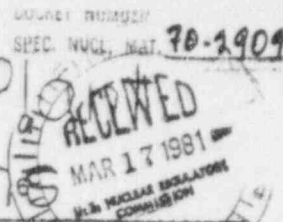




Prattville Fuel Plant Valid Contentions



March 4, 1981

From:— Louis G. WILLIAMS, Ph. D.,
Aquatic Ecologist and Science
adviser for the Safe Energy
Alliance of Central Alabama (SEACA)
1246 Northwood Lake
Northport, Alabama 35476
Via:— Mr. Julian L. McPhillips, Jr.,
Attorney for SEACA
P. O. Box 64
Montgomery, AL 36101

To:— The Atomic Safety and Licensing Bd.
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

In the matter of the application of the
Westinghouse Electric Corporation for a
special Nuclear Material License for the
Alabama Nuclear Fuel Fabrication Plant,
U. S. NRC Docket No. 70-2909

This is a conditional application to
file for leave to intervene (Docket 70-2909)
according to 10 CFR 2.714 (a) (1), for Louis
G. Williams. I am certain that the Com-
mission is aware of the degree of my partic-
ipation (see enclosed release of handouts).

Should the attorney for SEACA, Mr.
Julian McPhillips, agree to modify his con-
tentions, using the below stated suggestions,
with concurrence of Westinghouse and the
Atomic Safety and Licensing Board, then no
intervention on my part will be necessary,
and I will withdraw this request.

SOME SUGGESTED MODIFICATIONS and/or CHANGES

Regarding Stipulations Number 2, filed on
February 25, 1981 and received on Feb. 28,
dealing with Deferred Contentions in Attach-
ment C, now supersedes all previous filings.
These deferred contentions should be
thoroughly discussed in this license appli-
cation because they deal with vital areas of
health and safety of atomic workers and the
citizens of the affected area and with
deferred costs to the area and perhaps to the
taxpayers.

Putting off these controversies until
after Westinghouse files the needed informa-
tion (i.e. NRC issuing a license) will be
too late to make a judgment. The public may
never be told that the NRC and Westinghouse,
and by agreement, the state of Alabama, are
not looking after the citizens vital interest
in such areas as (1) security, (2) decon-
tamination and decommissioning, (3) use of
Prattville sewage Treatment plant to handle
Westinghouse wastewater contaminated with
radioactive materials from its laundry and
waste from water of the cooling towers,
(4) use of huge amounts of water from the
Prattville Water Treatment Plant, (5) lack
of civil evacuation procedures for acci-
dents, sabotage, geological upheaval, etc.,
(6) spills of radioactive materials and/or
highly toxic materials within or near the
plant or on Alabama highways or into the
Alabama River from barge traffic, (7) lack of
adequate monitoring for criticality potential,
(8) Fire protection planning involving the
Prattville Fire Department, (8) security
planning, and emergency evacuation planning
for atomic workers and citizens, and (9) the
precisely spelled-out role of the state
of Alabama as an "AGREEMENT" state, which
concerns where lies responsibility and
liability for unwanted costs and dangers.

UNSTIPULATED CONTENTIONS

The following deal with the Memorandum in support of the unstipulated con-
tentions by the Safe Energy Alliance of
Central Alabama (SEACA), as proposed by
SEACA's attorney, Mr. Julian McPhillips,
filed on February 25, 1981. Attachment
B, pages 1 - 10, is a list of these
contentions. The Nuclear Regulatory
Commission's Safety and Licensing Board
may find that some of these contentions
ARE NOT ADMISSIBLE, which means that they
will NOT be debated at the formal hearing.

Page 5, paragraph 9 of this memoran-
dum in support of unstipulated contentions
deals with ionizing radiation dose models.
The writing is confusing. The most
hazardous of the radionuclides during the
normal operation will be particulates and
aerosols of all isotopes of uranium,
including U-238, U-233, U-234, and U-235,
and perhaps thorium-232, as one of the
ingredients in the "mixed oxides" as
referred to in the Westinghouse Environ-
mental Report and license application
(and perhaps plutonium dioxide?). If
Westinghouse is allowed to do this and
should this meet requirements as set
forth in 10 CFR 70.23(a) (1) and (4) than
the NRC rules should be challenged.

Paragraph 14, page 6 of the unstipu-
lated conditions, support for, deals with
a prototype, but fails to spell out that
this is "now" and perhaps unproven dry
process. We do not know whether the
kiln (furnace) can or will be operated
safely. Will it contribute hazards:—
(1) to atomic workers and the surrounding
environment from (1) fluorine and fluoride,
(2) from heavy metals derived from the
corrosion of the walls of the furnace,
(3) from inability to control the pre-
cision of the chemical reactions between
the conversion of UF₆ to UO₂ using gaseous
oxygen and hydrogen, and the freeing of
fluorine.

Paragraph 19, p. 7, apparently the
ALAPA principle or standard is a direct
challenge to 10 CFR 70.23(a), so SEACA
should state that it is an invalid
rule or standard, so that it may be turned
down by the NRC so that litigation in the
courts may begin.

Paragraph 22, p. 8, misses the point.
There are three serious threats to the
Alabama River and the Mobile Bay Estuary.
These are unacceptable concentrations of
radionuclides, nitrates, and heavy metals.
"Both" radioactive materials and especial-
ly compounds of nitrogen, mostly nitrates,
will degrade environmental quality.
Does Westinghouse propose to "sell" or
"give" its nitrate wastes to a papermill;
perhaps the near by Union Camp Paper Mill?
These proposed nitrate by products from
the Westinghouse operation will serve as
nutrients for the organisms degrading the
the paper mill wastes from their nitrate
content, which would help the paper mill
effluent to meet the EPA standards by
reducing significantly its organic load.
However, these nitrates from Westinghouse
may be "named" nonradioactive and there-
fore acceptable. Will the heavy metal
content of the effluent to the Alabama
River be acceptable? Would not the
paper mill and NOT Westinghouse be re-
sponsible for the contamination from the
radwastes and the heavy metals?

(Sheet two of two continued on the over-
side of this sheet).

Louis G. Williams

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Paragraph 29, page 9. Support of the memorandum of unstipulated contentions by SEACA attorney, Julian McPhillips (continued) There is no way to "DEGRADE" uranium-235, except by natural decay of U-235 to its daughter nuclei, or to fission products in a chain reaction. What degradation as done here "means" the adding of more unwanted U-238, U-233, and U-235. This adds to the total uranium content, therefore, this should not be allowed by Westinghouse, the state of Alabama, nor the NRC.

Paragraph 34, page 9. Personnel Dosimetry, dealing with both uranium oxides and plutonium oxides as now practised fail to take into consideration measurements from dosimeters or any other way from emissions of alpha particulates, that are known to be internal emitters following inhalation. Workers have these alpha emitters while both on duty as well as when off duty as at home. Uranium-235 does not give off betas nor gammas, and the dosimeters do not, therefore, accurately measure their very high ionization from alpha radioactivity within the body.

Paragraph 35, page 9, and paragraph 37 page 10:-- Westinghouse seeks an exemption from the "increase" in uranium concentrations in the air (NOT "normal" concentrations of uranium). Again, how will these air borne concentrations be measured? Surely not from particulates trapped in HEPA filters, where aerosols are missed and where spikes, or high concentrations, cannot be measured. Certainly there must be some kind of a continuous accurate system for monitoring the actual quantities of these bad alpha emitters.

Paragraph 38, page 10:-- The radiological monitoring of solid waste materials may contain very high concentrations of uranium by the process of adding "depleted uranium." Certainly this large addition of uranium material will be more hazardous to people and the environment than just disposal in a safe manner of the waste without adding more uranium in the disguise that it is "depleted" of uranium.

Paragraph 39, p. 10:-- The exemptions from beta and gamma exposure limits will not be a major problem during the perfect operation of the proposed Prattville Fuel Plant, except during those times when accidents of "small" and "LARGE" (excursions) occur.

Because small masses (about five pounds of oxides and over) of U-235 and U-233 are a critical mass. This low criticality does occur when spacing, masses, and isolation barriers are inadequate. Also, generally misunderstood is the fact that huge amounts of fertile U-238 can be converted to unwanted fissile plutonium-239 to increase criticality once it is started by U-235. The gammas and betas from these "small" criticalities would indicate that workers could be exposed to unsafe ionization levels during otherwise normal operation of the plant. The "normal" or ambient air content of uranium can be determined prior to the beginning of the plant operation.

Paragraph 41, page 10:-- Using the average dose-equivalents is totally inadequate, because workers and citizens become contaminated far more during the high spike of ionizing radiation than from the average of a collected mass of uranium (or other ionization) average from one sample over a period of time. Again continuing recording of ionization is essential.

Paragraphs 45, 46, 47, and 48:-- These paragraphs deal with the request by Westinghouse to be exempted from certain safety codes of the Federal Regulations. These involve, respectively:-- (A) Notification requirements dealing with respiratory equipment, (B) Caution signs,

(C) Waste Disposal Requirements, (D) Criticality accident requirements. The NRC and the State of Alabama should disallow these exemptions because they will pose no undue burden, but will allow the affected workers and the citizens of the area needed notice of unsafe conditions.

AUTHORITY FOR REVIEW OF STIPULATIONS

In stipulations, on page 3, paragraph 7, which states that "Nothing in this stipulation shall be deemed to prevent the petitioner (SEACA) from filing new or amended contentions upon showing of good cause as required by 10 CFR 2.714 of the Commission's regulation" unquote. Therefore, the (1) stipulations, (2) unstipulated contentions, and the (3) memorandum in support of the unstipulated contentions should be reworded in light of these comments to better reflect the real situation regarding matter for the next NRC-Westinghouse-SEACA hearing.

In mimeographed handouts by me to NRC, Westinghouse, and Mr. Julian McPhillips (SEACA attorney) I have cited on November 24, 1980, February 11, 1981, and in a questionnaire to selected specialists on December 31, 1980, concerning (1) inadequacy of the Westinghouse environmental report, (2) how do we keep river organisms from violating the Code of Federal Regulations by concentrating radionuclides to unacceptable high levels?, (3) inspectable and uninspectable portions of the proposed Westinghouse facility, (4) will final uranium-235 content be diluted by the addition of fertile isotopes, and depleted uranium? (5) Should the Department of Energy and the NRC-EPA rule that spent fuel will be reprocessed, may Westinghouse after this be allowed to use plutonium at the Prattville site?, (6) Will spent fuel and clean and dirty scrap be brought from overseas and Columbia, SC to Prattville? (7) Will Westinghouse request to reprocess uranium scrap in Prattville be allowed by NRC? (7) Will Westinghouse's request to package uranium and saleable products, finished and unfinished be permitted by NRC?, (8) Could fissile materials be processed by Westinghouse for nuclear weapons, such as neutron bomb materials in Prattville? (9) Will the final Westinghouse Environmental Impact Statement meet NEPA and OSHA requirements?

RECOMMENDATIONS

Therefore, from the above treatment, it is herewith suggested that the three parties (Westinghouse, NRC and SEACA) incorporate the above suggested changes and give new consideration to upgrading the proposed SEACA valid contentions by incorporating them as far as possible as stipulated contentions, and by changing deferred contentions for NOW considerations.

If the above suggestion is disallowed by the NRC, I would like to apply to the Atomic and Safety and Licensing Board of the NRC for leave to intervene in my own behalf. This request is made because I feel that I have been a "large" part of the SEACA's petition, but that I feel that much of my input (as suggested from the above) has been inadequately treated in the final set of stipulations, etc. Also, the regulations of the NRC does permit intervention by a person who does not establish his right to become a party to the proceeding, where the presiding officer or chairman of the Atomic Safety and Licensing Board, determines in his discretion that such a result is appropriate as in 10 CFR 2.714 (a) (1) and 2.714 (d).

To:

selected
Specialists

Since you have been especially selected and involved in dealing with the health effects of ionizing radiation, I am writing to you for some suggestions on how to cope with the problems of winning a case of the Safe Energy Alliance of Central Alabama (SEACA) against the Westinghouse Electric Corporation (WEC) which is in the process of getting a license from the US NRC to build and operate a Nuclear Fuel Plant at Prattville, Alabama.

U. S. NRC Docket Number 70-2909

The National Academy of Science's standing committee (to congress) on the Biological Effects of Ionizing Radiation (SEIR) has submitted its report. However, the questions at the two-day meeting in mid-March dealt more with what basic ethics should be used, what basic assumptions of science can be used, policy, and what is NOW considered as certainty. What does the word "significant" mean? (Rather than "important").

All speakers at this meeting indicated that it is now time to begin regulating more firmly. It is now time to stop looking for simple answers to complex radiation problems. However, the new federal administration appears to be on a binge to deregulate more. Would this not lead to more "Three-Mile-Island-like problems?"

The fact that equal doses of different kinds of radiations (alpha, beta, gamma, x-rays, neutrons etc.) and different radionuclides (cesium-137, strontium-90, iodine-131, carbon-14) have very different effects. Duration effects between transuramics and actinides.

The fact that equal doses of different kinds of radiations and nuclides do not produce equal biological effects makes rule-making and real regulation most difficult.

Hard-to-quantify uranium and plutonium may allow large doses of alphas to go unnoticed.

The question of high-versus-low Linear Energy Transfer (LET) is producing two opposite schools (NRC and the Nuclear power industry seem to favor some kind of threshold level, while many, who are working with low-level ionizers, now see accrued hazards from several doses over a period of time.

Using the Code of Federal Regulations for dealing with Nuclear Fuel Plants one can plainly understand that "no room" is allowed for input from organisms that have not read or understood the "rules".

Allowable concentrations of air, water, and soil concentrations fail to take into account concentration factors that may be thousands of times higher than the emission standards. Most radionuclides have cycling patterns that do not follow the code of federal regulations. How can these kind of data be made admissible at an NRC hearing?

Also, these questions need now answers:-- Will cancers soon be curable from future findings of biochemistry? Can drugs be developed that will prevent cancers? Will mutagenesis and birth defects still be problems after preventives and cures for cancers are found?

From Louis G. Williams, Ph. D.
1246 Northwood Lake
Northport, Alabama 35476
December 31, 1980
205-339-1535

How can chemical carcinogens be distinguished from those that arise from radionuclides and other ionization?

In November 1980 the Final Report on the feasibility of Epidemiologic investigations of health effects of low-level ionizing radiation was published by the Health Systems Division of Equifax, Inc. for the Office of Standards Development of the U. S. Nuclear Regulatory Commission (NRC FIN No. E1090-9) and (NUPRC/CR-1728).

Is this, above, document to be the BIBLE for rule-making by NRC? Already the Westinghouse concept of low-level radiation is to dilute uranium-235 with depleted uranium until it is no longer low level. Don't "all" uranium isotopes produce unwanted alphas? Can the NRC and the Nuclear Industry rest heavily on social and political considerations rather than on scientific data? This methods gives "big" rewards for good PR to a society that does not understand the real problems of the nuclear age.

Is 5 rems single dose or accumulative for a year, a safe standard? Would a study of groups with 50 rems and extrapolation downward really arrive at truth? Do Three-Mile-Island workers warrant special considerations? Should not more study be made of radioactive substances rather than radiation per se?

Preliminary hearings have already been held by WEC-NRC-SEACA about the proposed Nuclear Fuel Plant. An environmental Impact Statement is now being prepared by Westinghouse. Their environmental (preliminary) report was very unsatisfactory to me. I am the science advisor to the attorney representing the SEACA. However, I am also unhappy because I will be represented (?) by the attorney for SEACA and will not be able to speak to issues myself at the hearing. I must accept the contentions allowed and worded by SEACA's attorney. I am told by a well known scientific antinuke spokesman that 127 cases by NRC or AEC similar to this one have all been failures based on regulations for these kind of hearings. I do not like ALAPA's, nor agreement states. I believe that Cost/Benefit favors the nuclear industry at a detrimental cost to the private citizen. I do not believe that the present fission route is economically feasible, and I do not believe that the federal government nor the utility rate structure should bear the costs (subsidies) of Three-Mile-Islands, Insurance, nor uranium-235 enrichment. I dislike the way utilities use media advertising (which are often untruths or irresponsible) to sell nuclear power and in this case the Westinghouse Nuclear Fuel Plant for Prattville, Ala.

As a private citizen I cannot afford to match the wealth of Westinghouse advertising. I am working free, with no financial help from anyone. I believe that my experience gives me a better brand of truth (Please do read a couple of my enclosed mimeographed handout sheets). However, I feel that I will be another victim (number 128 to 0) of the losers via the NRC-hearing route.

I would welcome some advice help on how to become a winner via NRC route or the federal courts on constitutional grounds that individual and group civil and human rights are being violated.

Please do respond! Whether pro or con this would help.

Sincerely, L. G. Williams

Date-- January 27, 1981.

Place:-- Public Hearing dealing with the Management of Chemical hazardous Wastes. Beard Building by State Department of Health Montgomery, Alabama, at 7:30 p.m.

From:-- Louis G. WILLIAMS, Ph. D., Emeritus Professor of Ecology University of Alabama.

Home address:--

1216 Northwood Lake Northport, AL 35476

The Safe Energy Alliance of Central Alabama (SEACA) is trying to win its case against the Westinghouse Electric Corporation (WEC), which is in the process of getting a license from the U. S. Nuclear Regulatory Commission (NRC) to build and to operate a Nuclear Fuel Plant at Prattville, Alabama. This is U. S. NRC Docket Number 70-2909.

The State of ALABAMA must also issue permits or licenses for many of the safety and health aspects of this WEC operation. Jurisdiction for protection of citizens, atomic workers, emergency evacuation, decommissioning, and management of radioactive wastes rest with the STATE, not with the Nuclear Regulatory Commission.

S U B J E C T

Westinghouse wishes to propose that radioactive wastes for this operation be defined as any materials having more than 3.6×10^{-4} , or .00036 microcuries per gram of waste or 0.36 thousandths of a curie, per gram. Nuclear fuel with 5% enriched uranium would have 2.4 microcuries per gram of specific radioactivity from Uranium-235. Normal fuel, with 3% enriched uranium has only 1.57 microcuries per gram.

Alabama is an AGREEMENT STATE, meaning that the State of Alabama (Not NRC) may regulate what is radioactive wastes for the Westinghouse proposed nuclear fuel plant and for the Farley Nuclear Plant.

Q U E S T I O N

Westinghouse is proposing in its license application and environmental report to add depleted uranium (this is what is left after enrichment at Oak Ridge, or Portsmouth, after removing most of the U-235). However, depleted uranium is NOT depleted of uranium. It still has large quantities of U-238 and U-234. The U-234 is also enriched along with the fissile U-235. However, U-234 and U-238 are highly "unwanted". WEC is asking authority to dilute, which they call "degrade" their uranium wastes with depleted uranium to natural isotopic uranium content (0.7% of U-235), and to stabilize to solid cement form for burial as a hazardous (but non-radioactive) waste.

This dilution proposal is made on the assumption (p. 7-13 of Westinghouse Environmental Report) that the State Department of Health of Alabama agrees that the total uranium content is acceptable. The State Department needs to realize that this would mean a huge increase in total unwanted uranium, and a great increase in the amount of uranium-234.

This also means that "radwastes" from the Oak Ridge gaseous diffusion (enrichment) plant would be shipped to the proposed Prattville Fuel Plant and that it would be used to "dilute" the solid radwastes produced at the Prattville Fuel Plant to "dilute" it to isotopic uranium which is approximately 0.7% U-235.

This means that for every molecule of U-235 to be diluted about 99 would have to be brought in from Oak Ridge. However, this would NOT be natural uranium mixture, since it would contain huge amounts of unwanted U-234, and more U-238, which is also a bad alpha emitter. Both U-234 and U-238 should be considered contaminants and, therefore, additional pollution to Alabama. The citizens of Alabama do not want to solve this problem by bringing in more radwastes to be buried in Alabama.

R E P R O C E S S E D S C R A P

Westinghouse is proposing to return radwastes of uranium or "scrap" for reprocessing at Prattville from all over the world. This is a dirty chemical operation, which would only contaminate Alabama (air, water, and land) more.

Does the State Department of Health wish to label this kind of operation "NONRADIOACTIVE" so that these wastes may be buried either on the WEC site or in a state-approved chemical hazardous waste dump? If so such a dump, as at Emelle, AL, in Sumpter County would then be receiving both chemical and radioactive wastes. In addition to these unwanted uranium wastes the chemical wastes from the Westinghouse operation will include "H U G E" amounts of very chemical dangerous calcium fluoride and other chemical hazardous wastes.

The transportation of hazardous materials to and from the Prattville operation will be the Liability of the State of Alabama to manage. Occupational Health and Safety will also belong to Alabama.

Do we really want this Nuclear Fuel Plant?

Sincerely,

Louis G. Williams
Louis G. WILLIAMS