projected population of

about 1.3 million. He made another attempt to explain the numbers.

"You could say it one of two ways," he said. "It would be one chance in 71 that one additional person could get a latent cancer fatality. Or if you took it over 70 years, you would say one person over 70 years could get a latent cancer fatality. That was the meaning of the report."

"My chance of getting cancer from this activity, according to this analysis, would be about one in 85 million. For this reason, we concluded that although there were some changes in the environmental impacts from 1996 to 2007 caused by a number of different things, the impacts were still very low and it was not necessary for us to do a supplemental (analysis) for this activity."

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