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RECEIVED

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Division of Administrative Services
Office of Administration, Mail Stop TWB-05-B01M
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555-0001

10/15/2010
#5 FR 63519 (6)

SUBJECT: Docket ID NRC-2009-0435: Comments on Draft Environmental Assessment and Finding of No Significant Impact for Nuclear Fuel Services, Inc., Erwin, TN, Request for 40-year License Renewal

Dear Ms. Bladey:

I am commenting as a resident who lives less than a mile from NFS in the path of the prevailing wind. Given my location, and according to this draft EA/FONSI, I should be considered a Maximally Exposed Offsite Individual (MEOI).

I have researched NFS issues and NRC oversight for four years. I find this draft EA/FONSI to be contradictory, deceptive, biased in favor of the license, extremely lacking in independent research, facts, and hard science. Instead, it contains many speculations by the NRC and estimations by the license. It also contains mathematical calculations that are not readily understood by me or average members of the public.

On Oct. 27, 2010, I emailed written comments from my oral presentation at the Oct. 26, 2010, Public Meeting. They are also included separately with this letter. At that meeting, I also provided two notebooks of documents to be included in the Safety Evaluation Report (SER): (1) a notebook containing 12 (out of 60) subject-specific timelines, and (2) a 253-page NFS Violation History from 1974-present. The comments that follow are in addition. (Note: *Italics* and **bold** type are used for emphasis).

Page vii

As such, the proposed action can be considered a "continuation of impacts" and was evaluated based on "impacts from past operations."

COMMENT: NRC has established that there are continuing impacts and impacts from past operations. This is contradictory to a finding of no significant impact. Obviously, what NRC defines as "significant" is not the same as my definition. A "continuation of impacts" that have been ongoing for 53 years is already significant, and to add another 40 years to that and say it's "insignificant" does not pass the common sense test.

50 NFS Review Complete
Template = ADM-013

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Add = J. Park (JKP)

Page 1-1:

Alternatively, based on comments received on this draft EA, the staff may instead find that preparation of an Environmental Impact Statement (EIS) is warranted should significant impacts resulting from the proposed action be identified.

COMMENT: Once again, instead of preparing an EIS as should have been done years ago, NRC is putting the burden of proof on the public.

The NFS request to renew license SNM-124 for a period of 40 years is without precedent, because, if granted, this would be the first 40-year license renewal for a Category I nuclear fuel fabrication facility.

COMMENT: By declaring a “Finding of No Significant Impact” and addressing important issues in a separate Safety Evaluation Report, that the public will never see, the NRC is, once again segmenting a major federal action, showing favoritism to the licensee, and failing in its mission to protect the public’s health and safety.

Page 1-2:

1.2 Conducting research and development

COMMENT: Research and development is often experimental. NRC did not evaluate the possible impacts of research and development.

1.4.1. No-Action Alternative. NFS would be required under 10 CFR 70.38 to submit a detailed site decommissioning plan, and facility decommissioning would begin upon NRC approval of that plan.

COMMENT: Obviously a site decommissioning plan has not been submitted, yet throughout this draft EA/FONSI, NRC simply **speculates** as to what would transpire in a decommissioning scenario.

Page 1-3:

1.4.2.staff determined that the site operations and the types of *potential* impacts during a 10-year license renewal period would be *expected* to be the same as for the proposed 40-year license renewal period.

COMMENT: Throughout this draft EA/FONSI, there are obvious differences in the 40-year and 10-year license renewal, i.e. see footnote, Page 2-6: “Waste volumes generated for alternative action (10 year license renewal) would be approximately 25 percent of the volumes estimated for the 40-year license renewal.”

Page 1-4:

1.5.1: Federal and State Authorities

Table 1-1. Federal, State, and Local Agency Licenses and Permits.

COMMENT: Table should include the permit numbers for the Erwin Utilities Industrial Pretreatment Permits.

1.5.1:NRC staff does not review the adequacy of permit limits and conditions granted to NFS by other federal and state agencies, but rather *identifies* NFS' compliance with such permits as part of its assessment of potential impacts.

COMMENTS: NRC should review National Pollution Discharge Elimination System (NPDES) permit TN0002038 for adequacy in the coverage of radionuclides, because the permit is woefully inadequate in addressing "high-enriched" uranium, plutonium, thorium, and the numerous other radionuclides discharged by NFS into the Nolichucky River and Martin Creek. NRC should **verify** rather than simply *identify*.

1.5.3. Issues Outside the Scope of the EA.

COMMENT: Disagree that Seismic risk analysis (likelihood) and Plant building stability are outside the Scope of the EA. Also believe that the threat of Terrorism is important due to the location of the plant near a major interstate highway, and surrounding residential areas.

At the Oct. 26, 2010 public meeting in Erwin, TN, I provided two binders of documents to be included in the Safety Evaluation Report (SER): (1) a binder containing subject-specific timelines on: Material Control and Accountability Issues, Criticality Safety Controls and Related Issues, Configuration Management Issues, Engineered controls, SRE & IROFS issues, Design Problems and Issues, Calibration Issues, Earthquakes/Seismic Risks at NFS, 2007/2008 SCUBA I Excerpts, 2009/2010 SCUBA II Excerpts, NRC Enforcement Actions, 1985-2010, Falsification of Documents, and (2) Separate binder containing a License Violation History, 1974-2010.

Based on continuing safety issues and lack of safety culture at NFS, believe the public should be allowed to review the Safety Evaluation Report (SER), which appears to be a very important part of this major federal action.

Page 2-1.

2.1. General Site Location and Description

Four bodies of surface water were identified as being in the immediate vicinity of the plant: Banner Spring Branch, Martin Creek, Indian Creek, and the Nolichucky River. NFS enclosed Banner Spring Branch in an underground pipe in 2005.

COMMENT. Other offsite springs exist near NFS that were not considered in this EA. One is Whaley Springs in the Industrial Park area, which contains HEU, and there are others.

Regarding Banner Spring Branch enclosed in an underground pipe. This enclosure does not keep the discharges from flowing into Martin Creek, North Indian Creek on to the Nolichucky River.

Page 2-2.

2.2. Current Facility Use.

The North Site decommissioning is nearly complete, with the exception of removing contaminated soil from the North Site and beneath the former plutonium building wet cell. NFS *intends* to restart excavation of contaminated soil in the tent where the former plutonium building (Building 234) once stood. NFS currently *plans* to begin work in the project in 2010.

COMMENT. Do not believe this draft EA contains complete information about this Plutonium contaminated area and decommissioning. Why does this document not address the **depth of the Plutonium plume under the ground and its migration offsite?** If NFS *intends* to restart plutonium contaminated soil excavation in 2010, then they have about one months remaining in this year. It is my understanding that NFS was given a sizable amount of government funds to decommission this area in the past, but instead used the funds for further business development. We see evidence in the 2009/2010 Independent Safety Assessment Team's Report about the fact that NFS has continued to "divert its resources to pursue new business opportunities" (page 52, ML101820096).

Pages 2-3 and 2-4

2.3.1. Effluents to Air.continuing operations would be expected to generate airborne effluents. These effluents would come mainly from the process stacks and from fugitive dust. NFS *estimated* annual emissions level of each pollutant....pollutants such as Particulate, Sulfur dioxide, Carbon monoxide, Volatile organic compounds, Nitrogen oxides, Hydrogen fluoride, Hydrogen Chloride, Vinyl Chloride, Tetrachloroethylene, Trichloroethylene, Bis-2-ethylhexphthalate, Mercury, Ammonia, Hydrogen, Nitric Acid, Hydrogen sulfide, Silicon tetrafluoride.

COMMENTS. I have no confidence or believe that NFS *estimates* are or ever have been accurate for these dangerous air pollutants. The above referenced Independent Safety Assessment Report addressed the NFS falsification of records, "Signing that an action was complete when it was not are examples of falsification and/or fraudulent behavior..." More examples of falsification of records were provided to the NRC on Oct. 26, 2010, for the Safety Evaluation Report.

2.3.2. Effluents to Water. Effluents to Water are expected to be generated under the proposed action. *Generally*, pre-discharge treatment involves.....

COMMENT: Why didn't NRC state the same for water as for air -- that "continuing operations" would be expected to generate continuing effluents to the water? The word *generally*, means "usually" but not always, which I believe would be accurate in describing NFS inconsistencies regarding pre-discharge treatment, as past inspection reports have shown.

Page 2-5

...discharges have been within permit levels, except for nitrate/nitrite as nitrogen, total recoverable magnesium and total recoverable aluminum. Elevated levels for these three constituents have been documented since at least 1999. NFS *believes* that the nitrate/nitrite as nitrogen and total recoverable magnesium levels in the storm water are consistent with naturally occurring background levels in surface water and groundwater in the vicinity of the site, while the contributor for the elevated total recoverable aluminum is not known. No further correspondence between NFS and TDEC concerning resolution of this issue has been identified.

COMMENT. NFS *believes*, but nobody checks. And further, nobody knows the contributor for the elevated total recoverable aluminum since 1999 or before, and it appears that nobody cares. Yet, this excess is ultimately going into our River. Legal action should be taken against the Tennessee Department of Environment and Conservation (TDEC) for neglect and malfeasance of office.

Page 2-6

2.3.3. NFS has *estimated* the amounts of solid wastes that would be produced for the proposed 40-year license. NFS produces hazardous waste, i.e. **waste that poses substantial or potential threats to public health or the environment** based on the waste's ignitability, reactivity, corrosivity, and toxicity. Examples are wastes containing polychlorobenzene (PCB) **liquid**, tetrachloroethylene, and laboratory wastes. NFS also produces mixed waste, which is hazardous waste that is also radioactive. Presently, there is no permitted disposal facility for hazardous mixed waste. NFS would generate about 980 drums of this hazardous mixed waste in another 40 years. (see Page 4-19).

COMMENT. NFS has already been storing this hazardous mixed waste for 53 years, and in another 40 years they are projected to generate another 980 drums of hazardous mixed waste, in addition to what they have already accumulated, and with no place on earth to dispose of it. And this is just an *estimate*. Additionally, NFS sits on karst topography, with **two fault lines and five fractured zones**, and is in a **100-year flood plain** of the Nolichucky River and Martin Creek. (See Page 3-13). It is hard to believe that the NRC would find no potential significant impact in a scenario such as this. This is totally unacceptable with a 91.4% residential area surrounding NFS and located adjacent to a major Interstate highway.

Pages 2-8 and 2-9

2.4 Monitoring Programs. As necessary, NFS *may* adapt the ALARA program to address new-

found information. NFS conducts environmental monitoring program that includes air, groundwater, surface water, soil, sediment, and vegetation sampling for radioactive content. Action levels and collection frequency vary by sampling type. NFS monitors and samples for gross alpha and gross beta radiation all process stacks and vents with the potential to release airborne radioactivity at concentrations greater than or equal to 10 percent of the values in 10 CFR Part 20, Appendix B, Table 2, Column 1.

Radionuclides *expected* in airborne effluents are: Na-22 (Sodium), Tc-99 (Technetium), Cs-137 (Cesium), Pb-212 (Lead), Ra-224 (Radium), Th-228, 230, 231, 232 (Thorium); U-232, 233, 234, 235, 236, 238 (Uranium), Np-237 (Neptunium), Pu-238, 239, 240, 241 (Plutonium), Am-241 (Americium).

Air samples are analyzed for isotopic uranium on a quarterly basis, and **isotopes of concern are measured annually.**

COMMENT. NFS *may* adapt the ALARA program to address new-found information (or they *may not*). I don't think they should have the choice. Are the 22 radioactive toxins listed in Table 2-5 all of the radionuclides discharged by NFS, or are there others? What are the "isotopes of concern" measured annually? NFS measures alpha and beta radiation. What about gamma?

Page 2-9

Water samples are analyzed for radioactive contaminants. Waste water is treated and analyzed at the WWTF prior to discharge in the Nolichucky River. Discharges are below the NPDES permit limits and the constraints set forth in 10 CFR Part 20. A grab sample is taken quarterly from each batch at the WWTF and analyzed for gross alpha and gross beta radiation.

Grab samples of sludge are collected quarterly at the Town of Erwin POTW and analyzed for isotopic uranium to ensure that radionuclides do not build up in the sewer sludge.

If insoluble radioactive materials are present at concentrations statistically greater than the concentrations measured in the background samples, discharges will be stopped and corrective actions taken.

NFS monitors groundwater quality of its site on a quarterly basis by taking grad samples for gross alpha and gross beta activity and has established action levels. Eleven wells are monitored – one upgradient and 10 downgradient. Isotopic plutonium and/or thorium analysis is performed when a well contains contaminants at levels significantly higher than background.....

COMMENT: Who says the discharges are below the NPDES permit limits and the constraints set forth in 10 CFR Part 20? Has the NRC taken samples of the discharges at the Outfall into the River? I don't think so. Therefore, I believe that both the NRC and TDEC are simply taking the word of the licensee, and that no independent sampling and verification has been done, except by the concerned citizens in the local communities of Erwin and Greeneville. If a grab sample is taken quarterly from each batch, does that mean a batch is only discharged once a quarter? I don't think so.

Regarding the grab samples collected quarterly at the Town of Erwin POTW, the sentence should read “so the radionuclides do not build up in the sewer sludge **again.**” According to a 1991 NRC inspection report, the Erwin POTW sewer sludge was contaminated with radionuclides. It appears that this contaminated sludge was then put on farm fields throughout the County, because there are NRC public documents showing the monitoring of these farms.

Regarding concentrations of radioactive materials greater than background, it appears that the limits exceeded are explained away as accounting or paperwork errors, and oftentimes a license amendment is quickly requested to simply raise the limits.

Regarding the eleven monitoring wells, I have no confidence that they produce accurate readings because it is my understanding from reading previous ER’s that the wells are only 30 or 40 ft. deep and therefore too shallow to give an accurate reading, according to hydrologists.

Page 2-9

2.5 Employment.

COMMENT: The majority of NFS employees (43%) are not from this county (Unicoi County). They are from neighboring Washington County. Therefore, the people of Erwin and Unicoi County sacrifice their health, safety, and beautiful environment every day so that people from outside the county can have a job here.

Page 2-10

2.6. Anticipated Changes to Facility Over 40-Year Licensing Period.

NFS does not plan for substantive maintenance activities beyond 5-10 years. NFS *plans* infrastructure replacements and improvements during the next 5 years.....

NFS *plans* to construct a retention pond to control storm water drainage.....

COMMENT: If they do not plan for substantive maintenance activities beyond 5-10 years, then why are they asking for 40-year license? That would be reason enough not to grant it.

The June 21, 2010, Independent Safety Assessment Team issued a scathing report (see ML101820096) in which it stated that: “NFS continues to tolerate recurring equipment problems, operational burdens and workarounds, and degraded infrastructure issues. Equipment problems have become accepted on a basis of “run to failure” philosophy.” (page 53).

Therefore, unless the 53-year old plant is completely rebuilt, then it is doubtful that anything will ever change and safety issues will continue to exist.

Regarding the *planned* retention pond, hopefully it will be built before the plutonium site decommissioning begins.

Page 3-1

3.1. Land Use. NFS owns approximately 70 acres. NFS constructed the BLEU facility in 2002 comprising about 5 acres on the southern portion of the site. Land use within 1 mile of the NFS site consists of a mix of residential, commercial, industrial, and agricultural activities. **The surrounding land is dominated by residential areas (91.4%).**

COMMENT: Co-located with NFS, on NFS property is Studsvik, a Swedish company who processes radioactive waste. However, no mention is made about it until Page 3-2, when it was referred to as “Other nearby industries include Studsvik, which is located adjacent to the NFS site southern boundary.” This is deceiving, because it is my understanding that Studsvik is on the NFS site -- it leases the land from NFS and in turn, NFS owns a portion of Studsvik. It is also noteworthy that within a 15-mile radius, or less, there are three nuclear sites – NFS and BLEU, Studsvik, and Aerojet, who makes depleted uranium munitions.

Page 3-2

Residential vegetable gardens are common. The Erwin National Fish Hatchery, which produces and breeds rainbow trout for distribution, is located approximately 600 ft. upstream of NFS site.

NFS stages low-level radioactive waste at Riverview Industrial Park prior to shipping the waste to the disposal site via railroad.

The Nolichucky River, located approximately 330 ft. north and west of the NFS site boundary, is used primarily for recreational purposes such as whitewater rafting, canoeing, and fishing.

COMMENT: Vegetable gardens are at the fence line on residential property that adjoins NFS. According to the Fish Hatchery, the fish have never been tested for radionuclides and/or chemicals. I believe it's time to do some testing of vegetable gardens and fish. A decent EIS would have included this sampling.

The radioactive waste staging area at Riverview Industrial Park is adjacent to the 6-mile long Erwin Linear Trail, frequented by children and retirees – those most susceptible to radiation exposure. Additionally, the gray boxcars of radioactive soil and waste makes for an ugly site along an otherwise beautiful hiking and bike trail – one which will eventually connect to the Appalachian Trail.

The Nolichucky River is also the source of drinking water for downstream residents of Jonesborough and Greeneville – a fact that this draft EA/FONSI seemed to conveniently omit in this section.

Page 3-2

3.3. Socioeconomics and Environmental Justice.

COMMENT: The NRC chose not to do a detailed Environmental Justice Review although this is a rural, low-income, low-education, Appalachian community, with three nuclear industries within a 15-miles radius, and this community is not disproportionately impacted?

Page 3-13

3.5 Water Resources

3.5.1 Surface Water Hydrology

NFS site appears within the 100-year flood plain of the Nolichucky River and Martin Creek, according to FEMA. NFS has conducted past site development activities (e.g. enlarging a culvert through which Martin Creek passes, **rerouting and rechanneling Martin Creek**) *that it believes* has sufficiently altered the topography so that the site would be protected from a 100-year flood.

COMMENT: How much more *altering of the environment* are they going to be allowed to do? They have altered Banner Spring Branch and Martin Creek, as well as contaminated them with high-enriched uranium and chemicals.

Quality and Use

The City of Jonesborough, located about 8 miles downstream of the NFS outfall point, uses the Nolichucky River as a municipal water supply. The Town of Erwin's public water supply is supplied from groundwater pumped from one spring and three wells, with the closest of these sources, the Railroad Well, located approximately 0.5 miles from the NFS Site.

COMMENT:

The City of Greeneville also takes its drinking water from the Nolichucky River, and high-enriched uranium has been detected in the River as far down as Davy Crockett Birthplace and Davy Crockett Lake, over 45 miles from Erwin. (Ref: Ketterer Interim Report). Are the cities of Jonesborough and Greeneville removing the high-enriched uranium from their drinking water, and if so, how?

It is an established fact, by the NRC, that the groundwater around NFS is contaminated. (Also see page 4-9). And there is evidence of high-enriched uranium contamination in an underground spring offsite, i.e. Whaley Springs. It has also been documented that the Railroad Well, a source of public drinking water, is contaminated. In the 2009 NFS Environmental Report, page-4-3 (ML091900072), it states that "The Erwin Utilities' "Railroad Well" is **cross-gradient** from the Plant. It also states that the capture zone for this water supply does not *appear* to intersect the simulated contaminated plume from the NFS site." But there is **no certainty** and it *appears* that no one is checking. It is also noteworthy that a member of the Erwin Utilities Water Board for years was an NFS executive.

Table 9, page 3-8, NFS 2009 Environmental Report shows the **four public water intakes within a 3-mile radius of the NFS facility, and they are listed as Ground Water Under Direct Influence (GUDI)**. They are: Birchfield Well, O'Brien Spring, Railroad Well, Nolichucky Gorge Campground (Private Spring), and USA Raft, Inc. (Private Spring).

Page 3-14

3.5.2 Groundwater Hydrogeology

Geological Setting

The karst terrain of the late lower Cambria carbonates is found in the Shady Dolomite Formation. Water follows complicated paths through the Shady Dolomite and serves as recharge to the Rome Formation.

Page 3-17 and 3-18 Flow Characteristics

Groundwater originating in the Shady Dolomite flows northeast through NFS site before entering the Nolichucky River.

....both the alluvium and shallow bedrock contain groundwater under unconfined conditions. NFS identified two faults and five fractured zones beneath the NFS site and linked them to large increases in groundwater levels and production rates during pump tests.

Although an upward hydraulic gradient from the shallow bedrock to the alluvium in the northeastern portion of the site *may* limit potential contamination reaching larger depths, there is also evidence of downward hydraulic gradients at the NFS site (near well clusters 100 and 107).

NFS identified five major water supplies through wells and springs within 5 miles of the facility and all these water supplies are associated with faulted or fractured rocks or karstic features (cavities formed by reactions between carbonate rocks and groundwater).

COMMENTS: Throughout this entire section, "NFS identified, NFS reported, NFS indicated, NFS estimated, NFS estimated, NFS estimated, NFS identified. Where is the independent analysis, hard science, and verification? There is none. This is drinking water we are discussing here!

Page 3-18, 3-19, and 3-20 Monitoring and Quality

NFS developed an active groundwater monitoring well network across the site (monitoring wells are completed both in the alluvium and bedrock aquifers). The *majority* of these wells are routinely sampled for various chemical parameters on an annual, semiannual, quarterly, or monthly basis.

The predominant radiological contaminant in groundwater beneath the site is uranium. Non-radiological, organic hazardous contaminants beneath the site include chlorinated solvents (e.g.

tetrachloroethylene, trichloroethylene), barium, cadmium, chromium, and lead. For groundwater, NFS has established and described 24 Solid waste Management Units (SWMU) and six Areas of Concern (AOC) as part of a Facility Action Plan process TDEC requires.

Seven SWMU and one AOC require interim measures (further corrective measures). Six SWMU and four AOC require institutional controls, which often include physical covering of the site accompanied by posting proper signs.

One uranium plume and one chlorinated solvent plume have been identified at the NFS site that contain concentrations of contaminants exceeding EPA standards for their respective contaminants. Both plumes originated from three unlined impoundments and the maintenance shop area located in the northern portion of the NFS site, and both extend toward the Nolichucky River. The uranium plume is confined in the alluvium and has remained onsite to date. The chlorinated solvent plume, which includes trichloroethylene, perchloroethylene, and their degradation products, extends vertically into the bedrock to a depth of 40 ft. below the surface and horizontally offsite. SWMU 1 continues to be under remediation and at SWMU 20, soil removal and effectiveness sampling are *planned* as part of the 2010 Facility Action Plan.

COMMENT: It is my understanding from environmental engineers that the monitoring wells are not deep enough to provide accurate data about the contamination. Note: The *majority* of the wells are check, but not all. Why not? They are checked for “chemical” parameters. What about radionuclides?

The predominant radiological contaminant should read “high-enriched” uranium, not just uranium. And, what about plutonium underneath the ground where Bldg 234 once stood?

Table 3-11 lists the SWMUs and AOCs. Note that an Area of Concern (AOC) is “Sitewide Groundwater.”

One uranium plume, should read: “high-enriched” uranium plume. **Who says the uranium plume is confined in the alluvium? (See information below regarding lawsuit by NFS’ industrial neighbor).** Believe if a monitoring well is dug at a depth of 100 ft. offsite in the Industrial Park area, and/or near the River, high-enriched uranium, plutonium, thorium, as well as chlorinated solvents will be found.

As far as the using the ferrous sulfate for uranium plume reduction (as of 2009), it is too late, because the plume was already offsite in 2002 and prior to that. (See ATSDR NFS Public Health Assessment 2007).

Quoting from a Johnson City Press newspaper article June 4, 2002. “NFS faces contamination suit. 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., Preston 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 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.

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.”

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.”

QUESTION: NRC gives NFS permission to discharge high-enriched uranium, plutonium, thorium, as well as hazardous chemicals, into the Nolichucky River, and in doing so, does the NRC also give NFS permission to contaminate private property all along the Nolichucky River?

Page 3-20

3.6 Seismicity

Regionally, the area is dominated by four major fault systems oriented in the northeast direction. The NFS site is located in the Appalachian Tectonic Belt, which is an area of moderate historic and recent earthquake activity.

COMMENT: NFS sits on two faults and five fractures. Headlines in the Johnson City Press, Sep. 6, 2010, “Area no stranger to quakes.” Three measurable earthquakes have been recorded in SW Virginia and East Tennessee within the past two years. More recently, Johnson City Press, Nov. 1, 2010, “Mild quake felt in area.” Combine that with the fact that NFS is also in a 100-year flood plain and have stored hazardous mixed waste on site for 53 years, is adjacent to a major Interstate highway, and in the middle of a residential area. And yet, the NRC sees no potential significant impact.

Page 3-22

3.7. Ecology

3.7.1. Terrestrial and Aquatic

Although no site-specific vegetation surveys have been conducted for the NFS site and over the past 10 years, a significant amount of vegetation on the site has been removed due to decommissioning activities.

Banner Spring Branch and Martin Creek are designated for use by fish and aquatic life, livestock watering and wildlife, irrigation, and recreation. Banner Spring Branch is entirely contained inside an underground enclosed pipe and no longer offers habitat for wildlife.

COMMENT: Why was no sampling done of vegetation or aquatic species, such as fish, turtles, or mussels? Was it feared that they contain contamination like the rabbit recently found near the Hanford Washington site?

It makes no difference if Banner Spring Branch is contained inside an enclosed pipe, it still empties into Martin Creek.

Page 3.7.2 Threatened and Endangered Species

COMMENT: This draft EA is deceptive regarding federally listed species, because in one area on Page 3-22, it states that “no federally listed species are known to occur in the area depicted on the Erwin 7.5-minute USGS quadrangle map.” Then, in the next paragraph, it states that “In addition to those species identified as occurring within the bounds of the Erwin 7.5-minute USGS quadrangle map, **two federally listed endangered species and one federally threatened species** are known to occur in the area depicted on the Chestoa 7.5-minute USGS quadrangle map and elsewhere in Unicoi County. (Note: NFS is located approximately 0.5 miles north of the area covered by the Chestoa 7.5 USGS quadrangle map).

It also states that in the area depicted on the Erwin 7.5-minute USGS quadrangle map, seven plants and two birds are listed as State threatened or endangered, and eight plants and six vertebrate animals are listed as deemed in need of management or of special concern.

Does the NRC or TDEC think that these endangered species, especially birds, know not to go beyond the fence line at NFS. And do these birds also know whether or not they are flying in the Erwin 7.5-minute quadrangle or the Chestoa 7.5-minute quadrangle? This entire reasoning is beyond ridiculous.

“NFS has not reported any federally listed threatened or endangered species onsite.” Nor would they.

Page 3-23

3.8 Noise

The draft EA states that NFS states that plant wide alarms needed to employee notification would provide the greatest potential for offsite noise exposure, with the take-cover alarm being the loudest.

COMMENT: I would not consider the “take-cover” alarm as noise, since it would also serve to alert many offsite residents whose property adjoin NFS.

3.9 Historical and Cultural Resources

NFS was designated a Nuclear Historic Landmark by the American Nuclear Society in 2009.

COMMENT: Does that mean that the 53 years of contamination at NFS is also historic?

Page 3-24

3.10 Scenic and Visual Resources

The plant elevation is about 30 ft. above the nearest point on the Nolichucky River and therefore cannot be seen from the river.

COMMENT: However, the Outfall pipe, NPDES TN0002038, is very visible from the River. If you're not careful, you'll run right into it. Oftentimes, the pollutants and foam are gushing out of the outfall into the river, and are very visible from those fishing, swimming, or boating.

The Erwin Linear Trail is a paved trail that runs parallel to Interstate 26 along North Indian Creek and the Nolichucky River. Due to locally flat terrain, the NFS site may be partially visible from the banks of the Nolichucky and the linear trail because an industrial park and a railroad are located long the northwest side of the Nolichucky River.....

COMMENT: This portion of the draft EA failed to mention that adjacent to the Erwin Linear Trail in the Industrial Area is the NFS staging area for boxcar loads of radioactive waste stacked up waiting to be loaded onto a rail car.

Security wall construction also is expected to provide a visual barrier shielding buildings and/or other structures on the NFS site from *street-level* view around the adjacent blocks.

COMMENT: NFS is total visible from many different locations. That is why it is can never be secure.

Page 3-25 to 3-29

3.11 Public and Occupational Health

The primary operations at this site include the manufacture of a classified product containing HEU and the downblending of HEU to LEU.

COMMENT: Since it is a well-known fact that NFS is the sole source of fuel for the Navy, as NFS themselves frequently tout, then perhaps the "classified" portion of work mentioned in this draft EA is for nuclear weapons. If so, this community and its leadership should know. In a June 11, 2009 Conference Call between NRC Region II and members of the Erwin Citizens Awareness Network, Inc., Mr. Charlie Payne, former Branch Chief of the Fuel Facility Inspection Branch #1, said "The product from the CD Line, if it gets operational, goes to two places – one, it's going back to DOE as part of the weapons program and the rest is going to make commercial fuel for TVA reactors.

Industrial hazards for the NFS site are typical for similar industrial facilities and includes exposure to chemicals and accidents ranging from minor cuts to industrial machinery accidents.

COMMENT: This statement is very deceptive and should read:exposure to **radioactivity** and chemicals.....

Since the last license renewal, two studies addressing public health and involving NFS have been published. In 2007, the Agency for Toxic Substances and Disease Registry (ATSDR) published a public health study on the non-radiological contaminants from NFS that evaluated the releases of volatile organic compounds to the environment surrounding NFS (ATSDR, 2007). **The study concluded that the releases of these materials *may have occurred in the 1950s, 1960s, and 1970s but that there was little or no monitoring of the environmental media at that time.*** ATSDR considered the NFS facility hazard ranking as an **Indeterminate Public Health Hazard for past conditions**, which means that critical information is lacking to support a judgment regarding the level of public health hazard from past exposures. The ATSDR study did not apply to the use of radioactive materials by NFS.

In 2008, the National Institute for Occupational Safety and Health published a site profile document to support evaluation of the total occupational radiation dose that can reasonably be associated with a worker's radiation exposure at the W.R. Grace and Company plant (now NFS). The document provided instructions for reconstructing occupational dose received by workers at W.R. Grace and Company for the years between 1958 and 1970. However, **the document does not attempt to equate the dose to the workers to any occupational health effects.**

NFS operations result in the use and release of several radionuclides. The limits in 10 CFR Part 20, Appendix B for the activity in effluents **varies with the radionuclide** and with **the type of effluent**. However, the risk to the public from these radionuclides is determined by calculating the total effective dose equivalent (TEDE) for the radionuclides and types of effluents.

COMMENT: The ATSDR study saying materials *may have been released* is incorrect, because **radioactive materials and chemicals were released, and it is well-documented by the Erwin Citizens Awareness Network, Inc. using NRC publicly available documents and newspaper articles from 1957 to the present.**

The ATSDR Study (page 25) also concluded that "some exposure might be occurring as a result of site conditions via the atmospheric exposure pathways." The Study also stated that "**the lack of knowledge about the karst formations is of concern for there is insufficient data to determine if the contaminants associated with groundwater in this area will impact public wells in the future.** Because the contaminants present in the groundwater are a mixture of many volatile organic compounds, **health effects of mixtures may be an issue.**" And added to that is the radionuclide contamination that ATSDR was not allowed to examine due to CERCLA.

For a *U.S. resident*, the average annual estimated TEDE from natural background radiation sources is 300 mrem, but varies by location and elevation. In the absence of any published values for background TEDE levels in Erwin, estimating the background TEDE at 300 mrem is warranted. In addition to dose from natural background, a *U.S. resident* receives an average of 60 mrem per year from man-made radiation sources, primarily medical sources.

NFS *estimates* committed dose to the public by establishing a location for the maximally exposed individual (MEI).

For *gaseous effluent*, the MEI is a hypothetical member of the general public that resides at the site boundary. The location of the MEI varies depending on wind direction and the relative contributions from the various stacks. The wind direction is based on 5-year average wind speed and direction frequencies. The dose to the MEI is determined using a computer code that calculates the dose from each type and quantity of radioactivity in effluent air from each of the 20 stacks at NFS.

For *liquid effluents*, the MEI is a hypothetical member of the general public that drinks water directly from the river at the nearest drinking water intake point. The TEDE to the MEI for liquid effluent is calculated based on data for flow in the Nolichucky River in combination with data collected for all liquid effluents discharged to the river.

Table 3-14 provides the TEDE to a member of the public from all gaseous radioactive effluents for the most recent 6 years. **The highest TEDE for this time period was in 2004.** 0.0114 mrem, and the TEDE has remained substantially lower than 2004 in subsequent years. The NRC annual TEDE limit to a member of the public is 100 mrem. The NRC annual occupational dose limit is 5 rem.

NFS demonstrates compliance for stack releases by calculating the dose to the MEI instead of relying on radioactive emission measurements at the stack. Between 2004 and 2009, NFS released radioactivity between 1.27 and 8.74 times the air effluent limits in 10 CFR Part 20, Appendix B.

NFS operations result in the use and release of several nonradiological constituents both to the air and to water. **Unlike radiation, however, no method exists for determining the detriment to public health from multiple pollutants.** In addition to listed and hazardous pollutants, NFS uses other hazardous chemicals including ammonium hydroxide, hydrogen, nitric acid, sodium hydroxide, sodium hydrosulfide, and sulfuric acid. Further, several organic compounds are present at the NFS site, including perchloroethylene; trichloroethylene, 1,2-dichloroethylene, vinylchloride, and tributylphosphate

COMMENT:

NRC is using U.S. residents as examples and not Erwin or Unicoi County residents. And again, this draft EA refers to 60 mrem a year for “U.S.” residents, but of course simply “estimates”

background TEDE for Erwin. That is all Erwin has ever had -- estimates and guesstimates from the NRC. And, NFS simply estimates the dose to the public by establishing a location for the maximally exposed individual, which should read "offsite" individual (MEOI).

Since the highest TEDE was in 2004, perhaps that is why everything went into the dark for three years from August 2004 to August 2007, when the NRC established the Official Use Only (OUO) policy regarding NFS, supposedly for security reasons. Perhaps instead it had to do with the fact the plant had a plethora of safety issues and was dosing the public as well. Historical government records show that the public in Erwin and Unicoi County has been dosed on numerous occasions from airborne releases over the past 53 years, and the NRC is willing to let that continue for another 40 years.

The statement from the 2007 ATSDR study bears repeating here: "Because the contaminants present in the groundwater are a mixture of many volatile organic compounds, **health effects of mixtures may be an issue.**" And added to that is the radionuclide contamination that ATSDR was not allowed to examine due to CERCLA.

Page 3-30

3.11.1. Accidents

Protective action recommendations in the emergency plan include areas within 1 mile of the plant and the Nolichucky River up to 10 miles.

COMMENT: According to the 2009/2010 Independent Safety Assessment Team Report, issued on June 21, 2010, NFS does not routinely drill its Emergency Response Organization to ensure it will operate well in an actual accident or event. Essentially, there is only one trained team and no back-up team in the event of an emergency. (ML101820096 – page 48 and D-5&6).

Page 4-16

4.11.1 Accidents.

COMMENT: Of the 6 potential environmental impacts listed, 5 have occurred in the past: Nuclear Criticality, UF6 Release, Uranium Solution Release, Major Fire, Natural Phenomena (add lightning strikes). Based on NFS' past history and given their current lack of a safety culture, the Bayesian probability would apply. Simply put – if it has happened before, the chances are that it is highly likely it will happen again. NFS' safety trends certainly point in this direction.

Page 4-6.

COMMENT: Once again the NRC is simply speculating when it states that in the no-action alternative, which would result in a full decommissioning of the plant, "A significant portion of the 829 NFS employees would be expected to immediately lose their jobs, as the site activities would transition from operations to decommissioning." NRC speculates without ever having

seen a full site decommissioning plan. Also, does the NRC believe that the site will decommission itself? Jobs will continue to exist and additional jobs created in a decommissioning scenario.

Too much of the data in this draft EA/FONSI is very obviously from the licensee and has not been verified by the NRC or anyone else. Based on past experience and research, I have zero trust in NFS data. I believe the Independent Safety Assessment Team would agree.

This concludes my statement as of Nov. 11, 2010. I may add more, if we are given an extension of time, as we have requested.

My recommendation is to renew the license for only one year until a full site decommissioning plan can be obtained and evaluated by the NRC. At that time, a revised EA containing correct information and a full decommissioning plan should be submitted for public comment.


Barbara A. O'Neal

1 Enclosure
Comments from Oct. 26, 2010 Public Meeting

Webmail**barbaraoneal@embarqmail.com**

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Mail Delivery Failure

From : Mail Delivery System <postmaster@embarqmail.com>

Fri, Nov 12, 2010 02:05 PM

Subject : Mail Delivery Failure 1 attachment**To :** barbaraoneal@embarqmail.com

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A message that you sent could not be delivered to one or more of its recipients. This is a permanent error. The following address(es) failed:

>>> NuclearFuel_DraftEA@nrc.gov (reading BANNER): 554 mail2.nrc.gov

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Webmail

barbaraoneal@embarqmail.com

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Mail Delivery Failure

From : Mail Delivery System <postmaster@embarqmail.com>

Fri, Nov 12, 2010 02:03 PM

Subject : Mail Delivery Failure 1 attachment**To :** barbaraoneal@embarqmail.com

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NRC Public Meeting – DRAFT EA/DRAFT FONSI

Nuclear Fuel Services 40-year license renewal

October 26, 2010, Erwin Town Hall

My name is Barbara O’Neal. I’m a concerned citizen living about a quarter of a mile from NFS. I’m a retired Department of Defense employee, with 35 years of service.

NRC did not need to waste the paper, ink, time, and money to produce this biased and contradictory document. All they needed is one statement and that is: Nothing NFS has ever done or will ever do, has had, or will have, an impact on our health, safety, or environment, and even if it did, it would be so small and insignificant it wouldn’t really hurt you.

We’ve heard that story for 53 years, and obviously you want us to hear it for 40 more – that’s a total of 93 years of no “significant” impact.

Sounds too good to be true doesn’t it? Maybe it is.

After researching NFS issues and NRC oversight for four years, it appears to me that the regulatory oversight of NFS has been one of:

Collusion, Complacency and Neglect.

So, I'm not surprised by this draft Finding of No Significant Impact, as it clearly shows continued favoritism of the licensee and NOT the protection of the public's health, safety, and environment.

In this document, there is so much "Potential" for both CONTINUED Environmental and Safety Impacts, yet, the NRC has come to this very unscientific conclusion. What I see, once again, is lots of NFS estimates, guesstimates, beliefs, plans to, and intentions – and little, if any, hard science.

The NRC is so sure that it is going to renew the license for either 40 years or 10 years that in the No-Action Option, which would result in a full site decommissioning, they simply SPECULATED as to what the impacts would be, without ever having seen a detailed site decommissioning plan. This community deserves more than "speculation" from you NRC, but unfortunately, that's what they have always had. It's time to stop, because some of us know better.

So I will do some speculation of my own -- perhaps the NRC's thinking is that NFS and the surrounding area is already so contaminated, what's another 40 or 10 years. When it comes to offsite contamination, we must remember that NFS's industrial neighbor didn't sue them and win a settlement for no reason.

And, NRC, you make things so complicated and complex such as the on page 2-8, that shows the Radioactive toxins going in to our air and water every day. Thank you Greeneville Sun for interpreting that and publishing it for the public. Others newspapers may want to follow suit.

Another tactic NRC uses is to segment things in order to make them appear lesser than they are, for example 'Issues Outside the Scope of the EA.' (Page 1-5). They are very important, and are supposed to be covered in a separate Safety Evaluation Report, which the public will probably never see.

So, I'm providing 12 (out of the 60 we have) of subject-specific timelines for inclusion in this Safety Evaluation Report and that includes

a 253-page Violation History. I will go into more detail on these subjects, especially Safety Culture, if I have more time later, because the lack of a safety culture matters and so does Noncompliance of Federal Regulations.

And I'd like to add one more to the list:

Falsification of Documents: HONESTY MATTERS.

In addition to the SCUBA findings, there's more evidence of falsification or fraudulent actions, and here's just one example:

According to this draft EA, NFS has 829 employees, but that's not what the public sees on this slick color ad -- it says 1000 employees. And by the way, 43% of those 829 employees are from Washington County.

So based on a history of falsifications, fraudulent actions, and outright lies, we are supposed to believe that all of their environmental estimates, sampling, and discharge numbers are correct? I don't think so.

(2nd Half)

Safety Culture: SAFETY MATTERS

The Independent Safety Assessment Team, called SCUBA, issued a second report on June 21, 2010 and here's just a few of their statements:

- NFS has a standard of “minimal regulatory compliance”
- Safety culture is generally deficient and fails to meet regulatory expectations
- Signing that an action was complete when it was not are examples of falsification and/or fraudulent behavior
- Recurring equipment problems have become accepted on the basis of a “run to failure” philosophy.
- Fire dampers had not been inspected since 2003, and inaccurate information was given to the NRC.
- NFS has a tendency to downplay the significance of errors.
- Significant problems related to accountability have continued to exist within NFS.

Plant building stability: According to SCUBA, the infrastructure is also degraded, and that confirms my findings in the inspection reports. Many of the buildings cannot comply with the fire codes, for example, Building 301 that houses the new CD Line and UF6 processing, is 50 years old.

Seismic risk analysis: NFS sits on karst topography, with two fault lines and 5 fractured zones, and is also in the 100-year flood plain. Combine

that with the drums of hazardous mixed waste stored there for 53 years and 980 more drums of mixed waste that would be generated in 40 years -- and with no place on earth to dispose of it. The people of this community had better pay attention because between what NFS generates and Studsvik processes, Erwin is fast becoming a radioactive waste dump. And the NRC sees no "potential" impact?

Enforcement Actions: In a 25-year period from 1985 to 2010, the NRC has supposedly collected a measly \$217,500 dollars in monetary fines.

License Violations: This 253-page Violation History, from 1974 to the present, was a personal endeavor that took me nearly a year to complete.

NON-COMPLIANCE OF FEDERAL REGULATIONS MATTER.

I'm mad -- because I believe the regulators have failed us over the years. I'm also disappointed that my former employer would be so short-sighted and continue to allow all their nuclear fuel to be made by a "single source" -- especially one that is serially noncompliant, 53 years old, has degraded equipment and a degraded infrastructure. Perhaps

being the “sole source” of Navy fuel has enabled the licensee’s arrogant and noncompliant behavior over the years.

A long-time, now retired, NFS employee told me: “The work at NFS is done on a cost-plus basis, the more they spend, the more they get, and as long as the Navy wants that fuel and is willing to over pay for it, then nothing will ever change at NFS.” I said why doesn’t the NRC stop it. He replied, “they’re worthless.”

Later, I heard again about this overpayment from yet another former employee, and also heard that more product is scrapped than produced.

So I have a message for Department of Defense -- that in this day and time of terrorism, for security reasons alone, it would behoove you NOT to rely on a “single source” for your fuel, and to pay very close attention to what you are being charged for it – because that’s our tax dollars you’re spending so freely.

I’m also mad at TVA, because of their role in changing the DOE Record of Decision to locate the BLEU (Blended Low Enriched Uranium) Project here, because Savannah River was the environmentally preferred

location, and DOE allowed that to happen, knowing that the risk for Latent Cancer Fatalities was the highest for NFS – 1 in 71 for those living offsite in close proximity

However, I believe there are those in the NRC who try to do the “right” thing. And one of them is the local inspectors who do identify and write up the violations and observations. Thank you for doing your job. It seems though that when these reports get to the higher echelons of Region II or NRC Headquarters, somehow they become negotiable, manipulated, minimized, or simply swept under the rug. The NRC regulatory process appears to simply “go through the motions,” and seems to lack any “real teeth.”

I also believe that the current Chairman of the Commission, Gregory Jaczko, is trying to make changes and steer the agency in the right direction. Hopefully, for all our sakes, he will succeed.

My message to the NRC concerning this license renewal request is that if this licensee has not complied with the federal regulations over the

years (which they haven't), lacks a safety culture (which they do), has contaminated our environment (which they have), and cannot manage the facility properly, which is evidenced by the latest SCUBA report, then they do not deserve a 40-year or 10-year license.

You need to start over with this document, and if you won't do it right, which is a full Environmental Impact Statement, then my recommendation is for a 1-year license renewal with the requirement for NFS to submit a detailed site decommissioning plan, which should include: (1) proof that the money exists to carry it out, and (2) the number of jobs it will create (not lose) for Unicoi County. You owe it to this community, NRC.

That concludes my statement. Thank you.