AR TARGET SHEET

The following document was too large to scan as one unit, therefore, it has been broken down into sections.

DOCUMENT #:	n/a
TITLE:	Comments on Tentative Agreement Regarding the FFTF TPA Milestones – Appendix B Volume 2 of 5
EDMC#:	0051685
SECTION:	2 of 5

51685
2 of 5

APPENDIX B

VOLUME 2 OF 5

COMMENTS ON THE TENTATIVE AGREEMENT REGARDING THE FAST FLUX TEST FACILITY TRI-PARTY AGREEMENT MILESTONES

Tri-Party Agreement

U.S. Department of Energy
U.S. Environmental Protection Agency
Washington State Department of Ecology

April 1998

0531

RECEIVED

JAN 23 1998

return more info to:

Dr Ann Brown
520 W 15 ST
The Dalles OR
97058
541 298 5875

To DOE:

I am unable to attend the hearings on this short notice but please note for the record as testimony.

I am very much opposed the restarting the FFTF or any other further expansion at Hanford (or anyother US site). Do we learn nothing from history? or put another way, How many future generations of peoples do we want to poison with the mistakes we make today?

Please inform me as to what it will take to convince you (proponents) that this would increase an already enormous problem.

Dr Ann Brown

→ 0532
#2002

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

January 30, 1998

Donn J. Colby, M.D.
318 17th Avenue East
Seattle, WA 98112

Dear Dr. Colby:

Thank you for your recent correspondence regarding the proposed Fast Flux Test Facility (FFTF) modifications to the Hanford Tri-Party Agreement. As you know, these proposed modifications are the subject of a series of public meetings being held here in the Northwest. The associated public comment period will conclude Friday, February 20, 1998.

Due to the level of public interest and the large number of comments being received, we will not be responding to specific concerns until all comments have been received. Once the public comment period closes, the Washington State Department of Ecology, the Environmental Protection Agency, and the U.S. Department of Energy (the three signatories to the Tri-Party Agreement) will carefully review and evaluate all comments. Any of the parties may conclude there is a need for revision; however, prior to final agreement each of the parties must approve any modifications.

As part of the review and response process, the parties will also prepare a written "Response to Comments" document in order to provide a clear record of what has been received, our review, and the reason behind any modifications made. This document will automatically be sent to you.

We sincerely appreciate your comments and assure you that Ecology will be carefully considering them prior to our decision on whether or not to modify the Tri-Party Agreement.

Sincerely,

Tom Fitzsimmons
Director

TF/kdh

cc: George Sanders, DOE-RL
Doug Sherwood, EPA Region 10

Executive Correspondence

System Log #: **2002**

Gov Log #:

Date Assigned: **1/22/98**

Date Due: **2/ 2/98**

Date Logged Out:

Name of Constituent: [redacted]

Subject: [redacted]

Assigned To: [redacted]

Division: **Nuclear Waste Program**

Program: [redacted]

linate With:

Signature: [redacted]

CC (To Be Noted On Letter):

CONTACT	IN	OUT
[redacted]		

Phone Log (If Appropriate):

Comments:

DONN J. COLBY, M.D.
Internal Medicine

DEPARTMENT OF ECOLOGY
OLYMPIA, WA 98504

'97 JAN 20 A10:47

318 17th Avenue East
Seattle, WA 98112
Telephone: (206) 324-5379

January 16,1998

Tom Fitzsimmons, Director
Washington State Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

Dear Mr. Fitzsimmons,

I am writing to oppose the Department of Energy proposal to restart the Fast Flux Test Facility nuclear reactor at Hanford. The Tri-Party Agreement already sets a timetable for the closing and cleanup of facilities at Hanford. Restarting the nuclear reactor would only add the total amount of radioactive waste needing cleanup. The reactor should not be exempted from the previous agreement.

Backers of the proposal argue that the nuclear reactor could also produce medical isotopes. This is an obvious ploy to gain public support for their plan as there is currently no need for such a production facility.

It costs $32 million a year just to maintain the reactor on "standby." This is money that has been appropriated for cleanup. Radioactive wastes have already been detected in groundwater beneath Hanford. Cleanup funds should be used as intended and not to restart the FFTF nuclear reactor.

Sincerely,

Donn J. Colby

Baldonado, Donna

From: Jack Jakobsen [jakobsen@gorge.net]
Sent: Friday, February 20, 1998 4:20 PM
To: ernest_j_hughes@rl.gov
Cc: rost461@ecy.wa.gov
Subject: Tri-Party Agreement Changes

Mr. Hughes:

I attended the public meeting held in Hood River, OR on February 12, 1998 regarding the proposed changes to the Tri-Party Agreement, but had to leave before I was able to express the views of my wife, Shirley Ann and myself.

We have reviewed the materials provided and have attempted to maintain an open mind regarding the subject. While there may be some value in some peoples minds regarding removing the Fast Flux Test Facility from the Agreement Milestones, we do not want to see that happen. The clean-up of the Hanford facility remains paramount in our minds. That clean-up is behind schedule and every effort should be made to bring it back on schedule to eliminate any potential threat to the citizens of the Oregon and Washington areas in proximity to that site.

We hereby wish to go on record as being opposed to any changes to the Tri-Party Agreement and insist that clean-up efforts at Hanford be moved ahead without further delay.

John C. & Shirley Ann Jakobsen
Hood River, Oregon

#0534 is on back of petition beginning with #1038

0535

CITY OF RICHLAND

505 Swift Blvd. • Box 190 • Richland, Washington 99352 • (509) 943-7390 • FAX (509) 943-5666

DEPARTMENT OF ECOLOGY
OLYMPIA, WA

'97 JAN 20 A10:47

OFFICE OF THE CITY MANAGER

January 15, 1998

John Wagoner, Manager
Department of Energy , Richland Operations
P. O. Box 550 (A7-50)
Richland, WA 99352

Chuck Clarke, Regional Administrator
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, WA 98101

Tom Fitzsimmons, Director
Washington Department of Ecology
P. O. Box 47600
Olympia, WA 98504

Re: Fast Flux Test Facility (FFTF) Transition Milestone Hearings

Dear Messrs. Wagoner, Clarke and Fitzsimmons:

The City of Richland was recently contacted by Department of Energy staff asking if we or the Hanford Communities would like to sit at the front of the room with Tri-Party Agreement (TPA) representatives at the public hearings on the change package for the FFTF. While appreciative of the contact, our response was that we believe it inappropriate for anyone other than TPA agency officials themselves to assume this role. It should be clear to all in attendance that the TPA agencies are conducting the hearings.

I am pleased the days are long gone when Hanford decision making was conducted behind the fence and shielded from proper public accountability. However, the old ways should not be replaced by micromanagement or politicization of the federal government's Hanford cleanup by public interest groups. Due process would not be well served if either local government representatives or anti-nuclear "stakeholders" are prominently seated in hearings.

We support adoption of the proposed change package. Elimination of FFTF shutdown milestones from the TPA is needed in light of the decision of the Secretary of Energy to hold the facility in a standby mode while studying its potential use for tritium and medical isotope production.

Sincerely,

Joseph C. King
City Manager

#2001
→0535

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

January 30, 1998

Joseph C. King
Office of the City Manager
505 Swift Blvd., Box 190
Richland, WA 99352

Dear ~~Mr.~~ King: Joseph

Thank you for your recent correspondence regarding the proposed Fast Flux Test Facility (FFTF) modifications to the Hanford Tri-Party Agreement. As you know, these proposed modifications are the subject of a series of public meetings being held here in the Northwest. The associated public comment period will conclude Friday, February 20, 1998.

Due to the level of public interest and the large number of comments being received, we will not be responding to specific concerns until all comments have been received. Once the public comment period closes, the Washington State Department of Ecology, the Environmental Protection Agency, and the U.S. Department of Energy (the three signatories to the Tri-Party Agreement) will carefully review and evaluate all comments. Any of the parties may conclude there is a need for revision; however, prior to final agreement each of the parties must approve any modifications.

As part of the review and response process, the parties will also prepare a written "Response to Comments" document in order to provide a clear record of what has been received, our review, and the reason behind any modifications made. This document will automatically be sent to you.

We sincerely appreciate your comments and assure you that Ecology will be carefully considering them prior to our decision on whether or not to modify the Tri-Party Agreement.

Sincerely,

Tom Fitzsimmons
Director

TF/kdh

cc: George Sanders, DOE-RL
Doug Sherwood, EPA Region 10

Executive Correspondence

System Log #: **2001**

Gov Log #:

Date Assigned: **1/22/98**

Date Due: **2/ 2/98**

Date Logged Out:

Name of Constituent: **King, Joseph**

Subject: **Hanford FFTF**

Assigned To: **Mike Wilson**

Division: **Nuclear Waste Program**

Program: **Nuclear Waste Program**

Coordinate With:

ignature: **Director**

CC (To Be Noted On Letter):

CONTACT	IN	OUT
Tammie McClure	1/22	
Roger		

Phone Log (If Appropriate):

Comments:

D5 36p

DEPARTMENT OF ECOLOGY
OLYMPIA, WA

'97 JAN 16 A9:04

January 15, 1998
12210 Densmore Ave N.
Seattle WA 98133-7729

Tom Fitzsimmons, Director,
Washington State
Department of Ecology,
PO Box 47600,
Olympia, WA 98504-7600

Dear Mr. Fitzsimmons

I'm writing to urge you not to allow the Hanford TriParty Agreement to be changed to exempt the Fast Flux Test Facility at Hanford in order that weapons materials may again be produced there. I think clean up funds are better spent cleaning up Hanford rather than activities that increase the risk of accidental radioactive contamination.

Thank-you for time and consideration of my concerns on this matter.

Sincerely,

Joe Ginsburg

Joe Ginsburg

cc: Governor Gary Locke

#1993
→0536

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

January 30, 1998

Joe Ginsburg
12210 Desmore Avenue N.
Seattle, WA 98133-7729

Dear Mr. Ginsburg:

Thank you for your recent correspondence regarding the proposed Fast Flux Test Facility (FFTF) modifications to the Hanford Tri-Party Agreement. As you know, these proposed modifications are the subject of a series of public meetings being held here in the Northwest. The associated public comment period will conclude Friday, February 20, 1998.

Due to the level of public interest and the large number of comments being received, we will not be responding to specific concerns until all comments have been received. Once the public comment period closes, the Washington State Department of Ecology, the Environmental Protection Agency, and the U.S. Department of Energy (the three signatories to the Tri-Party Agreement) will carefully review and evaluate all comments. Any of the parties may conclude there is a need for revision; however, prior to final agreement each of the parties must approve any modifications.

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We sincerely appreciate your comments and assure you that Ecology will be carefully considering them prior to our decision on whether or not to modify the Tri-Party Agreement.

Sincerely,

Tom Fitzsimmons
Director

TF/kdh

cc: George Sanders, DOE-RL
Doug Sherwood, EPA Region 10

Executive Correspondence

System Log #: **1993**

Gov Log #:

Date Assigned: **1/17/98**

Date Due: **1/28/98**

Date Logged Out:

Name of Constituent: **Ginsburg, Joe**

Subject: **Hanford FFTF Tri-Party Agreement**

Assigned To: **Mike Wilson**

Division: **Nuclear Waste Program**

Program: **Nuclear Waste Program**

Coordinate With:

ature: **Director**

CC (To Be Noted On Letter):

CONTACT	IN	OUT
Tammie McClure	1/22	
Page		

Phone Log (If Appropriate):

Comments:

0537 - 0538

Tom Fitzsimmons, Director
Washington State
Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

DEPARTMENT OF ECOLOGY
OLYMPIA, WA

'97 JAN 26 A9:48

Dear Mr. Fitzsimmons:

The clean-up of Hanford is threatened by a proposal to amend the clean-up agreement. The Department of Energy is keeping the Fast Flux Test Facility at Hanford on "Hot Standby", using $32 million dollars a year of cleanup funds to do so. They would now like to amend the Hanford TriParty Agreement (cleanup agreement) to exempt the FFTF from the agreement and restart it to make tritium. This means importing additional dangerous plutonium to Hanford and creating more radioactive waste.

Alhough producing medical isotopes is also proposed, leading Northwest medical experts say this is not necessary and does not balance the dangers of restarting the reactor.

We are writing to urge you not to allow the Clean-up Agreement to be changed to exempt the FFTF so that weapons materials will again be produced at Hanford.

Thank you for your time and attention to this matter.

Sincerely,

0537 Jill McGrath Richard Gelb

Jill McGrath & Richard Gelb 0538
6743 Palatine Ave. N.
Seattle, WA 98103

#2 ASC
0537
→0538

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

January 30, 1998

Jill McGrath
Richard Gelb
6743 Palatine Avenue N.
Seattle, WA 98103

Dear Ms. McGrath & Mr. Gelb:

Thank you for your recent correspondence regarding the proposed Fast Flux Test Facility (FFTF) modifications to the Hanford Tri-Party Agreement. As you know, these proposed modifications are the subject of a series of public meetings being held here in the Northwest. The associated public comment period will conclude Friday, February 20, 1998.

Due to the level of public interest and the large number of comments being received, we will not be responding to specific concerns until all comments have been received. Once the public comment period closes, the Washington State Department of Ecology, the Environmental Protection Agency, and the U.S. Department of Energy (the three signatories to the Tri-Party Agreement) will carefully review and evaluate all comments. Any of the parties may conclude there is a need for revision; however, prior to final agreement each of the parties must approve any modifications.

As part of the review and response process, the parties will also prepare a written "Response to Comments" document in order to provide a clear record of what has been received, our review, and the reason behind any modifications made. This document will automatically be sent to you.

We sincerely appreciate your comments and assure you that Ecology will be carefully considering them prior to our decision on whether or not to modify the Tri-Party Agreement.

Sincerely,

Tom Fitzsimmons
Director

TF/kdh

cc: George Sanders, DOE-RL
Doug Sherwood, EPA Region 10

Executive Correspondence

tem Log #: 2008

Gov Log #:

Date Assigned: 1/27/98

Date Due: 2/ 5/98

Date Logged Out:

Name of Constituent: McGrath, Jill & Richard Gelb

Subject: Hanford FFTF

Assigned To: Mike Wilson

Division: Nuclear Waste Program

Program: Nuclear Waste Program

Coordinate With:

Signature: Director

CC (To Be Noted On Letter):

CONTACT	IN	OUT
Tammie McGluer	1/27	
Roger Stanley		1/27/98

Phone Log (If Appropriate):

Comments:

0539

DEPARTMENT OF ECOLOGY
OLYMPIA, WA 98504

'97 JAN 13 A9:47

716 N. 84 St.
Seattle, WA 98103

January 11, 1998

Tom Fitzsimmons, Director
Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

Dear Mr. Fitzsimmons:

The Cascade Chapter of the Sierra Club, of which I am a member, has informed me of the proposal to exempt the Fast Flux Test Reactor from the Hanford TriParty Agreement, and to use the FFTR to make tritium.

I agree completely with the Sierra Club that this proposal is unwise and should not be approved. There is no legitimate policy reason or medical reason to restart the FFTR. I hope that the Department of Ecology will not agree to amend the TriParty Agreement.

Sincerely yours,

William Kreuter

William Kreuter

Executive Correspondence

ystem Log #: **1988**

Gov Log #:

)ate Assigned: **1/14/98**

Date Due: **1/26/98**

Date Logged Out:

Iame of Constituent: **Kreuter, William**

ubject: **Hanford FFTR**

ssigned To: **Mike Wilson**

)ivision: **Nuclear Waste Program**

'rogram: **Nuclear Waste Program**

: ate With:

ignature: **Director**

:C (To Be Noted On Letter):

CONTACT	IN	OUT
Tammie McClure	1/16	

'hone Log (If Appropriate):

Comments:

#1988
→0539

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

January 30, 1998

William Krueter
716 N. 84th Street
Seattle, WA 98103

Dear Mr. Krueter:

Thank you for your recent correspondence regarding the proposed Fast Flux Test Facility (FFTF) modifications to the Hanford Tri-Party Agreement. As you know, these proposed modifications are the subject of a series of public meetings being held here in the Northwest. The associated public comment period will conclude Friday, February 20, 1998.

Due to the level of public interest and the large number of comments being received, we will not be responding to specific concerns until all comments have been received. Once the public comment period closes, the Washington State Department of Ecology, the Environmental Protection Agency, and the U.S. Department of Energy (the three signatories to the Tri-Party Agreement) will carefully review and evaluate all comments. Any of the parties may conclude there is a need for revision; however, prior to final agreement each of the parties must approve any modifications.

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We sincerely appreciate your comments and assure you that Ecology will be carefully considering them prior to our decision on whether or not to modify the Tri-Party Agreement.

Sincerely,

Tom Fitzsimmons
Director

TF/kdh

cc: George Sanders, DOE-RL
Doug Sherwood, EPA Region 10

0540

Baldonado, Donna

From: Pat Rasmussen [patr@rightathome.com]
Sent: Monday, January 26, 1998 6:10 PM
To: rost461@ecy.wa.gov
Subject: Tritium Production at Hanford

Dear Sir,

You should definitely hold meetings on this in our area. We have a right to protect ourselves from such irresponsible government behavior.

Pat Rasmussen
PO Box 154
Peshastin, WA 98847

0541

COMMITTEE ON THE BUDGET
COMMITTEE ON WAYS AND MEANS
SUBCOMMITTEE ON TRADE

JIM McDERMOTT
7TH DISTRICT, WASHINGTON

CHAIRMAN
CONGRESSIONAL TASK FORCE ON
INTERNATIONAL HIV/AIDS

CO-CHAIRMAN
AFRICA TRADE AND
INVESTMENT CAUCUS

CO-CHAIRMAN
CONGRESSIONAL URBAN CAUCUS

Congress of the United States
House of Representatives
Washington, DC 20515

20 January 1998

I regret that previous commitments prevent my joining you in person this evening. Nonetheless, I want to express to you my strong opposition to the proposal to restart the Fast Flux Testing Facility at Hanford. We have struggled for years to achieve effective and thorough clean-up of the Hanford site. Billions of taxpayer dollars have been invested in that effort and still we have not reached our goal. Indeed, new problems emerge almost daily, and restarting the Fast Flux Facility will exaggerate them.

Monies allocated for Hanford clean-up must be used for exactly that. Any other use violates the Tri-Party Agreement and contradicts our commitment to protect our citizens and their environment from the ravages of nuclear weapons production. Cleaning up the dangerous mess that we have created at Hanford is our first priority and our first obligation.

It is estimated that reactivation would cost more than three billion dollars -- money that would be drawn away from ongoing clean-up efforts because there are no funds lying around in government coffers to pay for FFTF. Funding for many worthwhile programs from education to housing to medical research is being cut or eliminated because we supposedly can't afford them. A huge outlay to restart the Fast Flux Facility is simply indefensible.

Many alternative uses have been proposed for the Hanford facility that are consistent with the original mission for the clean-up and economic development of the site. The US should lead the effort to end the proliferation of nuclear weapons, by investing in human potential instead of human destruction.

2349 RAYBURN BUILDING
WASHINGTON, DC 20515-4707
(202) 225-3106

PRINTED ON 100% RECYCLED PAPER

1809 7TH AVENUE, SUITE 1212
SEATTLE, WA 98101-1399
(206) 553-7170

0542

Baldonado, Donna

From: Phil Capp [capppk@whitman.edu]
Sent: Friday, February 20, 1998 10:28 AM
To: rost461@ecy.wa.gov
Subject: Don't Modify the Hanford Tri-Party Agreement

Mr. Stanley,

It is my opinion that the Hanford Tri-Party Agreement NOT be modified. The milestones for the Hanford cleanup should NOT be removed, as this action will tacitly approve the restart of the Fast Flux Test Facility for tritium production. The storage of even more high-level nuclear waste at the Hanford site would be criminal... as a citizen of Eastern Washington, I cannot support a motion that would further pollute our already struggling Columbia River Basin.

Thank you.

Philip Capp
Whitman College
Walla Walla, WA 99362
509.522.8427
capppk@whitman.edu

0543

Dear Gov Lowe:

When I toured Hanford with the Wa. PSR in 1992 I asked the tour director, a Westinghouse employee, how we could trust what we were about in light of historical government & contractor lying, obfuscation, deception & secrecy. He admitted the sorry past & gave a reassuring answer. The tour was reassuring in terms of efforts being ~~out~~ directed towards openness & cleanup. I felt better.

We returned to the motel & had a meeting & were addressed by the Wa state ~~of~~ Environmental government official who had accompanied the tour. He gave an incredibly different version of what we had been told by Westinghouse. I asked PSR members why in the world this state official had been silent the whole tour. Their response was that part of the state's Environmental Protection Agency was from the feds & hence the silence.

Is there no limit to the influence of money? Please stop, or at least exert as much influence as you can to stop ###

SIDNEY STOCK
6023 HAZELWOOD LANE S.E., BELLEVUE, WA 98006-261

0544

1/20/98

Dear Governor Locke,

I am a biochemist, and I know how valuable medical isotopes are for research. But I also know that producing such isotopes at Hanford is only a flimsy excuse for restarting dangerous reactors. The meltdowns, fires, and leaks which are likely to result from the FFTF given the past record of (lack of) safety at Hanford, will cause far more cancer than the potential isotopes could cure.

I urge you to defend the Tripartite agreement as is, and reject giving Uncle Sam cleanup dollars for the FFTF.

Sincerely yours,

Frank Zucker

Frank Zucker
3808 Interlake Ave N
Seattle WA 98103

0545

20 Jan 98

Dear Governor Locke.

Please do all you can to Stop the restarting of the FFTF.

We must move forward with clean up of the Hanford reservation, NOT move to generate more waste and contamination.

Thank you for your effort.

Chris Vondrasek
(CHRIS VONDRASEK)
934 18th Ave.
Seattle 98122

To my fellow humans:

We must do <u>whatever</u> it takes to promote the well-being of ourselves and our planet - everyday, every minute.

Do not let money, fear or greed sway you from a path which demands a compassionate heart working with common sense and decency.

The more we do the right thing, the quicker our dreams of a peaceful planet will come true!

Sincerely,

Peter B. Roth
7415 5TH AVE NE #208
SEATTLE WA 98115

0547

1/20/98

Dear Governor Locke

I am writing to urge you to oppose the restart of the Fast Flux Test Facility at the Hanford Nuclear Reservation. We must not return to weapons production at Hanford; we must continue the clean-up. In light of the recent revelations of groundwater contamination at Hanford it is imperative that no more resources be diverted from cleaning up this most polluted site in North America.

I look forward to learning what position you will take on this issue.

Sincerely,

Marianne Sullivan
2835 NW 59th St.
Seattle, WA 98107

RECEIVED
JAN 28 1998

0548

CHARLES NAFZIGER
3030 N.W. 66TH
SEATTLE WA 98117
JANUARY 20, 1998

GOVERNOR LOCK.

IT IS OBVIOUS TO ME THAT THE CLAIM THAT HANFORD'S FFTF REACTOR TO MAKE ISOTOPES IS A BLATANT SCAM.

IT IS OBVIOUS THAT CONTINUING TO PRODUCE TRITIUM IN AN UNILATERAL ARMS RACE IS LUNACY ON PAR WITH SADAM HUSEIN'S ACTIVITIES. — NO, WE WILL NEVER NEED TRITIUM TO FIGHT IRAQ: WE CAN TURN THEIR SAND INTO GLASS WITH URANIUM WEAPONS.

IT IS OBVIOUS THAT PUTTING CLEAN UP MONEY INTO KEEPING A PROJECT ALIVE THAT WILL BOTH IMPORT AND CREATE MORE WASTE IS CLEARLY IMMORAL, ILLEGAL & INSANE.

ANY CHANGE IN THE TRI PARTY AGREEMENT THAT ALLOWS THIS REACTOR RESTART AND MIS-USE OF FUNDS IS HORRIBLY DETRIMENTAL TO THE STATE OF WASHINGTON.

RECEIVED
1998

SINCERELY, Charles A Nafziger

AMPAD 22-142 100 SHEETS 22-144 200 SHEETS

0549

20 Jan 1998

Honorables Patty Murray and Gary Locke

The U.S. Government presence at the Hanford nuclear establishment should not be subverted by backsliding on promises made in the past to clean up that facility. The existing and potential environmental damage — air, ground, and water pollution — is enormous on both long and short time scales and on large space scales. Depleting the financial support for cleaning up and safeguarding Hanford by diverting funding to promote a new start of a possibly major polluting activity, the FFTF, would be a profound breach of public trust. Promises and published clean-up goals should not be violated. The positive benefits asserted in favor of commissioning the FFTF, even if all valid, would not justify the immense harm that would be done to the clean-up effort by expending funds on the FFTF. Moreover, the benefits asserted have, to my knowledge, all been either seriously questioned or convincingly exposed as being fallacious. The FFTF should be decommissioned.

An additional concern is that whereas it is possible the FFTF would be operated perfectly safely, this does not even approach the assurance that it will be. There are numerous links in the chain of events leading to successful, safe operation that are susceptible to failure, with possibly catastrophic results. The overarching concern, however, is one of political morality and ethics: promises must be kept.

Al Rasmussen

AL RASMUSSEN, 7544-20th Ave NE
Seattle WA 98115

0550

NOTES
DIARY / IDEAS

SUBJECT: Governer lock

1 Dear Governer Lock
~~Honobrae~~
~~Honorable~~ Governor lock
If you want to Show
us in The Tricities That you
are intrested in us at all
Please come to viset Hamford
and Talk to all of The employees
I Repeat all of us. and
hear are views of The Issues
Rased at The TPA meeting
in Seattle in 01/20/98
especially viset The FFTF
and The PFP. and WWP

Thanks
mike walles

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0551

1/20/98

Dear Secretary Peña

Please do not change the Tri-Party agreement to restart the FFTF nuclear reactor. It is a terrible idea that puts at risk the health and safety of people in Washington and the environment, in particular the Columbia river. It is not needed for medical isotopes, or to bolster our nuclear weapons arsenal with tritium. What is needed is full funding for prompt cleanup.

Thank You

Sarah James
951 29th Ave
Seattle, WA 98122

RECEIVED
JAN 30 1998

0552

RECEIVED
JAN 30 1998

JANUARY 20, 1998

DEAR DOE

KINDERGARDEN RULE #1

CLEAN UP YOUR MESS BEFORE MAKING ANOTHER ONE.

IF FEDS CANNOT GET CLEANUP $'S & KEEP THEIR PROMISED SCHEDULE— THEY HAVE NO BUSINESS MAKING MORE AT FFTF.

PLEASE SEND ME ANY AEIA* REPORTS YOU HAVE ON HANFORD AND NUCLEAR WASTE CLEANUP.

43-2014

SINCERELY Barbara Zepeda
BARBARA ZEPEDA
1937 — 25TH EAST
SEATTLE WA 98112

* ATOMIC ENERGY INTERNATIONAL AGENCY (IN VIENNA)

0553

Jan. 20, 199

To the Dept. of Energy,

We have waited, and waited, and waited to get Hanford cleaned up. The radioactivity has recently been found at levels they never expected (by now) in the ground water and in the Columbia river, and we are sitting on the verge of a disaster with what is already stored there. Any talk of going into production again is an outrage, and you should be ashamed of yourselves for listening to the voices of greed.

Susan F. Baker
6323 Brooklyn

0554

Dept. of Ecology,
Hon Patty Murray,
Gov Locke,

Jan 20, 1993
Hon: Susan F. Baker
6323 Brooklyn NE
Seattle, WA
98115

I'll try to find time later to write a more elegant letter, but I can't delay giving you a reminder that it is your job to shield Washington State from the outrageous ideas other people can come up with for our state.

Make a firm stand, and tell the D of Energy that we are not interested in their scheme, and that we expect the long-awaited cleanup to be fully funded and commence now!

What is happening to the waste at that site, what is happening to the ground water and Columbia River is plenty to keep people employed and busy. It is appalling that anybody would suggest starting Hanford up again! I'll be watching!

Now we have WPPS & Hanford and where is our inexpensive energy? We could easily develop wind and solar power and other forms of energy.

Also, I am an RN, at Children's hospital and worked with pediatric oncology patients for 10 years. I don't want to see any more children getting cancer because we didn't protect our children. If there is an accident at Hanford or the waste isn't cleaned up properly we could be creating your children or my family's young people to cancers or health problems.

Thank you

Ann Wallgren

0555

January 20, 1998

To: Governor Gary Locke:
From: Kimberly Waligorska
12423 - 8th Ave SW
Seattle, WA 98146

JAN 2 0 1998

I am writing to urge you to do anything possible to stop the reactor at Hanford from being restarted. Me and my family do not want any nuclear reactors in our state. Haven't we learned already that they are not safe? Also, I would like to see the clean up of the Hanford site be done properly. We all know that the material there is beginning to leak slowly and if not cleaned up it will reach the Columbia river. Also, we all know it has now been proven that exposure to nuclear materials is a definite health hazard. I don't want Hanford's reactor restarted and don't want more nuclear material brought into our state.

When I was in high school, I debated against nuclear power & weapons and in this debate my opponent kept quoting that it was perfectly safe and nuclear power was so economical

0556 ~~1316~~ ✓

W. P. Mead, Director
Public Safety Resources Agency
P. O. Box 724
Portland, OR 97207-0724

February 12, 1998

Mr. Ernest J. Hughes
U.S. Department of Energy
Richland Operations Office
P.O. Box 550 (N2-36)
Richland, WA 99352

Mr. Federico Pena
Secretary of Energy
James Forrestal Building
1000 Independence Ave. SW
Washington, DC 20585

Dear Mr. Hughes:

Attached are my Hearing Testimony and my Technical and General Comments on FFTF's proposed restart, with my specific comments on the safety concerns associated with the continued used of this reactor at Hanford.

I request that these attachments be included contiguously in the official record of these proceedings, and that a True Copy of them be forwarded to Secretary Pena and his staff for their review. I have included Secretary Pena's mailing address, above, for your convenience.

In opposing FFTF's future active role, I am basing my objections on the large body of scientific research and operating history that indicates that liquid sodium cooled fast fission reactors cannot safely or efficiently operate in any of the proposed roles without extensive physical modifications. Those modifications could greatly increase the risks of accidents and the release of radiation and thermal energy to the environment and population.

We have several alternatives other than the FFTF Reactor that are better suited to the production, acquisition and reclamation of Tritium, and I would also point-out that it is the height of folly to try to use a fast breeder test reactor in any attempt to "burn-up" MOX Fuel to "destroy" surplus Weapons Plutonium.

I recommend that the Department of Energy decommission the FFTF Reactor and instead pursue other methods to accomplish production goals; while concurrently using the FFTF's funding to retrain its' workforce, and concentrate on the cleanup of the massive contamination that should now be Hanford's entire focus.

W. P. Mead
Director, PSRA

Attachments: (3)

W. P. Mead, Director
Public Safety Resources Agency
P. O. Box 724
Portland, OR 97207-0724

February 12, 1998

USDOE Hearing on FFTF Stand-by/Restart Status
Comments on FFTF Safety Concerns.

My name is Bill Mead. I am the Director of the Public Safety Resources Agency and am a technical resource for Hanford Action of Oregon.

I have had formal training in nuclear reactor maintenance and operations; have been involved in maintaining a reactor's core, and its' cooling, filters and environmental safety controls and dosimetry monitoring systems; and have operated a reactor as part of my training.

I also have received formal ERDA-approved training in the effects and physics of nuclear weapons, was on a national NGO advisory panel regarding the SDI X-ray Laser that was to be powered by a thermonuclear weapon, and had technical discussions about those designs with USDOE Project Managers at Livermore.

Before my retirement from federal service I twice attended a FEMA-sponsored National Disaster Institute, and was then assigned to help write emergency response plans for radiologic accidents.

Based on this experience, plus several years of additional training and research, and recent discussions with other persons who are currently working in these fields, it is my overwhelming belief that any modification of the FFTF Reactor's core to produce Tritium would greatly increase the probabilities of an accident resulting in the possible release of radiation to the surrounding environment and populations.

My technical argument against the FFTF is about 130KB in length, but that probably won't mean much because the decision to use FFTF to produce Tritium will be based on politics, not on science, and will be weighted by the ability of the Department of Energy to justify using FFTF because it is already available, that facilities associated with a MOX disposal option exist at Hanford, and that FFTF's workforce is in place and ready to work.

FFTF is a fast fission test breeder reactor. As such, its basic design decreases its efficiency because it does not produce the type of thermal neutrons that should be used to strike the Lithium-6 targets to produce Tritium, and most likely it would create more Plutonium that it destroyed if it used MOX fuel.

I should explain that a nuclear weapon really doesn't need Tritium to explode, and we have other ways of increasing the yeield without having to manufacture additional Tritium, but old habits die hard.

We still use an average of 4 grams of Tritium per weapon because the fusion of each gram of Tritium boosts the energy of the explosion by an amount equal to about *100 tons* of TNT. We could just as easily use an A-bomb to destroy the target, but we prefer using H-bombs because we're technocrats.

The Tritium USDOE wants to produce at FFTF can even be made within the nuclear weapons themselves without ever having to be made in a standard reactor or accelerator, and we can do this by simply wrapping a relatively inexpensive non-radioactive chemical compound around the weapon's core assembly.

All this assumes that we really need to rely on H-bombs, which is not true when we consider the devastating effects of the primitive A-bombs we used in WW-2. These photos of Nagasaki, Japan were taken on August 7th and 12th, 1945, immediately before and after that city was destroyed by an extremely primitive bomb using plutonium produced in Hanford's reactors.[11]

That A-bomb yielded about 20KT of explosive energy and was designed so crudely that the aircraft that delivered it *had* to drop it before landing because once it took off it could not safely land with the bomb due to fusing and safety constraints; yet this damage was produced by fissioning a single gram of Hanford's Plutonium.

The total amount of nuclear explosives used in 1945 to test the first A-bomb and then completely destroy two Japanese cities weighed less than a single penny.

Nuclear weapons can be designed to yield different energies for special purposes. The *NUCLEAR BOMB EFFECTS COMPUTER* that was included in a 1977 joint publication by ERDA and the Department of Defense scales the effects of nuclear weapons ranging from a minimum yield of 1KiloTon up to a maximum yield of 20MegaTons, yet we have built "backpack" or "suitcase" ADM and SADM nuclear weapons with yields smaller than 100 tons of TNT, and even have a "dial-a-yield" function to control the size of these explosions!

We've also been improving our ability to refine and target nuclear weapons, and we can now guarantee that a weapon launched at hundreds or even thousands of miles distance will strike within a few yards of it's intended target.

Using commonly-accepted targeting calculations, on a scale of 100 for nuclear weapons effects against hardened targets, we can also show that Hiroshima's blast in 1945 - which entirely destroyed that city and instantly killed an estimated 79,000 persons - represented a lethality value of only 0.069%; whereas a Cruise Missile now has a value of 1,519.9%; and a Trident-2 Submarine has a value greater than **879,000**![10]

We can also be assured that these weapons can be counted on to "kill" hardened targets, regardless of defensive measures it encounters. Modern nuclear weapons have a variety of design characteristics to ensure their performance:

Terradynamic warheads can penetrate hardened targets such as command bunkers; *Enhanced Radiation* warheads can neutralize armored vehicles that would otherwise have withstood blast and thermal effects of airbursts; and *Proximity" (Salvage) Fusing* will trigger the detonation of the nuclear weapon if it senses it is about to be destroyed by defensive countermeasures.

What this means is that we can already do what USDOE says it needs to accomplish even using the weapons we currently have, so let's move on to the "need" to produce more Tritium to keep these weapons servicable.

Nuclear explosives work because each unit of *mass* produces 34,596,000,000 *times* its' weight during a fission explosion.

One pound of TNT will generate enough energy to heat 37 gallons of water from its' freezing to boiling points, but one pound of U-235, if completely fissioned, will do the same thing to approximately *200 million gallons* of water. Thermonuclear weapons (H-bombs) can increase the yields of fission weapons by up to 1,000 times.[2]

Given that, we already have several better alternatives that are safer and cheaper than using the FFTF Reactor to produce Tritium. Enough Tritium can still be reclaimed from existing weapons to supply our national defense needs for several years; thus providing us sufficient time to restart production via other means. Some other immediate and/or long-term alternatives include:

1. The capability to purchase Tritium from Canada's Ontario Hydro;

2. The ability to reconfigure weapons to use a Lithium-6 blanket to produce the needed quantity of Tritium inside the weapon during the detonation sequence;

3. The inclusion in new weapons designs of miniaturized *charged particle accelerators* to inject a pulse of accelerated deuterium nuclei at Tritium targets that use less than one-thousandth of the quantity of Tritium currently used in nuclear weapons; and,

4. The possibility of building a new accelerator that could serve several roles with a greatly-increased degree of safety while concurrently producing less waste and thermal contamination.

In conclusion I also want to add for the record that of the four sodium-cooled reactors I studied that were used during the design process of the FFTF Reactor, I noted that three of those cores had been destroyed by accidents associated with the use of liquid sodium coolant, while the fourth was decommissioned due to safety concerns.

Each of those four reactors were several times smaller than FFTF, had exclusion zones several times greater, were farther away from population centers, and were designed as "state-of-the-art" reactors.

All of those reactors had redundant safety features that failed during those accidents.

We also need to understand that the characteristics of the liquid sodium coolant are very hazardous in itself and, in some cases, those risks may even be greater than the potential energy release of a nuclear excursion within the reactor's core.

In the single reactor that was decommissioned before its core melted down, although it was designed to withstand a nuclear explosion equivalent to a mere 300 pounds of TNT for the *nuclear* excursion; it's design basis postulated that the *chemical* reaction of a sodium-air explosion within the reactor's core could reach the equivalent of *10,000 pounds* of TNT!

FFTF is a unique reactor - it's the last operable reactor of its' type in the United States because all of the others have been shut down due to their core melting accidents and history of safety problems - yet we're talking about "salvaging" it.

FFTF will not be able to safely operate in a Tritium production mode, and we have other more cost-effective methods to supply the Tritium needed to maintain our nuclear weapons.

We don't need it. We don't want it. And we can't afford the risk. Drain this reactor *now* and put those folks to work cleaning up their mess!

W. P. Mead
Director, PSRA

[11] *NUCLEONICS FUNDAMENTALS*, *McGraw-Hill Series In Nuclear Engineering*, by David B. HOISINGTON, Professor, U.S. Naval Postgraduate School, McGraw-Hill Book Co., Inc., New York, 1959; page 323.

[10] *BOMBTALK*, Nuclear Weapons Presentation, Columbia High School, Gresham, Oregon, December 10, 1987, by W. P. MEAD, Director, Public Safety Resources Agency.

Equation: $K = Y^{(2/3)} / (cep)^2$

Where "K" represents the "Lethality" value against "hardened" targets such as underground command bunkers. "Y" represents the yield of the weapon in MT. The value of the top line is then divided by the value of the bottom line where "(cep)" [Circular Error Probability - expressed in Nautical Miles] is squared.

[2] *BOMBTALK*, Nuclear Weapons Presentation, Columbia High School, Gresham, Oregon, December 10, 1987, by W. P. MEAD, Director, Public Safety Resources Agency.

Match (INITIATOR) TNT	Kindling (PRIMARY) Fission 500,000	Wood (SECONDARY) Fusion 60 million
37 gallons	200 million gallons	650 million gallons

An interesting point about the relative power of nuclear energy can be made by examining Enrico Fermi. Fermi may have been the last person to fully understand all there was to know of both Theoretical *and* Experimental physics.

In 1934 Fermi was the first person to fission the Uranium atom, and received a Nobel Prize for that achievement. He also was the first person to sustain a successful nuclear fission chain reaction (CP-1; now USDOE's Argonne National Laboratory).

During the Manhattan Project, DuPont had so much confidence in Fermi's understanding of the physics required to produce Pu-239 that they built three large production reactors at Hanford without even designing or testing prototypes.

Yet with all of his knowledge, Fermi was awed by the scale of the A-bomb's detonation at the Trinity Test in New Mexico. Malcolm C. MacPherson, in the Epilogue of his book *Time Bomb*, reported that after witnessing the test, Fermi was so shaken by what he had seen that he did not show the elation of the other physicists. Fermi was so greatly disturbed by what he had seen that he uncharacteristically "found a driver and said, *'It's not safe for me to drive. You do it.'*

Although Fermi was in favor of developing the A-bomb, he entirely opposed development of the H-bomb. He believed that the H-bomb's size and increased yield would unjustifiably kill innocent civilians even with precise bombing of military targets.

He stated that even if the Soviets developed the H-bomb, that a small arsenal of 100-300 fission weapons would be sufficient to protect the United States from the growing Soviet threat.

W. P. Mead, Director
Public Safety Resources Agency
P. O. Box 724
Portland, OR 97207-0724

February 12, 1998

USDOE Hearing on FFTF Stand-by/Restart Status
Comments on USDOE Safety/Safeguards & Honesty Concerns.

NOTE: This statement is to be included as supplemental comments to the attached comments dated January 14, 1998 addressed to Secretary Pena.

Opening Comments

First of all, I want to thank all of the Oregonians here tonight. It's important that we become involved in this Hearing process because we don't have any real say in the Tri-Party Agreement, and it becomes even *more* important once we realize that the Tritium FFTF will produce is not really needed to make a nuclear weapon, but is on the Department of Energy's "Wish List" because it will be used to *boost* the performance of existing and newer-generation bombs.[1]

Before going any further, we should all understand some basic facts about nuclear energy and how using the FFTF Reactor to produce Tritium is very different from the way normal reactors produce Tritium.

This is important because once we understand the increased risks of running FFTF with the proposed new design and fuel modifications, then we'll be much better able to understand that the Department of Energy really has several other options to produce or reclaim Tritium, and that the use of FFTF is really a jobs subsidy program for the Tri-Cities at *our* expense.

The decision to use FFTF to produce Tritium will be based on politics, not science, and will be weighted by the ability of the Department of Energy to justify using FFTF because it is already available and that it has a workforce in place to operate it. In doing so, however, USDOE will be ignoring several important facts that mitigate *against* using the FFTF Reactor for this project.

General Nuclear Energy Facts

So let's begin with a couple of examples that we're all familiar with: Firewood and conventional chemical explosives such as TNT; and then compare them with the energies of nuclear fission and fusion reactions in terms we can all understand.

We start a wood fire by using a match to light kindling, which then allows us to add larger pieces of wood as the fire grows in heat and size.

In chemical explosives we begin the *explosive chain* by firing a blasting cap, or other initiator, which then detonates the main explosive charge.

To make a bigger bang, you simply tape two or more blocks of explosives together, insert a blasting cap into one block, and explode the cap. This explodes the original block and then continues exploding additional blocks by *sympathetic detonation* until all chemical explosives have been fired.

Nuclear explosives work in a similar manner but with much higher energy yields: Each unit of *mass* produces 34,596,000,000 *times* its' weight during a fission explosion.

The bomb that destroyed Nagasaki actually transformed a minute piece of Plutonium weighing less than one-third of the weight of a penny into an explosion equal to about forty million pounds of TNT!

Chemical explosives initiate a fission explosion (A-bomb) that provides the temperatures and pressures needed to begin the fusion reaction. Another key requirement in both types of nuclear reactions is the quantity and types of *neutron radiation* needed to initiate and sustain a chain reaction in the nuclear fuels of each stage.

Using our examples of wood, chemical explosives, and nuclear fission and fusion, we can get an idea of the scale of energy increases by comparing these four types of reactions: While I don't have the exact numbers for a pound of wood, a pound of TNT will generate enough energy to heat 37 gallons of water from its' freezing to boiling points.

One pound of U-235, if completely fissioned, will do the same thing to approximately *200 million gallons* of water. The A-bombs that destroyed Hiroshima and Nagasaki each fissioned only 1 gram of matter during those explosions. Thermonuclear weapons (H-bombs) can increase the yields of fission weapons by up to 1,000 times.[2]

The above values are for general reference only. Nuclear weapons can be designed to yield different energies for special purposes. The *NUCLEAR BOMB EFFECTS COMPUTER* that was included in a 1977 joint publication by ERDA and the Department of Defense scales the effects of nuclear weapons ranging from a minimum yield of 1KiloTon up to a maximum yield of 20MegaTons, yet we have built "backpack" or "suitcase" ADM and SADM nuclear weapons with yields smaller than 100 tons of TNT.

Potential FFTF Nuclear Accidents

According to Samuel Glasstone, the AEC's compiler of nuclear weapons information, the fission of one *gram atom* releases about one MegaWatt of energy; therefore FFTF's 130MW capacity equates to the power released by approximately 130 Hiroshima/Nagasaki fission bombs.[3]

While an explosion of that scale could not occur within FFTF there exists a very real possibility that a smaller explosion could occur inside the if FFTF were to use MOX fuel per the proposed design and operational modifications to produce Tritium and/or "burn" Weapons Plutonium.

The Department of Energy plans to use MOX fuel - which is a Mixed Oxide combination of Plutonium-239 and Uranium-235 - to "dispose" of surplus Weapons-grade Plutonium.

The FFTF reactor is a prime candidate for this project due to the adjacent siting at Hanford of several facilities that are needed to implement the MOX plan.

The facts that FFTF is a dangerous reactor without a viable reason for its' continued existence, could not effectively contribute to the MOX disposal option, and should be drained and decommissioned all are strong arguments against delaying its' closure.

Even so, based on the past actions of the Department of Energy, there is a high probability that the FFTF will remain on *hot standby status* regardless of the overwhelming body of technical, safety and common-sense arguments to decommission it.

In the event that FFTF is modified to participate in the MOX disposal option, a very real possibility exists that a nuclear accident *could* breach FFTF's designed containment and release radioactive fission products to the atmosphere with potential near and long-term adverse effects to the population and environment.

Please remember that the complete fissioning of a single gram of each of those isotopes resulted in the complete destruction of two Japanese cities, and that fission products 130 times more plentiful may soon be coming to a city near you!

Tritium Production Capabilities

Although only 4 grams of Tritium are used in an average nuclear weapon, the fusion of each gram of Tritium boosts the explosion by an amount equal to about *100 tons* of TNT.[4]

A typical nuclear weapon consists of a uranium or plutonium core that is compressed by chemical explosives. This begins the fission reaction that detonates an A-bomb. At the instant of this *fission* reaction, Tritium is injected into the assembly to produce the neutrons needed for the *fusion* reaction.

Neutrons produced in *fusion* reactions have about 9 times higher energies than if produced in *fission* reactions. As such they can travel farther and faster through air and shielding, which is one of the "advantages" of *Enhanced Radiation* weapons; also known as *Neutron Bombs*.

To quote Ted Taylor, a former nuclear weapons designer:

> "For example, enough neutrons are produced by the complete fusion of three grams of tritium to fission 240 grams of plutonium or weapon-grade uranium. The fission of this much material corresponds to a yield of over four kilotons, while the fusion energy released would be only about 0.4 kiloton."[5]

The H-bomb's thermonuclear deuterium fuel portion of the weapon (lithium deuteride is commonly used) then ignites and produces another pulse of neutrons, which can be channeled into a surrounding blanket of "depleted" uranium (U-238) to undergo fast fission that essentially produces a Third Stage plutonium weapon.

To again quote Ted Taylor:

> "Deuterium is relatively inexpensive and does not decay radioactively. In any case, tritium will be produced once the thermonuclear fuel begins to burn, as a result of the fusion of deuterium with itself and the irradiation of lithium by neutrons from the fusion reaction."[6]

That is an important point that bears repeating:

The Tritium USDOE wants to produce at FFTF can even be made within the weapons themselves without ever having to be made in a standard reactor or accelerator, and we can do this by simply wrapping a relatively inexpensive - non-radioactive chemical compound around the weapon's core assembly.

Tritium Production Methods and Alternatives

Without this "requirement" to produce Tritium in the FFTF for national defense, the current FFTF proposal *clearly* becomes visible for its' real purpose: To keep FFTF alive so it can burn MOX fuel; create *new* waste streams at Hanford; *decrease* our health and safety; and divert money to continue bomb production instead of spending it to clean up Hanford's contamination.

If the Department of Energy is really serious about its' need for Tritium, then why doesn't it simply reclaim it from the contaminated groundwater under the Hanford Reservation? By the mid-1980s Tritium concentrations in the unconfined aquifer below the 200 East and 200 West had exceeded 300,000 pCi per liter!

In fact, if we simply recycled existing Tritium from our nuclear weapons that we're retiring, we easily could maintain a sufficient inventory for our defense needs as our inventory of active nuclear weapons decreases.[7]

An additional consideration is that we already have the basic technology needed to construct miniaturized *charged particle accelerators* to inject a pulse of accelerated deuterium nuclei at Tritium targets that use less than one-thousandth of the quantity of Tritium presently used in nuclear weapons.[8]

Since Tritium decays at about 5.5% annually, adopting this design technology could still provide USDOE with sufficient Tritium reserves well into the middle of the next century. This conversion is readily achievable in view that nuclear weapons are routinely serviced on a seven-year cycle; thus providing us the opportunity to modify nuclear weapons inventories as a part of routine maintenance procedures.[9]

Tritium must be produced because it does not occur naturally in nature, however FFTF would use Lithium-6 (Li-6) as a target to produce it.

The Lithium-6 isotope naturally occurs in nature about 7.5% of the time. Lithium-6 is *not* produced in a reactor: It is not naturally radioactive and does not produce any radioactive waste in its' natural state.

The Tritium production process simply requires that a target of Lithium-6 be bombarded with neutrons to produce Tritium as a product of the fission reaction.

Although this reaction can occur in several types of nuclear fission reactors, Tritium also can be safely produced by using accelerator technology that would provide several additional health and safety benefits that are compromised when using fission reactors.

One of the overwhelming safety advantages of using an accelerator is the speed at which the process can be stopped in the event of an unforeseen event.

Unlike a nuclear fission reactor, once you shut off the electrical power to an accelerator, the machine immediately stops and the temperature rapidly cools to ambient levels. In a fission reactor, the residual heat may require several *days* to reach a level that could permit close-up work by emergency personnel.

Another benefit of using an accelerator instead of a nuclear reactor is that although both of these technologies produce radioactive wastes, far fewer fission products would be generated in an accelerator than would be in a nuclear fission reactor.

A third consideration is that although the Lithium-6 target doesn't really "care" about the source of the neutron that hits it, *we* should care about the source of those neutrons because FFTF is not the optimum reactor platform to produce Tritium: Other reactors are much better suited for this purpose.

Embarrassing FFTF-Breeder Reactor Facts USDOE Ignores

FFTF is the acronym for *Fast Flux Test Reactor*, meaning that it was designed to use *fast* neutrons in a test environment to help design nuclear fuels for breeder reactors. Although the U.S. discontinued its breeder reactor program, FFTF is still in search of a mission that will keep its' workers employed.

The differences between *fast* and *thermal* neutrons are more than simply the speed of the neutron that is produced during the fissioning process: These differences equate to efficiency.

A *thermal* neutron is much slower-moving than a *fast* neutron. As such, thermal neutrons have a much greater chance of striking Lithium-6 targets than do the fast neutrons in the FFTF Reactor.

Using the FFTF Reactor to produce Tritium - or even to burn MOX fuel - is dangerous and even counter-productive because it would mean using a *breeder* reactor to try to eliminate plutonium! As the very name implies, the design of this reactor is to *breed* more plutonium than it used; thus even burning MOX fuel in the FFTF likely would result in a net *gain* of plutonium.

The use of the FFTF's fast neutrons in either scenario can only result in a dangerous reconfiguration of the reactor's core in a doomed attempt to achieve results that are much more easily accomplished in thermal reactors or accelerators.

To quote from *Nucleonics Fundamentals* (pages 276-280):

"12-6. The Enrico Fermi Fast-breeder Reactor (EFFBR)"

"For the reasons discussed in Sec. 10-11, breeding of plutonium is possible only in a fast reactor. ..."

"Because the fission cross sections of both U-235 and Pu-239 are only about 1.5 barns for fast neutrons, large quantities of power can be generated only through a combination of high neutron flux and large quantities of fuel."

"To take advantage of the low value of α for uranium and plutonium with fast neutrons, it is essential to keep the neutron-energy spectrum well above 10^5 ev [*electron volt*]. To accomplish this, the quantity of structural materials and coolant in the core must be held to an absolute minimum, and materials containing hydrogen or other light elements cannot be tolerated. It follows that a very high fraction of the core material must be fissionable fuel and that the large quantity of fissionable fuel required must be concentrated in a very small volume. In the EFFBR 300 Mw of heat will be produced in a core only 30.5 in[ches] in diameter by 31.2 in[ches] high, for a power density of 13.1 kilowatts per cubic inch. By comparison, in the Shippingport PWR 230 Mw of heat is produced in a core 6.8 feet in diameter by 6 feet high, or 0.61 kw per cubic inch. The very high power densities in fast reactors make it difficult to remove the heat without exceeding permissible temperatures in the core. When solid-fuel elements are used, as in the EFFBR, the fuel must be in the form of very thin plates or rods to give sufficient heat-transfer area and to prevent internal hot spots in the fuel elements. Dimensional tolerances must be held within very close limits, and fuel fabrication costs are high. To prevent the slowing down of neutrons, the fuel cannot be alloyed, and radiation damage to the fuel elements is severe. Fuel elements must therefore be refabricated frequently, further increasing the fuel costs. Therefore, in addition to the large amount of fuel in the reactor, there is at any one time a large quantity being reprocessed. The investment in this large inventory of fuel is one factor tending to make the cost of power from a fast-breeder reactor very high. For the reactor to be economically competitive with other types, the value of the fuel produced must offset this investment."

To summarize the above paragraph as it relates to FFTF:

1. FFTF will need a very high core load of fuel and will still "breed" more plutonium than it uses while it produces Tritium or burns MOX fuel to eliminate plutonium that the Department of Energy has already produced.

2. If we try to burn MOX fuel, the FFTF's core load will require an increase of plutonium and uranium concentrations to dangerous levels, yet the presence of light elements such as the Lithium-6 used as targets to produce Tritium would "poison" FFTF's ability to run as originally designed.

3. Fermi-1's core was nearly 21.5 times denser than the core of the Shippingport Reactor. Although this analysis was written in 1959, it accurately warned of the exact type of fuel meltdown that destroyed the Fermi-1 Reactor in 1966; including the danger associated with using this type of fuel and the additional risks of not being able to control the fuel's temperature in the event of a nuclear accident.

4. The precise size and positioning of the fuel within the reactor's core is so important that it raises the operating costs above those of standard reactors. The fuel also is subject to a severe degree of radiation damage and cannot be protected similarly to fuel elements used in normal *thermal* reactors. These factors require additional fuel assemblies, which further increases the operating costs of reactors such as FFTF.

It is inconceivable that after operating the FFTF Reactor at Hanford for as many years as they have, that the United States Department of Energy does not fully understand the risks of using the FFTF in a new mission for which it was not designed. Using FFTF for any of the three new roles that have been proposed defies logic and runs counter to the operational, health and safety histories of FFTF and similar fast reactors.

If USDOE really *needs* Tritium, why not use cleaner, safer methods to produce it? The answer seems to be that the push to use FFTF really is only a cover story by USDOE to sustain jobs at Hanford at the expense of the public's health and safety.

In a time when we're all having to cut back on disposable income, I think it's about time we hold the Department of Energy to it's promise to clean up Hanford's contamination *before* it begins another 40-year shop project.

I suggest that instead of using FFTF to create *more* radioactive waste, that we develop workable strategies to switch the FFTF's workforce *from* Tritium production *to* environmental remediation projects that are funded at the same levels that would have been used for Tritium production operations at Hanford using the FFTF and its' associated facilities.

In a time when even major corporations such as banks and phone companies are having to change the way they do business -- and also reassign valued employees to "non-traditional" jobs within those industries -- it becomes clear that the workers at the Tri-Cities area should be retrained and then reassigned to cleanup duties at the Hanford Reservation.

This would accomplish both goals of keeping the FFTF's workforce fully employed at comparable salaries and cleaning up Hanford's environmental contamination without diverting those funds to maintain FFTF on hot standby.

While some may argue that this isn't fair to FFTF's highly trained workforce, it clearly is in the best interest of the nation to begin Hanford's environmental remediation before the contamination migrates off-site.

That being the case, if FFTF's workforce truly wants paying jobs, they should be willing to make the necessary adjustments to continue employment at the Hanford Reservation.

In each case of terminating a major program at Hanford during the 1980s we've heard similar dire warnings about the "need" for continuing production operations at the N-Reactor, PUREX Plant, converting the WPPSS-1 Reactor to produce Tritium, and now that we need to maintain FFTF to produce Tritium.

The reality, however, is that *all* of those projects were simply make-work appeals to protect jobs at Hanford. We didn't need their "product" then, and we don't need it now. What we *do* need is to retrain Hanford's workforce to clean up their legacy of contamination from the past 55 years of weapons production!

Nuclear Weapons Design Information

It can be proven that our "need" for Tritium can be met by recycling older nuclear weapons, and that it's cheaper to *buy* Tritium from Canada's Ontario Hydro than to produce it at FFTF.

Using commonly-accepted targeting calculations, on a scale of 100 for nuclear weapons effects against hardened targets, we can also show that Hiroshima's blast in 1945 - which entirely destroyed that city and instantly killed an estimated 79,000 persons - represented a lethality value of only 0.069%; whereas a Cruise Missile now has a value of 1,519.9%; and a Trident-2 Submarine has a value greater than **879,000**![10]

These photos of Nagasaki, Japan were taken on August 7th and 12th, 1945, immediately before and after that city was destroyed by plutonium produced in Hanford's reactors.[11]

That A-bomb yielded about 20KT of explosive energy and was designed so crudely that the aircraft that delivered it *had* to drop it before landing because once it took off it could not safely land with the bomb due to fusing and safety constraints, yet this damage was produced by fissioning a single gram of Hanford's Plutonium.

The total amount of nuclear explosives used in 1945 to test the first A-bomb and then completely destroy two Japanese cities weighed less than a single penny.

WW-2 A-bombs were fission bombs that were designed 55 years ago, and we've been refining and testing them ever since. In the 1950s Ted Taylor even built a U-235 A-bomb with a yield that approached a million tons of TNT!

As we "progressed" we were able to miniaturize the size of the bombs and add second stages to develop H-bombs that equaled the explosive yield of several tens of Megatons of TNT.[12]

Due to improvements in targeting accuracy and related factors, we can now be assured that a thermonuclear weapon launched by the United States will detonate within a few feet of its' target even when launched from a distance of hundreds or even thousands of miles.

We can also be assured that weapon can be counted on to "kill" it's hardened target, regardless of defensive measures it encounters. Modern nuclear weapons have a variety of design characteristics to ensure their performance:

Terradynamic warheads can penetrate hardened targets such as command bunkers; *Enhanced Radiation* warheads can neutralize armored vehicles that would otherwise have withstood blast and thermal effects of airbursts; and *Salvage ("Proximity") Fusing* will trigger detonation of the nuclear weapon if it senses it is about to be destroyed by defensive countermeasures.

As you can see this becomes extremely complex. A modern nuclear weapon requires nearly 2,000 components in about 125 sub-assemblies, and this does not even begin to take into account the complexity of the delivery system: A strategic missile has nearly a *million* components! Even within these complex systems, the timing and accuracies needed are measured in nanoseconds, so don't tell me we need another escalation of our ability to kill people on the other side of the world.

Not only does if become impossible to justify the need for additional escalation; it becomes even more important to stop this madness once we understand that the first victims of this FFTF Tritium production project will be the persons right in this room, and our children, and our children's children in the Northwestern United States and adjoining portions of Canada![13]

Tritium's and Radiologic Health Effects

Tritium is a radioactive form of hydrogen with a half-life of 12.3 years. Hydrogen is everywhere around us and is easily transported via our air, food and water.

Tritium is readily absorbed through the skin and targets the whole body. Once inside the body, this beta radiation is free to continue bombarding virtually any cell in the victim with 18,000 Electron Volts for the rest of their life.[14]

This fact is even more important for the women in our audience for two reasons: (1) It has been shown that radiation generally effects women and children more than it does men; and (2) a health effects study in the 1980s found that even several *years* after their exposure to Tritium had ended, an abnormally high number of those women experienced spontaneous miscarriages and/or deformed children.

Further investigation showed that the egg cells every woman carried from birth had been irradiated and their own bodies had rejected their developing fetus as being a "foreign body."

This research was reported at the October 1985 Spokane HEAL/PSR "Conference on Human Health and Hanford," yet USDOE's Richland Operations Office at Hanford later supported *doubling* the MPBB of Tritium even in the face of studies by numerous Health Physicists submitted to the ICRP that recommended Tritium exposures be ***decreased** by 100 times*![15]

In 1986 I was present on a tour of Hanford's facilities when an Oregon State Senator asked the Department of Energy's VIP tour personnel about radiation exposures in the restricted areas.

The USDOE spokesperson stated that Hanford's average annual exposure by workers to ionizing radiation was less than 2MREM. This statement was later determined to be incorrect.[16]

The same State Senator followed-up her initial question by asking how USDOE protected pregnant employees who worked in radiation areas. The Department's spokesperson stated that USDOE and its' contractors transferred the employees as soon as the woman told her supervisor of the pregnancy.

As many of you know, during the mid-1980s it may have taken up to three weeks after conception to confirm a pregnancy. This may not seem to be significant at first glance, however the fetus is most susceptible to damage by ionizing radiation within the first two weeks of gestation, so this failure to remove workers from radiation areas posed significant increased risks to the future health of those unborn children.

Shortly after this experience at Hanford I was asked to talk at the annual conferences of Washington and Oregon's public health associations. During my research I discovered that USDOE's budget for Hanford's plutonium operations alone totaled $610 million dollars, yet that the entire budget for all State and local health spending in Oregon totaled only $44,409,696; a ratio of 14:1 in favor of Plutonium production in Washington State that adversely impacted public health in Oregon.[17]

Who Favors FFTF's Operations?

The U.S. Department of Energy now wants to subvert the Tri-Party Agreement in its' attempt to restart the FFTF Reactor instead of concentrating on the cleanup of the massive radiologic and chemical contamination that should be its entire focus at Hanford, and to which it agreed.

And what's worse is that Washington State's Department of Ecology has agreed to that exemption because it sees no way of enforcing the law.

That's like having Oregon's police agencies say that it's too much trouble to stop car thieves, but although they've decided to ignore enforcing that particular crime, they *promise* to keep an eye on the thieves to make sure that they obey all "other" traffic laws after they've stolen your car!

I hope that you all have the opportunity to make your verbal statements before our local audience and to join with us to build your own local networks to oppose this course of action.

This is especially important because I've seen the opposition - whom I call *"Three Hour Immigrants"* - who have been bussed in from the Tri-Cities area of Washington State to spend three hours at other Oregon Hearings so they could "weight" the testimony and use *our* time instead of allowing Oregonians to speak.

Our Three Hour Immigrants are like sneak thieves or muggers that prey on us in the night, so the citizens of Oregon really need to form their own "Neighborhood Watch" to keep them from stealing our rights to public health, safety and a clean environment.

I have a message for the Three Hour Immigrants:

Oregonians won't be held hostage by Nuclear Muggers,
so don't try to steal our Hearing!

Four Traits of USDOE and its Predecessors

Instead of summarizing my technical arguments that will be submitted against further use of the FFTF Reactor, which are included in the attachment to this statement, I'd like the Oregonians among us to consider four important facts about the Department of Energy's history:

(1) The majority of the Department of Energy's projects are asinine from the standpoint of environmental health, safety and security:

During the ill-fated BWIP siting process USDOE's third- highest administrator admitted that even though the methodology used in that process was flawed, it was the *"final result"* that counted, even though independent tests could not replicate those findings.

USDOE then "lost" the rock samples it had used in the tests, but still maintained that "rock shattering" should not be counted against siting the High Level Waste repository 3,200 feet below the Columbia River's aquifers.

During the proposed conversion of WPPSS-1 at Hanford to produce Tritium it even ignored statements by its own Peer Review Committee warning of the possibility of a low order nuclear explosion inside that converted reactor's core because that statement didn't conform with their goals.

(2) The Department of Energy and its' Contractors don't follow their own established emergency procedures when industrial accidents occur:

This is especially stupid because a chemical explosion at Hanford in May of 1997 was very similar to one that occurred at Hanford's 242-Z Plant in 1976, and Hanford's personnel *still* screwed up and needlessly exposed their workers to radiation.

Not only that, they then *lost* the medical records for those workers and didn't even realize the tests were missing until nearly two weeks later!

In other words, after first "nuking" their employees, they "lost" them and didn't even realize they were missing! This may be the first admitted instance of the Department of Energy having "MUF" employees in addition to their MUF inventory of Plutonium.

Safety problems are an on-going fact of life at Department of Energy facilities and are a part of the institutional history of USDOE and its' predecessor agencies. These facts have been reported so many times that we have had to form citizen's organizations to help protect whistle-blowers who report safety concerns and violations of established safety procedures![18]

(3) The Department of Energy has *never* completed a significant project on time or within their budget unless they've changed the rules or operating procedures to "fudge" the books:

I've repeatedly cited examples of this during the past 14 years and the Department has *never* been able to counter my allegations.

The Department often simply refuses to even acknowledge inconvenient or embarrassing comments made by citizens who respond during their Comment Period. This occurs even when specifics that bracket the subject comments are included in USDOE's *Final Record of Decision*, which is required by federal law to include responses to *all* of those stated concerns.

(4) The Department of Energy will first attempt to mislead the public, but will lie whenever a lie is the best way for them to accomplish *mission objectives*. They often attempt to avoid discussion by spontaneously "classifying" any topic they cannot adequately defend or address:

Immediately after A-bombs ended WW-2 Maj.Gen. Groves was called before a Congressional hearing. Groves and others had wanted to avoid mentioning "radioactivity" because they feared that word might have implied the army had used a weapon similar to poison gas.

According to Jungk (*Brighter Than A Thousand Suns*, page 228):

> "Groves stated openly at a Congressional hearing that he had heard death from radiation was 'very pleasant.'"
>
> "Such observations made the Los Alamos scientists' blood boil. For at that very moment their twenty-six-year-old colleague Harry Dagnian was struggling against the menace of a cruel death from the effects of radiation."
>
> "... Twenty-four days later he died."

Jungk continued on page 229 with a footnote about a second death in 1946:

> "Exactly eight months after this first accident came the one which befell Louis Slotin - described in Chapter XII. As it was considered absolutely essential to keep this affair a secret, residents of Los Alamos were even forbidden to decline invitations to a reception arranged a long time in advance in honor of Santa Fe notabilities, who had been asked to visit the Hill. Even some of Slotin's closest friends, for example Philip Morrison, were obliged to appear at this cocktail party, in between attendances at the bedside of the dying man, and behave as though they had not a care in the world."

In the early 1960's Edward Teller and the AEC were concerned about adverse publicity from atmospheric bomb tests and tried to put a positive "spin" on radiation by calling Sr-90 *"Sunshine Units."*

In the mid-1960s the Oregon Health Division charged the AEC with contaminating the Columbia River, citing specific fission products that had been found downstream from Hanford. The AEC denied Hanford was to blame and stated the radiation was from worldwide fallout from Chinese tests.

The Oregon State Health Division was able to prove that, although atmospheric fallout was present, they were able to track the overwhelming majority of the radionuclides directly back to the Hanford Reservation.[19]

When more than a dozen world-renowned health physicists stated that Hanford's workers showed increases in radiation- induced health effects, Hanford countered by funding a study to try to prove that such increases could just as easily have been caused by the final digit of the worker's Social Security number![20]

In August 1982 a Federal Court in Salt Lake City convicted USDOE of Fraud because of it's lies in a 1956 Federal Court case by downwinders of the Nevada Test Site.[21]

The AEC had denied contamination had drifted off-site and had classified an entire series of health effects studies that positively identified Nevada's A-bomb tests as the source of the lethal contamination in Utah, and had monitored radiation plumes that had contaminated areas surrounding Chicago, contributed to birth defects in New York State and had drifted into Canada.

In the mid-1980s the Department of Energy tried to re-classify documents that it had previously released to the public because those documents countered its new line of thinking.

In one instance, when I accompanied Oregon's Joint Interim Committee on Hazardous Materials to Hanford's PUREX Plant, their Manager lied to the committee's members by stating that their intent of altering the PUREX Plant was to reprocess U-233 fuel from the decommissioned Shippingport, Pennsylvania, Reactor.

He stated that it was not possible to make a nuclear weapon using U-233, reminded me of the penalties for divulging classified nuclear information, and then asked me if I had any direct knowledge that the United States had built a U-233 bomb.

Although I knew a U-233 bomb could be built, I could not state anything unless I could cite previously-published USDOE data to confirm that fact. I had to back down then, but I later checked and discovered the AEC had announced a successful U-233 bomb test in Nevada during 1957.

In mid-1985, during a conversation with an USDOE Project Manager at Lawrence Livermore National Laboratory, we could not agree on a technical point about an X-Ray Laser weapon to be used in the Strategic Defense Initiative (a.k.a.: *Star Wars*).

The weapon would have required an H-bomb to produce the energy needed to power the x-ray pulse, however I believed that the detonation of the A-bomb trigger would have caused the laser rods to misalign, thus decreasing its' effectiveness.

After confirming that the laser required an H-bomb, the USDOE official and I continued a technical discussion that outlined timing - in nanoseconds - of the high-altitude thermonuclear explosion that would be required of this weapon.

After talking for about a half hour, the project manager ended the conversation by stating, *"You understand, of course, that this entire conversation is classified."*

I stated that I didn't see why our talk should be classified because I was using the Department's own published sources for my calculations, and that he had not placed any restrictions on our discussion up to that point.

The official replied, *"It's still classified."*

I followed up by stating that it seemed ironic and contradictory that a team of Soviet nuclear weapons designers had been invited into the Department of Energy's labs to examine SDI research at the same time that the Department was trying to keep even basic information from the public.

The official concluded our discussion by stating, *"Regardless, it's still classified."*

A Policy Built on "Blissful Ignorance"

USDOE is the latest agency in a direct lineage of nuclear weapons production based on military goals handed down from each successive organization:

U.S. Army Corps of Engineers, Manhattan Engineering District;
U.S. Atomic Energy Commission;
U.S. Energy Research & Development Administration;
U.S. Department of Energy

The only common thread here is that in each generation of nuclear weapons production there have been citizens who have come from within those agencies and rallied public support for more civilian control over rogue bureaucracies. Several of us here today come from pro-nuclear backgrounds but have changed sides - we really need your help to stop this dangerous plan.

The Smyth Report was written in 1945, prior to the detonation of even the first nuclear test, by Professor H. D. Smyth as *"The Official report on the Development of the Atomic Bomb under the Auspices of the United States Government, 1940 - 1945"* at the request of Maj. Gen. Leslie Groves, the Director of the Manhattan Project. Smyth stated:

> "I felt that the possibilities of atomic energy, and particularly of the bomb, were so important that the political decisions which would have to be made ought to be based on the widest possible dissemination of information. I felt that it would be extremely dangerous to leave these decisions in the hands of a small number of men without informing the people of the country what the significance of the discoveries was."[22]

Even so, Smyth's primary concern was about the continuance of the production operation, he stated:

> "As of early summer 1945 the piles are operating at designed power, producing plutonium, and heating the Columbia River. The chemical plants are separating the plutonium from the uranium and from the fission products with better efficiency than had been anticipated. The finished product is being delivered."[23]

That's USDOE's bottom line: That nuclear weapons production goals be met regardless of what they have to do to the American people. It's also the reason why although the Department's Safety and Production offices were combined, that *production* goals traditionally overshadowed safety concerns at Hanford, and throughout the entire institutional history of the Department of Energy and its predecessors.

USDOE Reactor Scams: Past and Present

During the Department of Energy's Hearing in Portland on January 14, 1998, Mr. Hughes stated he had no knowledge of accidents at similar breeder reactors. Since Mr. Hughes directs the FFTF project, that was a blatant admission of USDOE's ignorance of U.S. nuclear history and the dangers of FFTF's design characteristics.

Since Mr. Hughes mentioned the Experimental Breeder Reactor #2 as being decommissioned, it is only logical that he should also be familiar not only with EBR-2, but also EBR-1 which was sited at an adjacent area of the Idaho National Engineering Laboratory; previously known as the *National Reactor Test Station*.

The following excerpt describes the accidental core meltdown of EBR-1, a liquid sodium-cooled breeder reactor that was the AEC's experimental prototype for EBR-2, Fermi-1 and FFTF:

"ACCIDENT-14"
"EXPERIMENTAL BREEDER REACTOR I CORE MELT DOWN"

> "The transient test being conducted with EBR-1 on 29 November, 1955, resulted in the melting of some fuel elements and release of fission products into the cooling system with minor leakage of some gaseous fission products into the reactor room. ..."
>
> "The reactor had been operated for four years through two core loadings and the plant had been found to be quite stable and largely self-regulating. It was known that, if the coolant flow rate through the core was changed, a prompt positive metal temperature coefficient of reactivity was observed. A decrease in flow rate from 45 to 17 gal/min gave a fuel temperature rise of 10° C and a rise in power. It is believed that the increase in temperature caused inward bowing of the fuel rods and an increase in reactivity. A second phenomena observed in EBR-1 was an oscillation in power, if the coolant flow was reduced when the reactor was operating at power. If the coolant flow was reduced at full power to a value around 2/3 of the design value, the oscillatory behavior became rather violent. The mechanism which was thought to cause the oscillatory behavior was a negative power coefficient of reactivity that was delayed some time of the order of 10 sec, if a single delayed negative coefficient was postulated."
>
> "The reactor was scheduled to be placed on stand-by early in 1956, since most all the significant experiments that were practical to perform with this core had been completed. Measurements of the transient temperature coefficients were to be experiments to be performed and were known to be difficult with a significant chance of core damage. The reactor was to be placed on a short period without coolant flow to measure the temperature coefficient during a fuel temperature rise of 500° to 600° C. The resulting coefficient of he uranium was close to that at which uranium metal and stainless steel form a eutectic at 725° C. Because of this and the rapid rate of temperature rise, the reactor had to be shut down within one second. In other experiments of this series at longer periods it has been possible to interrupt the power excursions by using the motor-driven control rods which subtracted reactivity slowly. However, in this final test the operator repeated the use of the slower motor-driven control rods until the scientist conducting the experiment recognized the situation and pressed the rapid shut-off button and, simultaneously, the automatic power level trips activated the shut-off rods. The delay in time, of up to two seconds, permitted the reactor power to overshoot and heat the fuel elements so that alloying of uranium and steel and uranium melting occurred, and there was extensive damage to the core.

> After an extended period of time until radioactivity had decayed appreciably, the core was removed and after examination, sent to chemical processing. Besides the data on temperature coefficients, these experiments also provided valuable information on reactor behavior during melt down and on the behavior of fuel elements when melting in liquid sodium. No unforeseen or catastrophic processes occurred."[24]

One could reasonably assume that, due to the advances in nuclear engineering that were made during the transition from EBR-1 to EBR-2, that all of the glitches in breeder reactors had been accomplished because Mr. Hughes failed to note any potential difficulties with liquid sodium-cooled breeder reactors, however further research reveals that this is not accurate; therefore one possible reason for this lapse was due to ignorance.

The following information is included to correct that oversight and to call the Department's attention to some of the dangers associated with reactors that use liquid-sodium:

> "Some of the other properties of shock waves can be illustrated by considering the possible sequence of events following a sudden release of energy from a power excursion in the core of a reactor. A liquid-filled (water or sodium) reactor vessel with a gas-filled space between the top of the vessel and the liquid as in the EBWR or EBR-2 will be assumed. Following the release of energy a pressure wave will travel away from the core and become a shock wave after traveling a distance of less than the core dimensions in the case of a short duration power release. From experiments it appears that such a sharp, short duration shock is more destructive than a long duration shock of equal impulse value. In traveling through several feet of liquid to the reactor vessel about 90 per cent of the total explosion energy is dissipated as waste heat raising the temperature of the liquid only a few degrees. The shock wave travels through the liquid and upon meeting the wall of the pressure vessel is increased several fold by a reflection process. For an initial energy release equivalent to 300 lb of TNT, the pressure at the vessel walls may be several thousand atmospheres and far above the strength of the vessel. The vessel is ruptured, and the energy of the shock wave is released below and to the sides of the reactor vessel. ... It should be noted that rupture of the top structure in this example is prevented by the gas space above the liquid. If the vessel were completely filled with liquid such an explosive release of energy would be expected to cause failure of the top of the vessel."[25]

The above data was a factor in designing the EBR-2, however it also raises additional concerns regarding the dangers of a "sodium-air reaction" within the reactor's core. Although EBR-2's design postulated a maximum release equivalent to a mere 300 pounds of TNT for the *nuclear* excursion; it stated that the *chemical* reaction of an sodium-air explosion in the reactor's core could reach *the equivalent of 10,000 pounds of TNT*![26]

The dangers associated with Sodium-cooled reactors are fully documented by their operating histories and has been reported in depth. In California's SRE Reactor some of these problems included temperature excursions in several of the reactor's sub-systems with accompanying steam production at 1000 degrees F., high oxygen content in the sodium which caused oxide plugging of the process tubes, fission-product contamination of the primary coolant system, SCRAMs caused by abnormal sodium flow rates, changes in the core's reactivity, and impairment of the heat-transfer characteristics, loss of the auxiliary primary sodium flow, failure and melting of fuel elements, and release of fission products into the atmosphere.

It's interesting to note the findings of the *Atomics International Committee* regarding this accident:

> "The difficulties encountered at the SRE are not attributed to the use of sodium as a coolant but rather to the impurities that were introduced into the coolant."[27]

While some may take comfort in that statement, it should be understood that the SRE Reactor's difficulties arose *because* it used liquid sodium coolant. The use of corrosive liquid sodium coolant caused several problems that directly led to its' contamination; which ultimately destroyed the reactor's core.

SRE was a very small reactor of only 20MW(t) that had been sited in a remote area due to the dangers of liquid sodium cooled experimental reactors and the potential risks of explosion if the sodium coolant contacted air or water.

The nearest community, Susana Knolls had a population of only 750 persons, and the surrounding canyons were so desolate that the AEC's Advisory Committee on Reactor Safeguards was not able to determine the population within a ten mile radius of the reactor.

Even though the reactor had been built underground to help contain any radiation produced by an accident, the SRE Reactor still released fission products into the environment.

FFTF is several times larger in size than SRE and much closer to cities. Even though it operates at atmospheric pressure - just as the SRE Reactor did - the similarities of the coolant and the much greater size of the core present serious challenges to public health and safety in the event of an accident at the reactor.

In the *"Wash-3 Report"* the AEC publicly admitted Hanford's potential danger to surrounding populations:

> "... a 3-mile an hour wind is not improbable in view of the meteorological conditions observed at Hanford. The 3.3 hours required in this case for the cloud to travel 10 miles will only barely allow notification of hazard."
>
> "In the light of this discussion we adopt the following point of view. We accept 3 hours as a critical time. We consider a receptor at a given distance from the pile catastrophe:"
>
> "(a) If the wind is so slow that more than 3 hours are required for the cloud to reach the receptor then indeed the possible accumulated exposure will be greater than we are about to calculate. It is, however, possible to notify and more the people out of the way of the cloud. It is recognized that this evacuation itself will be difficult and hazardous."[28]

During the Department of Energy's Hearing in Portland, Oregon on January 14, 1998, at least two persons cited the catastrophic accident that had occurred at the Fermi-1 sodium-cooled breeder reactor on October 5, 1966.

This accident was so serious that for nearly an entire month the Atomic Energy Commission considered trying to evacuate 1.5 million persons from Detroit, Michigan, located 25 miles north of that reactor.

[NOTE: *All MegaWatts are not created equal...*]

Although the Fermi-1 Reactor was commonly rated at about 60.9MW(e), it was about four times more "powerful" than the EBR-2's rating of 62.5MW(t) due to the design characteristics of the reactors, and the difference between the *electric* and *thermal* MegaWatts referred to as MW(e) and MW(t). Fermi-1's actual "size" - when compared to EBR-2 - was 262ME(t).

As an example, Hanford's N-Reactor was rated at 860MW(e) for its ability to generate electricity, but it was rated at 4,000 MW(t) for its ability to produce plutonium.

This difference, or *thermal coefficient*, allowed the N-Reactor to reliably produce the neutrons needed to irradiate U-238 targets to produce plutonium, but also resulted in operating the reactor in a mode that **wasted** *34,826,000,000 kilowatt hours* of generating capacity due to the downtime associated with the Plutonium production cycle.

During its 43 year history Hanford *never* relied on any of its ten large nuclear reactors to produce electricity for its on-site operations: Hanford's electricity needs were supplied by the BPA and two on-site coal plants.

In comparing the relative sizes of the sodium-cooled breeder reactors listed above, it is important to recall that the "siting" of those reactors have come much closer to population centers as the designs became larger.

EBR-1 and EBR-2 were sited within the boundaries of the 870 square mile NRTS (now INEEL) due to safety concerns in the event a nuclear accident breached their containment.

FFTF is rated at about 130MW -- which is much larger than twice the size of the Fermi-1 and EBR-2 Reactors -- but is sited virtually adjacent to the Tri-Cities metropolitan area.]

In the Forward of the book, "*We Almost Lost Detroit,*" Carl J. Hocevar, stated:

"The developers of the Fermi breeder reactor were very sincere, diligent, and highly qualified individuals to whom the safety of the reactor was paramount. Extreme care was taken to insure against the possibility of a serious accident occurring. The scientists involved were most confident that they had covered all possible problem areas. They had built safeguards on top of safeguards. Yet in spite of the precautions in the design and construction of the Fermi reactor, and in spite of the reassurances by the scientists that a serious accident could not happen, one did occur. The results far exceeded the expectations of anyone involved with the project. Fortunately, at the time of the accident, the reactor was operating at a very low power level or the consequences could have been much worse."[29]

The New York Times Book Reviewer, in confirming this incident, stated:

"In an amazing windfall, Fuller obtained five thousand pages of Atomic Energy Commission documents revealing that the agency suppressed a study showing that a runaway nuclear reactor could devastate an area the size of Pennsylvania ... the documents make fascinating reading. They form the backbone of the story of how our legal and political institutions have failed to inform us of, or protect us from, the uncertainties of nuclear power."

The information about this accident was known throughout the world, however Mr. Hughes apparently didn't know about it when he last testified in Portland on January 14, 1998, yet in his book, *"Nuclear Disaster In The Urals"* Zhores A. Medvedev, even referred to:

> "... many news stories in the United States about the near-disaster at the Enrico Fermi reactor near Detroit, publicity about which the government and AEC found extremely unpleasant."[30]

It's interesting to note that during the first public Congressional hearing on atomic energy back in the late 1940's only <u>four</u> persons were invited to testify: Secretary of War Patterson, General Groves, and two atomic scientists who had been consultants to writing the bill: Vannevar Bush and James Conant.

Leo Szilard blew the whistle at this attempt to keep the public in the dark, and shortly thereafter the co-sponsor of the bill, Congressman May, was forced to retire from public life and went to prison for showing favors to an industrialist who had gotten Army contracts by corrupt practices.[31]

We've come a long way since the 1940s, and we've made major improvements just in the last twenty years, however we still need to work closer to develop a balanced national policy on how to protect national security vs. the public's health, safety and environmental interests.

While is currently appears to be necessary to maintain a minimum quantity of nuclear weapons for deterrent purposes, the Department of Energy has not satisfactorily demonstrated the need to restart the FFTF reactor to produce additional Tritium.

Enough Tritium can still be reclaimed from existing weapons to supply our national defense needs for several years; thus providing us sufficient time to restart production via other means.

A restart of the FFTF Reactor cannot be justified at a time when we have three immediately and/or long-term alternatives that may augment our supply of Tritium:

1. The capability to purchase Tritium from Canada's Ontario Hydro;

2. The ability to reconfigure weapons to use a Lithium-6 blanket to produce the needed quantity of Tritium inside the weapon during the detonation sequence;

3. The inclusion in new weapons designs of miniaturized *charged particle accelerators* to inject a pulse of accelerated deuterium nuclei at Tritium targets that use less than one-thousandth of the quantity of Tritium presently used in nuclear weapons; and,

4. The possibility of building a new accelerator that could serve several roles with a greatly-increased degree of safety while concurrently producing less waste and thermal contamination than reactors.

On December 7th, 1987, Portland hosted a Congressional Hearing about an experimental bomb USDOE wanted to drop on us in the Northwest: USDOE wanted to convert WPPSS-1 to produce Tritium, and they wanted to do it by increasing its' fuel core by nearly 25% and raising the uranium fuel's enrichment level from the 3% normally used in commercial reactors of this design, and increasing it to **<u>93%</u>** even though their own internal "Peer Review" committee said that that configuration could produce a low yield nuclear explosion inside the reactor!

The WNP-1 idea was politically and scientifically flawed, and so is the idea of using the FFTF Reactor in a production mission. We have much better - and cheaper - alternatives that are readily available to us and need further exploration.

We should use the funds currently used to keep FFTF on hot standby status to retrain its workforce for environmental remediation projects at Hanford, while we pursue other options to maintain a minimum quantity of weapons by recycling existing Tritium supplies.

The FFTF is a Fast Breeder Test Reactor. It was not designed to accomplish its' new Tritium production mission and cannot be safely operated in that role.

FFTF is *not* a low-power TRIGA Mk. 1 Training and Irradiation Reactor: FFTF - if modified and operated with the fuel matrix that has been proposed - *could* experience a low-order nuclear explosion that could possibly breech its' designed containment and allow fission products to escape into the atmosphere very similarly to what happened at Chernobyl in 1986.

FFTF was designed as an experimental breeder reactor that is cooled by molten sodium that explosively reacts to both air or water. This reactor was designed in the 1960's, but you'll hear that it's still "state of the art" reactor technology; that it's 1,120MW(e) smaller than Trojan; and that it only needs to be "tweaked a little bit" in order to run correctly.

This safety talk is nothing more than a pile of Road Apples on the highway to a potential nuclear disaster!

FFTF is an old reactor that cannot be run safely in the envisioned mode: It is too big and too close to the Tri-Cities area to be run as a production reactor, yet is too small to meet USDOE's Tritium production goals. It steals money from needed health, safety and environmental remediation at Hanford.

The Fermi-1 Liquid Metal Fast Breeder Reactor that threatened Detroit was less than half the size of FFTF and was projected to cost $62 million. It wound up costing $109 million to build, was repeatedly tested at very low power over a period of two years, and then had a catastrophic nuclear accident the first time its' operators tried to bring it on line.

The cause of the accident was a piece of metal about the size of a soup can's top. It floated through the reactor and eventually clogged the liquid sodium coolant loop, which then raised the nuclear fuel's temperature so rapidly that it burst its' cladding and puddled on the floor of the reactor's core. That reactor was **never** repaired and is now entombed in a guarded concrete shell -- just like Chernobyl.

While we all know an operating nuclear reactor produces its' energy by fissioning uranium or plutonium fuel - and in FFTF's case it probably will be a mixture of *both* elements - most of us don't understand that the fission reaction can haphazardly split these atoms in any of approximately *thirty* different ways, which will then create some 143 different fission particles and decay products with very different energies and adverse health impacts.

What's really scary about that fact is that an operating nuclear fission reactor generally contains as much radioactivity as approximately *1,000* Nagasaki-sized A-bombs.

This becomes even more important when we realize that FFTF is a breeder reactor using "**fast**" neutrons that are vastly different from the *thermal* neutrons used in common nuclear power reactors.[32]

What's going to happen to the Northwest if a similar accident breaches FFTF? We have only three methods of protecting ourselves from the effects of ionizing radiation: Time, Distance and Shielding.

FFTF is more than *twice the size* of Fermi-1 and *twice as close* to a major population center! If we breech FFTF's containment, then - to use the industry's own term - we'll *all* be "Crapped Up" before we even have a chance to evacuate the area.

Last month Mr. Hughes, The Department of Energy's Project Manager, stated he didn't even know of that accident, so how can we believe they know what they're talking about in running a redesigned 20-year-old test reactor at more than its' original designed power, using an entirely new and untested fuel matrix and core enrichment, for a job no one's ever tried before?

This is a dangerously stupid jobs program for the Tri-Cities at our expense. We need to shut this reactor down cold, drain and decommission it, and then put those people to work cleaning up the contamination that exists at the 1,000 EPA Superfund sites that already exist at Hanford.

Proposals to convert Hanford's jobs from Production to Cleanup were developed in the 1970s, yet the Department of Energy and its' Contractors *still* won't accept the fact that their mission goals must be changed to protect the health and safety of our population in an entirely *new* way: We no longer need nuclear weapons to protect us from foreign enemies when the production of those weapons are now the single most important threat tc our own lives!

FFTF is a unique reactor - it's the last operable reactor of its' type in the United States because all of the others have been shut down due to their overwhelming safety problems - yet we're talking about "salvaging" it. We don't even "salvage" tires to put on school busses because we want our kids to be safe, yet we've got an entire cult running around the country saying, **"Let's play with the breeder!"**

It's time to shut FFTF down cold and put it in a crypt. We don't need it. We don't want it. And we can't afford the risk.

Drain this reactor *now* and put those folks to work cleaning up their mess![33][34]

W. P. Mead
Director, PSRA

FOOTNOTES & REFERENCES

[1] *SOURCEBOOK ON ATOMIC ENERGY*, 2nd Ed., Samuel GLASSTONE,(D. Van Nostrand Co., Inc., Princeton, NJ, 1958); Sec. 14.102, page 444. (GLASSTONE was the AEC and ERDA's senior consultant and essentially wrote the their series on atomic and nuclear weapons: *The Effects of Atomic Weapons* (1950); *The Effects of Nuclear Weapons* (1962); and *The Effects of Nuclear Weapons* (1977).)

Equation cited: ${}_1T^3 + {}_1D^2 = {}_2He^4 + {}_0n^1 + 17.6$ Mev.

[2] *BOMBTALK*, Nuclear Weapons Presentation, Columbia High School, Gresham, Oregon, December 10, 1987, by W. P. MEAD, Director, Public Safety Resources Agency.

Match (INITIATOR) TNT	Kindling (PRIMARY) Fission	Wood (SECONDARY) Fusion
	500,000	60,000,000
37 gallons	200 million gallons	650 million gallons

An interesting point about the relative power of nuclear energy can be made by examining Enrico Fermi. Fermi may have been the last person to fully understand all there was to know of both Theoretical *and* Experimental physics.

In 1934 Fermi was the first person to fission the Uranium atom, and received a Nobel Prize for that achievement. He also was the first person to sustain a successful nuclear fission chain reaction (CP-1; now USDOE's Argonne National Laboratory).

During the Manhattan Project, DuPont had so much confidence in Fermi's understanding of the physics required to produce Pu-239 that they built three large production reactors at Hanford without even designing or testing prototypes.

Yet with all of his knowledge, Fermi was awed by the scale of the A-bomb's detonation at the Trinity Test in New Mexico. Malcolm C. MacPherson, in the Epilogue of his book *Time Bomb*, reported that after witnessing the test, Fermi was so shaken by what he had seen that he did not show the elation of the other physicists. Fermi was so greatly disturbed by what he had seen that he uncharacteristically "found a driver and said, *'It's not safe for me to drive. You do it.'*

Although Fermi was in favor of developing the A-bomb, he entirely opposed development of the H-bomb. He believed that the H-bomb's size and increased yield would unjustifiably kill innocent civilians even with precise bombing of military targets.

He stated that even if the Soviets developed the H-bomb, that a small arsenal of 100-300 fission weapons would be sufficient to protect the United States from the growing Soviet threat.

[3] *SOURCEBOOK ON ATOMIC ENERGY*, 2nd Ed.; section 14.16, pages 416-8.

[4] *MAKING WARHEADS: A Little Tritium Goes A Long Way*, *Bulletin of the Atomic Scientists*, January/February 1988, pages 39-42; by David ALBRIGHT & Theodore B. TAYLOR.

Theodore Taylor is a former nuclear weapons designer. He designed the largest pure fission weapon ever detonated; the "SOB" (Super Oraloy Bomb), with a yield approaching 1 megaton, and was the subject of the book, *The Curve Of Binding Energy*.

Taylor's understanding of the energies produced by fusion was so precise that he was the first person ever to intentionally focus an H-bomb's thermal effects to light a cigarette during an atmospheric test.

Taylor now believes that the United States can assure its security without improving its nuclear arsenal, and has authored several articles against any further development of weapons of mass destruction.

[5] *Ibid*, page 39.

[6] *Ibid*, page 39.

[7] *POTENTIAL CONVERSION OF WPPSS 1 COMMERCIAL NUCLEAR POWERPLANT TO A PRODUCTION REACTOR*. Oversight Hearing Before The Subcommittee On General Oversight & Investigations Of The Committee On Interior & Insular Affairs, House of Representatives 100th Congress, 1st Session, Portland, OR December 7, 1987, Serial No. 100-42.

Daniel HIRSCH, Director, Program on Nuclear Policy, University of California, Santa Cruz; page 168:

"Now, I was asked whether there are substitutes for tritium and I think I need to correct a misimpression. It is true that Lithium 6 deuteride is the primary constituent of the secondary in the hydrogen weapon. And this is something we then do not need production reactors to make. But tritium is used to boost the trigger. And it is true that if you do not replenish the tritium that decays there, the boosting diminishes and you may not be able to have the weapon operate as efficiently or perhaps not at all."

"But that does not mean that we need to start converting reactors to tritium production. There is plenty of tritium in the arsenal already. We have somewhere on the order of 100,000 grams of tritium in our stockpile. And there is about 4 grams, on average, in a nuclear weapon. Now, if we are going to be dismantling weapons and treating decays at about 5.5 percent per year, there is plenty of tritium to take from these weapons that we are retiring and to use for replenishing the weapons that we wish to maintain."

[8] *MAKING WARHEADS: A Little Tritium Goes A Long Way*, *Bulletin of the Atomic Scientists*, January/February 1988, page 40, by David ALBRIGHT & Theodore B. TAYLOR.

[9] *POTENTIAL CONVERSION OF WPPSS 1 COMMERCIAL NUCLEAR POWERPLANT TO A PRODUCTION REACTOR*. Oversight Hearing Before The Subcommittee On General Oversight & Investigations Of The Committee On Interior & Insular Affairs, House of Representatives 100th Congress, 1st Session, Portland, OR December 7, 1987, Serial No. 100-42. Testimony of W. P. MEAD, Director, Public Safety Resources Agency, Portland, Oregon; page 314.

[10] *BOMBTALK*, Nuclear Weapons Presentation, Columbia High School, Gresham, Oregon, December 10, 1987, by W. P. MEAD, Director, Public Safety Resources Agency.

Equation: $K = Y^{(2/3)} / (cep)^2$

Where "K" represents the "Lethality" value against "hardened" targets such as underground command bunkers. "Y" represents the yield of the weapon in MT. The value of the top line is then divided by the value of the bottom line where "(cep)" [Circular Error Probability - expressed in Nautical Miles] is squared.

[11] *NUCLEONICS FUNDAMENTALS, McGraw-Hill Series In Nuclear Engineering*, by David B. HOISINGTON, Professor, U.S. Naval Postgraduate School, McGraw-Hill Book Co., Inc., New York, 1959; page 323.

[12] *BUILDING A CRITICAL MASS: A Primer On Citizen Involvement*, by W. P. Mead, Director, Public Safety Resources Agency, Portland, Oregon. (Unfinished manuscript, publication expected late 1998.)

While the United States never admitted testing an H-bomb larger than the 13.5MT *Yankee* shot at Bikini Atoll in the South Pacific on May 4, 1954, we have admitted to arming USAF bombers assigned to the Strategic Air Command with 20-24MT weapons.

The United States also has detonated "Megaton range" H-bombs at altitudes of 141,000 and 252,000 feet over Johnston Island, and nuclear weapons in the 1-2KT range above the South Atlantic at altitudes of about 300 miles.

The largest H-bombs ever detonated were by the Soviet Union's Novaya Zemlya test site during 1961 and 1962. On October 30, 1961 a single H-bomb yielded explosive energies up to 58 Megatons of TNT and produced a fireball larger than seven miles in diameter!

[13] *INTERNATIONAL SERIES OF MONOGRAPHS ON NUCLEAR ENERGY; Division XI: REACTOR OPERATIONAL PROBLEMS, Volume 1, REACTOR SAFEGUARDS* by Charles R. RUSSELL, Ph.D.,P.E.; The MacMillan Co., New York, 1962: *INTERNAL SOURCES OF RADIATION*. [Also cited as *INTERNATIONAL SERIES*.]

"Whenever radioactive material is released into the lower atmosphere there is a possibility that such material will enter the body through the digestive tract due to consumption of food and water contaminated with fission products, through the lungs by breathing air containing particulate material or through wounds or abrasions. A very small amount of radioactive material present in the body can cause considerable injury since radiation exposure of various organs and tissues from internal sources is continuous and further the body tissues in which injury may occur are near the source of radiation and not shielded from it by intervening materials. This is of particular importance with alpha and beta particles which cannot reach sensitive organs, except the outer layers of the skin, if originating outside the body. But, if the sources, e.g. plutonium (alpha-particle emitter) or fission products (beta-particle emitters) are internal, the particles can dissipate their entire energy within a small, possibly sensitive, volume of body tissue, thus causing considerable damage. ..."[page 220]

Dr. Russell continues his general report on page 222:
"The genetic effects of radiation are of a long term character which produce no visible injury in the exposed individual but may have noticeable consequences in future generations."

"... There is apparently no amount of radiation, however small, that does not cause some increase in normal mutation frequency. The dose rate of the radiation exposure or its duration have little influence; it is the total accumulated dose to the gonads that is the important quantity. It should be pointed out however that a large dose of radiation does not mean that the resulting mutations will be more harmful than for a small dose. ... "

"... Whatever the effects of radiation on genetic status may be, its principal impact will not be upon the generation of individuals exposed. Rather it will be distributed over future generations up to perhaps fifty in number. Whether the effects on future generations are to be good or bad - and on the average the prediction is bad - the control of that future lies in the hands of those living today."

Dr. Russell concludes his general report on page 223:

"The establishment of permissible levels of radiation exposure is not basically a scientific problem. Indeed, it is more a matter of philosophy, or morality, and of wisdom. There is today little or no direct, positive proof that there does or does not, exist some level of exposure to radiation below which harm will not result. Therefore, today the term 'tolerance dose' is not used since it implies that there was some degree of radiation that was wholly without harm. In its place is used a term 'permissible dose,' which, while not completely unobjectionable, does not carry the connotation of absolute safety."

[14] Telephone conversation of February 2, 1998 with Oregon State Health Division, Radiation Protective Services, Portland, Oregon office to confirm the energy levels of Tritium's ionizing radiation and targeting of specific internal organs. Sourcebook: *Radiation Health Handbook*, Appendix B, 10 CFR 20. The allowed dose to the general public is 100 MREM per year.

[15] *RAD-WASTE GENERATION AT THE HANFORD RESERVATION*, by W. P. MEAD, Director, Public Safety Resources Agency, Portland, Oregon; presented at the Washington State Public Health Association Symposium, Thunderbird Red Lion Hotel, Pasco, Washington, October 1986.

[16] During this tour the author was wearing a personal dosimeter that had been calibrated at the Reed Reactor Facility (in Portland, Oregon) the previous day, and had been rechecked that morning prior to leaving the hotel.

The Hanford portion of the tour included a six hour bus ride that included stops at the Gable Mountain BWIP tunnel and Visitor Center, a briefing at the PUREX Plant's administrative buildings, and a drive-by of Hanford's low-level waste repository.

After leaving Hanford that evening, but before even reaching the Columbia River, the author examined the dosimeter: It read that 2MREMs of ionizing radiation had been received during that day; the equivalent of what USDOE's spokesperson had claimed to be the average *annual* exposure by Hanford's workers.

[17] *HANFORD'S RAD-WASTE & THE PUBLIC'S HEALTH*, by W. P. MEAD, Director, Public Safety Resources Agency, Portland, Oregon.

[18] In the Forward of the book, "*We Almost Lost Detroit,*" Carl J. Hocevar, recounted his personal experiences with the AEC:

"In more than seven years of working with the AEC's safety research program for light-water reactors, I had an excellent opportunity not only to become familiar with the AEC's research programs and safety analysis methods, but also to observe the basic underlying philosophy of the AEC. This attitude was primarily one of trying to prove that existing reactors were safe rather than one of independently assessing the adequacy of the safety systems. While many of the scientists working on the safety research were conscientious and tried to point out valid problems regarding reactor safety, their questions were largely ignored. The decisions regarding safety research programs were made by the AEC in Washington, not by the scientists in the laboratories. Worse, many of the managers in private industry that ran the laboratories for the AEC were more interested in keeping their contracts than they were in doing the research as it should have been done. The managers' philosophy was that the AEC was always right."

"I left my job with Aerojet Nuclear Company, the AEC's major safety contractor at the Idaho National Engineering Laboratory, because of a growing frustration with the safety program. I became particularly concerned about the way in which the AEC had continually misled the public about the safety of nuclear reactors. Only favorable results regarding the safety research were reported. I knew well the large number of uncertainties and problems there were not freely publicized; only a continuing pressure from citizen groups has made these uncertainties known to the general public. ..."

[19] *ENVIRONMENTAL RADIOLOGICAL SURVEILLANCE REPORT ON OREGON SURFACE WATERS 1961 - 1983*, Oregon State Health Division, Radiation Control Section, Environmental Radiation Surveillance Program, Vol. 1; page 20:

"In the Columbia River, the longer-lived radionuclides from atmospheric fallout and Hanford accumulated primarily in aquatic vegetation, algae and river-bed sediments. At one time, the accumulated long-lived radionuclides in these media formed a vast, self-sustaining reservoir of fission-product and neutron-induced radioactivity extending downstream from Hanford to the river's mouth and continuing southward along the Oregon seacoast."

"... The neutron-activation product radionuclides generally detected in Columbia River biota and sediments were chromium-51. zinc-65, manganese-54 and cobalt-60. Readily apparent concentrations of the last three were observed in algae even when levels in water were too low to be detected. From the maximum levels observed when this study began the concentration of neutron-activation products in the above media generally showed its greatest decreases between 1965-1971, corresponding to the shutdown of the eight plutonium production reactors. ..."

The Report continued on page 26:

"When this surveillance began and periodically thereafter, all Oregon surface waters showed significant fission-product activity from worldwide fallout. In addition, significant levels of both short-lived and long-lived radioactivity were being discharged into the Columbia River through the cooling waters of the Hanford production reactors."

"With the progressive shutting down of the eight reactors between 1965 and 1971, the levels in the Columbia River decreased progressively to the background levels observed in other Oregon surface-water bodies."

"... When this study began, the lower Columbia River had the distinction of containing the highest levels of radioactivity of any surface-water body in the state. Gross beta activity levels at upstream locations, primarily of Hanford origin, were approaching 1000 pCi/liter. ..."

[20] *MORTALITY STUDIES OF HANFORD WORKERS*, by E. S. GILBERT before *"The Public Health and the Law"* Symposium on Hanford, May 3, 1986; funded by the Richland Operations Office, USDOE under contract PNL-SA-13790.]

[21] *THE DAY WE BOMBED UTAH: America's Most Lethal Secret*, by John G. Fuller, New American Library, NY, 1984; page 246.

[22] *THE SECRET HISTORY OF THE ATOMIC BOMB*, by Anthony Cave Brown & Charles B. Mac Donald; 1976.
On page xviii of the introduction to his book, Brown quoted Smyth's *"Memorandum on the History of the Preparation of My Report on Atomic Energy for Military Purposes,"* in the *"Manhattan Engineer District History."*

[23] *ATOMIC ENERGY FOR MILITARY PURPOSES: The Official Report on the Development of the Atomic Bomb under the Auspices of the United States Government, 1940-1945* (commonly known as *The Smyth Report*, by Henry DeWolf Smyth, Chairman, Department of Physics, Princeton University; Consultant, Manhattan District, U.S. Engineers, "Written at the request of Maj. Gen. L. R. Groves, U.S.A.", Princeton University Press, Princeton, NJ, 1945; Section 8.54.

[24] *INTERNATIONAL SERIES, REACTOR SAFEGUARDS*, "Accident-14" p 297.
The report also cited a ten second delay of the *negative power coefficient of reactivity*. The Negative Power Coefficient is one of the primary safety aspects in some nuclear reactor designs, thus the delay was of critical importance in this accident scenario.

[25] *Ibid.*, pages 127-8.

[26] *Ibid.*, page 131.

[27] *Ibid.*, pages 312-4.

[28] *Ibid.*, Appendix B, *page 340: "Estimates by the Reactor Safeguard Committee of Radiation from a Cloud of Fission Products (Reproduced from "Summary Report of Reactor Safeguard Committee," Wash-3 (Rev.) by permission of the U.S. Atomic Energy Commission).*

[29] *WE ALMOST LOST DETROIT*, by John G. Fuller, Ballantine Books, NY, 1975; page vi.

[30] *NUCLEAR DISASTER IN THE URALS*, by Zhores A. Medvedev, Vintage Books Random House, New York, NY; page 131.

[31] *BRIGHTER THAN A THOUSAND SUNS: A Personal History Of The Atomic Scientists*, by Robert JUNGK, Harcourt Brace Jovanovich, Inc., New York, 1958; pages 234-5.

[32] *HANFORD'S RAD-WASTE & THE PUBLIC'S HEALTH* by W. P. MEAD, Director, Public Safety Resources Agency, Portland, Oregon, November 1986. Composite article of two presentations: *RADIOACTIVITY AND THE PUBLIC'S HEALTH: THE HANFORD EXPERIENCE* before the Oregon Public Health Association's Annual Meeting on October 21, 1986 at the Inn at the Seventh Mountain, Bend, Oregon; and *RAD-WASTE GENERATION AT THE HANFORD RESERVATION* at the Washington State Public Health Association Symposium, Thunderbird Red Lion Hotel, Pasco, Washington, October 24, 1986.

[33] *PANEL REPORT: Technical Review of Radioactive Wastes at the Hanford Reservation*, National Research Council, 1977:

"The quantity of waste and the amount of radioactive material it contains are difficult to visualize. Some appreciation of the magnitudes can be gained by noting that the average annual flow of the Columbia River is 100 billion cubic meters, and that the quantity of the single radioisotope Strontium-90 in Hanford wastes is so large that the river would have to flow for a thousand years to provide enough water to dilute this isotope to a concentration that would be acceptable for ordinary use."

[34] U.S. Department of Energy Hearing, Hanford Reservation BWIP Proposal, Portland, Oregon, March 11, 1985; testimony of W. P. Mead, Director, Public Safety Resources Agency:

"We are dealing with cosmic volumes here: 100 billion cubic meters of water equals 26 trillion, 417 billion, 300 million gallons per year for each of the one-thousand years necessary to dilute only this one isotope, Strontium-90, to its' Maximum Permissible Concentration."

"Such numbers are beyond meaning to most of us."

"Since we're dealing with cosmic volumes here, this quantity of water - if we could form it into a column one foot by one foot square - would reach a height of 436,303.35 miles. This is enough to drive straight through the earth's equator and touch the moon on both sides of its' orbit. The remaining 50,626.94 miles left over are enough to wrap around the equator twice, and then tie a bow on it 823.838 miles long."

"Multiply the 536,303.35 miles per year by one-thousand years, and you might have enough distance to be safe from the rest of the crap that is already at Hanford and going to enter the river before those one-thousand years expire."

W. P. Mead, Director
Public Safety Resources Agency
P. O. Box 724
Portland, OR 97207-0724

January 14, 1998

Mr. Federico Pena, Secretary
United States Department of Energy
1000 Independence Ave., S.W.
Washington, D.C. 20585

RE: Comments on MOX Fuel and FFTF Safety/Safeguards Concerns

Storage and Disposition of Weapons-Usable Fissile Materials;
MOX fuel environmental, safety, health and security issues;
Use of Hanford's FMEF to fabricate new reactor fuel; and
Use of FFTF to produce Tritium and/or medical isotopes.

Dear Secretary Pena:

I very strongly object to "processing" this new inventory of fissile material in reactors because of the history of poor operational safety in this area of nuclear energy, and the creation of additional low-level, intermediate and high-level waste streams that such projects would incur.

If you review the Department's records, you will see that in the 1980's I was a advisor to several health and state agencies about specific projects at the Hanford Reservation. In that capacity I testified before state legislative committees and working groups; advised public health departments; provided research services for citizens' forums and intervenors in the United States and Canada; testified before a congressional Sub-Committee about converting the WPPSS-1 nuclear generating plant for Tritium production; and provided technical research concerning the environmental, health, safety and security issues of the Hanford Reservation's PUREX Plant and N-Reactor's production histories.

It is my opinion, based on my review of the available data and published internal USDOE reports and other related documents, and my previous research into these topics, that the restart of the FFTF is ***not*** in our best national interests.

In addition to the many environmental, safety and health concerns involved with the required conversion from a "test" to a full Production Reactor mode, there are several very real physical security problems that would be associated with running this reactor in a production mode with the use of the proposed MOX fuel.

In the event that we need additional tritium that cannot be recycled from existing and/or retired weapons we should choose a method other than FFTF: Canada's Ontario Hydro recently offered the Department tritium in sufficient annual quantities to maintain our stabilized nuclear weapons inventory, as it did in 1987 when WPPSS-1 was being considered for conversion to a Tritium Production Reactor. In both instances, the overall cost of procuring tritium from these and other Canadian sources was shown to be much less expensive than to produce similar quantities in new or salvaged facilities at Hanford.

Also, in the event that the Department failed to take advantage of the Canada's offer, the very real probability exists that an option using accelerator technology developed and sited at another USDOE enclave within the United States could provide the needed quantity of tritium at less overall cost and with a far greater degree of safety than by using the aging FFTF reactor.

FFTF is absolutely one of the ***worst*** candidates for this project from the aspect of reactor safety. This statement even includes the Department's ill-advised sojourn with WPPSS-1 back in 1987 when the Department's own peer review finding of its in-house technical feasibility studies that warned of ***"...an outstanding safety issue, the problem of in-vessel re-criticality."*** [1/].

Several years ago I was asked to testify before a Congressional Sub-Committee about the WPPSS-1 conversion proposal at the Hanford Reservation. That project was a poorly-conceived plan to salvage the canceled WPPSS #1 power generator at taxpayer's and ratepayer's expense by taking experimental theory and scaling it up as a full-scale operational testbed using the population of the Northwestern United States as Ground Zero.

The 1987 proposal -- to increase the core matrix by nearly ***25%*** and run the reactor using HEU fuel enriched to ***93%*** -- was an *extremely hazardous* idea that would have endangered much of the Northwestern United States and Canada if the experiment failed.

Why tempt fate: We don't need "salvaged" reactors when it's been demonstrated that even experts who are certified on specific commercial reactors with well known, documented operating histories routinely experience Off Normal Occurrences.

Hanford's FFTF, identified in the Department's reports as having a capacity of 130 MW(e), is not a safe candidate for this project: FFTF is an experimental "Breeder" LMR designed in the 1960s and has reached the end of its operating life.

As such, it probably would require extensive physical plant modifications before being restarted as a relatively low-yield WPu "burner" and/or tritium production reactor using MOX fuel.

FFTF's total production of Tritium and/or medical isotopes would achieve only minimum results at a relatively high degree of danger to worker, public and environmental health and safety. We have more reliable and cost-effective sources, including simply recycling tritium as our weapons are decommissioned; therefore a decision to convert FFTF to use MOX fuel to produce Tritium would actually be contrary to our own national defense interests.

Even if FFTF was selected for a reactor-based disposal option for surplus Weapons-grade Plutonium, the Department still would not be able to fabricate the required MOX fuel at a sufficient rate to economically assist the weapons plutonium disposal program using this reactor.

FFTF is rated at 130MW(e), however the commercial WPPSS-1 plant was rated at 9.6 times greater [1,250MW(e)] than FFTF but still was to have had its' core increased by nearly ***25%*** just to meet the Department's projected needs of tritium production at that time, even though USDOE's Peer Review opposed that conversion.

The record also shows that the Production Mode would have further ***decreased*** WPPSS-1's output by nearly another 12%; thus an extrapolation of this, scaled to FFTF's 130MW(e) rating, shows that the actual production rating would ***decrease*** FFTF's rating to 114.4MW(e), with a corresponding ***increase*** in operating costs even in the unlikely event that the reactor operated for the much longer term postulated by the Department, instead of being retired at the conclusion of its' original designed lifetime.

> **In plain English, what this all means is that FFTF would require a *massive engineering overhaul*, at an *unjustifiable cost*, just to run a few more years at a *net production loss* but with one of the best chances in history to achieve the *Maximum Credible Incident* and *dose a populated area* of the United States and Canada.**

If we really need tritium The Department should choose the safest option that would yield the greatest degree of physical security with the lowest level of danger to the workers and general public with respect to health, safety and environmental concerns: At the present time, the best immediate option is to buy tritium from Ontario Hydro, with the long term option of building the type of production accelerator that the Department's own study group recommended instead of using a modified FFTF Reactor.

Also, burning a MOX fuel mixture is not advisable for several reasons. Although these reasons are valid regardless of where the project is sited, using the FFTF Reactor at the Hanford Reservation would pose an additional hardship on the populations and environment of the Northwest:

1. Fabricating MOX fuel will greatly increase the probabilities of adding to the current MUF inventory of weapons grade SNM and poses security risks during several processing stages.

   I stated these concerns, with five others that I had, in my comments that were included in the *S&D Weapons-Usable Fissile Materials Final PEIS*:

   > PSRA Statement: "1. In order to fabricate MOX fuel, the fissile product(s) must be transformed from their current states, formulated to the desired level of enrichment, stabilized and then fabricated into new fuel assemblies. This process alone increases the probabilities of adding to the current MUF inventory and poses security risks during several stages of processing." [3-787: Failed to acknowledge Point #2 (F-050) regarding PSRA's stated MUF concerns.]

   But even though The Department made specific comments on each of my five other stated concerns, they entirely skipped over this concern regarding MUF, and have not even acknowledged that the topic is being taken seriously.

   In checking other resources it appears that other NGOs have expressed similar concerns regarding The Department's perceived weaknesses in addressing areas of concerns regarding Safeguards, Security and the potential increases in MUF SNM due to the many stages that will be required to process MOX fuel.

2. Manufacturing MOX fuel assemblies will produce several new waste streams that will increase the quantity of wastes by several times the volume currently associated with these same inventories in their present states. Don't do that.

   Although much of this waste will be "Low Level," these processes will necessarily also generate a new volume of TRU wastes, with the special handling required by those TRU waste streams. It is conceivable that a new MOX program could add another **65-90 years** to the currently projected environmental remediation requirements at the Hanford Reservation.

3. The Vitrification with Wastes alternative would accomplish the Weapons Plutonium's safeguards goal much faster and at a greatly-reduced cost than would **any** reactor option.

4. The MOX-fueled reactor plan would be a very expensive method to achieve the goals of even a mediocre "burning" option. In my experience, based on several years of research, the Department of Energy has ***never*** completed a significant project of similar scale within the timeline and budget estimates stated in its' studies; nor those specified in contracts with its' vendors.

5. Transportation and safety issues also must be examined on several levels: First, based on the "per-tonne-mile" costs for shipping the MOX components to the fabrication facility, and then shipping the assemblies to the reactor; and then at a *greatly-increased* "per-tonne-mile" costs for transporting the irradiated fuel assemblies from the reactor to a disposal facility -- assuming that such a facility exists and is operational by the time the FFTF Reactor is ready.

6. The processes associated with the MOX option, regardless of where the fuel is "burned" will necessarily increase public and worker exposures to potentially-damaging radiation from several sources and via multiple ingestion pathways.

   Beyond the fact that there still exists no method of protecting the environment from FFTF's normal radionuclide discharges, we also have to consider the potential long-term effects of exposures due to "routine" transportation of fuel and the effects of transportation accidents that appear to be statistically inevitable in projects of this magnitude.

   NUREG-0170, Table 4-8, cited an Annual Population Dose of 5,070 Person REMS for truck and van transportation of radioactive materials in 1975. This was during a time of relatively low transportation activity, therefore these exposures would necessarily increase by several orders of magnitude if similar transportation methods were used in future projects.

   At a time when our environment in the Northwestern United States is degrading, we should not be increasing the level of threats to the health of our citizens by exposing them to the additional radiation that would necessarily accompany the use of MOX fuel and/or the restart of the FFTF Reactor at Hanford.

Disposal of plutonium, regardless of it's civilian or defense origin, can be achieved using the "vitrification-in-wastes" method and still satisfy the "Spent Fuel Standard" security requirements much more rapidly and at lower costs than would the reactor-based options. To use the FFTF Reactor for this project would add an *additional* layer of incompetence to an already asinine proposal.

It is my belief that the additional steps needed to change the SNM from its' existing form through the final disposal (hopefully in a dry burial vault high above existing water tables) is much more hazardous, costly and time-consuming than is justified, and that the modification of the FFTF Reactor for this purpose, or for the production of tritium or other isotopes, would be yet another example of irresponsible behavior by The Department.

It follows that a more rational approach than using the FFTF Reactor would be to dispose of weapons plutonium via a "vitrification-in-wastes" program that meets the current "Spent Fuel Standard," followed by another program to place the vitrified material in a geologic repository with spent commercial fuel -- thus isolating both major sources of SNM from the environment -- while using other available sources to acquire tritium for National Defense and isotopes for Nuclear Medicine.

The "vitrification-in-wastes" option is the common sense choice; the other reactor-based options appear to be yet another desperate attempt to resume reactor operations at Hanford (one of the most-likely site for any MOX-fueled reactor project). Instead of pursuing a reactor option, The Department should continue with vitrification and encapsulation programs, and concurrently focus on remediation of the Hanford Reservation's approximately 1,200 grossly-contaminated sites.

The real issue here is employment of the Tri-Cities workforce, not our need for tritium or medical isotopes. These interests probably would not really care if the FFTF was used to make donut holes as long as it kept operating and was bringing money into the Tri-Cities area.

While their position is understandable, it runs contrary to the health, safety and financial needs of the rest of the citizens of the Northwestern United States and neighboring portions of Canada. This probably is why some of Hanford's workforce has been bussed into Portland to testify at public hearings and the League of Women Voter's National Equity Dialogue.

Hanford's workers were bussed-in to attend those meetings and were able to manipulate the public information gathering process with the result that much of the testimony on which The Department will base its' Record of Decision will be unfairly weighted in favor of the Tri-Cities.

The reality is that many citizens of the State of Oregon believe that "their" opportunity to express themselves at those public hearings have stolen and concurrently suspect that The Department knowingly and intentionally manipulated the process to achieve its own predetermined goals.

With respect to the future use of the FFTF, a lot of creative plumbing inside the existing FFTF will be required to facilitate the production of medical isotopes, many of which could be produced at lower cost and with a higher degree of reliability in other facilities than in a MOX-fueled FFTF production reactor.

Tritium production, because of its' fuel cycle characteristics, would cause even greater financial losses.

Several years ago Reed College in Portland, Oregon decided that they would be able to corner the local isotope production market to help pay for their rediochemistry program. To make a long story short, they installed a TRIGA Mk 2 Reactor and have never broken even. The argument that FFTF is needed to produce medical isotopes is yet another pipe dream to bail out the Tri-Cities.

The National Academy of Sciences' Report was even more specific about the Department's need for a new source of Tritium:

> *"Tritium Production.*
>
> *At present, arms reductions are continuing at a rate of more than 5 percent per year, thus outpacing tritium decay. The reactor or accelerator capacity that would ultimately be needed to produce enough tritium to support an arsenal of the size currently projected is many times less than that needed to carry out disposition of 50 tons of weapons plutonium over 20 to 40 years. Thus, tritium production capacity will be easier to provide than plutonium disposition capacity and should not bias consideration of alternatives for the latter purpose. At such low production levels, accelerator production of tritium may be preferred over reactor production, and purchase could also be considered,..."* [2/]

The Department should concentrate on rebuilding its image and increase its level of public trust instead of pursuing the reactor option; especially one that focuses on Hanford's FFTF Reactor. Any attempt to use the reactor option without first demonstrating a "good faith" effort to dispose of the current wastes at Hanford is morally indefensible and would call attention to The Department's 50-plus year history of having a "business as usual" mindset regardless of the public's wishes.

Ten years ago Michael J. Lawrence, USDOE's Richland Operations Office Manager bragged about the amount of high level tank wastes that had been condensed during 1984. As I pointed out in my rebuttal [3/], that entire effort had reduced the Reservation's volume by *less* than the amount produced by a single day's operation of the PUREX Plant, and that figure only accounted for high level liquid wastes, thus ignoring the other multiple waste streams generated by the PUREX Plant for dozens of years.

This mindset intensified during the 1980's, and we in the Northwest vividly recall several of the Hanford Reservation's more infamous projects, many of which are again brought to mind by the Department's insane desire to find new roles for FFTF Reactor operations when all reason dictates its' decommissioning.

Vitrify the excess weapons plutonium with high-level wastes and then bury it without first irradiating it, and the safety of our own citizens -- Decommission the FFTF Reactor without delay.

Sincerely;

W. P. Mead
Director, PSRA

Cited References:

[1/] "Potential Conversion of WPPSS 1 Commercial Nuclear Powerplant to a Production Reactor." Oversight Hearing before the Sub-committee on General Oversight and Investigations of the Committee on Interior and Insular Affairs, House of Representatives, 100th Congress, 1st Session; held at Portland, Oregon, 12/07/1986; Serial No. 100-42, U.S. Government Printing Office, Washington, D.C., 1988; Page 63.

[2/] "Management and Disposition of Excess Weapons Plutonium" National Academy of Sciences, Subcommittee on International Security & Arms Control; National Academy Press, Washington, D.C., 1995; Page 152.

[3/] "1984 Hanford Reservation Waste Generation Abstract." Public Safety Resources Agency, Portland, OR, 1986.

Glossary:

FFTF: **F**ast **F**lux **T**est **F**acility. A experimental "liquid metal cooled" reactor originally designed as a fast plutonium breeder in the 1970s to produce more plutonium than it consumed. Now being proposed as a source of medical isotopes and tritium for nuclear weapons, this conversion would require extensive backfitting. The catastrophic destruction of the Fermi LMR reactor near Detroit, MI., in 1966 demonstrated how dangerous molten sodium reactors can be when they interact with air and/or water.

FMEF: **F**uel **M**aterials **E**xamination **F**acility. A "receiving line" for nuclear fuels; Hanford's FMEF is a logical choice for this work if the proposed MOX option is used.

HEU: **H**ighly **E**nriched **U**ranium. Generally used to fuel research and Naval reactors, this fuel is enriched >20% of U-235.

LEU: **L**ow **E**nriched **U**ranium. "Natural" uranium contains approximately 7 atoms of U-235 per thousand; the majority of the remaining being of U-238. Most commercial power reactors and fuel grade "production" reactors such as Hanford's N-Reactor use a fuel load that has been enriched to 2% - 3%. Power reactors run for a longer period of time for greater economy; plutonium production reactors change their fuel "targets" much more frequently to a higher proportion of Pu-239 for weapons. This results in more "down time" and also generally applies to tritium production reactors.

Medical Isotopes: Medical isotopes used for "Nuclear Medicine" in various strengths and applications.

MOX: **M**ixed **OX**ide. Reactor fuel formulated with mixed oxides of Uranium and Plutonium, instead of the LEU U-235 fuel commonly used in commercial power reactors.

MUF: **M**issing and **U**nacc**o**unted **F**or. SNM that is known to have been produced but cannot be physically audited. Although much of this SNM is presumed to be held up within process pipes and equipment, the exact quantity cannot be determined. MUF SNM is of special concern due to the relatively small quantity of Pu-239/U-235 that is capable of fueling a nuclear explosive.

N-Reactor: A "dual purpose" reactor in Hanford's 100-N Area, this graphite-moderated reactor produced weapons plutonium and used its excess steam to produce energy marketed via the BPA grid. Even though it produced intermittent power, Hanford's facilities never used nuclear power produced by the N-Reactor for any of their on site activities: USDOE relied on other BPA sources and two on-site coal-fired generating plants to provide electricity to operate on-site.

Plutonium: Generally a byproduct of fissioning U-238, plutonium has several isotopes, of which Pu-239 is of primary concern due to its use for nuclear weapons. Plutonium in "spent" (irradiated) fuel is generally considered relatively immune from theft due to the lethal levels of radiation that are emitted. (Ref: **S**pent **F**uel **S**tandard, below.)

PUREX Plant: **P**lutonium **U**ranium **Ex**traction **P**lant. A chemical process used to dissolve and separate plutonium and uranium from spent fuel targets.

RRF: **R**eed **R**eactor **F**acility. RRF is a 250KW TRIGA Mk-2 Reactor sited in the Woodstock area of Southeast Portland. Although primarily intended for **T**raining and **R**esearch, its secondary goal was to provide a local source of **I**rradiation samples for medical and manufacturing purposes. RRF's secondary goal failed.

SNM: **S**pecial **N**uclear **M**aterial. Commonly referred to as Weapons Grade" fissile material. Generally in the forms of U-235, Pu-239 and/or U-233 enriched to >20% of the specific isotope(s). Enrichment to nearly 100% purity is highly desired for the fast fission reaction required for a nuclear weapon.

Spent Fuel Standard: The belief that the lethal levels of radiation emitted by irradiated spent fuel will adequately deter anyone from extracting weapons-grade nuclear material from the fuel.

TRIDEC: **TRi**-City **I**ndustrial **DE**velopment **C**ouncil. A group supporting the 1986 proposal to convert WPPSS-1 from an uncompleted nuclear power reactor to a "NPR" (New Production Reactor) to produce tritium for nuclear weapons. The conversion would have required extensive and possibly dangerous modifications, including adding nearly 25% volume to the core's matrix and using HEU fuel; causing USDOE's own peer evaluation panel to warn of the potential of an "in-vessel recriticality" accident.

Tritium: An isotope of hydrogen used to increase the yield of nuclear explosives. Although tritium decays (t1/2=~12.3 years) and must be replaced every few years, the quantity of tritium is actually growing in proportion as our inventory of nuclear weapons are being dismantled. Other sources of tritium already in operation can supply weapons needs for several decades.

Vitrification: Encapsulation of material within a "glass log" which would then be "canned" for storage in a repository.

Vitrification-with-wastes: Using vitrification technology to combine SNM with spent fuel or high level radioactive wastes to deter recovery of weapons material.

WPPSS: **W**ashington **P**ublic **P**ower **S**upply **S**ystem. WPPSS' Reactor #1 is located at the Hanford Reservation; WPPSS #4 is located at Satsop, WA. Both are mothballed uncompleted civilian nuclear power reactors that have been mentioned as possible candidates for conversion for USDOE purposes.

WPPSS#1: This mothballed partially-constructed power reactor was the subject of a 1987 Congressional Sub-Committee Hearing about a proposal to retrofit it to produce Tritium for nuclear weapons. This proposal would have increased WNP-1's core matrix from the designed 17x17 to a new matrix of 19x19; an increase of 72 assemblies (24.9%) above the original WPPSS-1 power reactor design. Also involved in this project was the planned modification of the fuel load from a normal 3% LEU enrichment to a high end fueling of 93% HEU. USDOE's internal "Peer Review" findings warned of "an outstanding safety issue, the problem of in-vessel re-criticality."

Weapons Plutonium: Plutonium-239 is the isotope of choice, which is why "production" reactors have short fuel cycles. Isotopes other than Pu-239 may decrease a weapon's stability, reduce the force of the nuclear explosion, or elevate the levels of other hazardous radioactive products such as Am-241.

0557

Jan. 20, 1998

Governor Locke

In the interests of our children's safety and well being do not start up FFTF reactor.

Arlene Pierce
904 N 35th St
Seattle, Wa
98103

0558

5820 SW HANFORD
Seattle, Wa. 98116
Jan. 20 '98

To the Governor, Gov. G. Locke.

The Money for Cleanup of Hanford should be used for Cleanup of Hanford, not to be used for Nuclear Weapons Production.

Alejandro Tuya

0559

Dear Governor Locke. 1-20-98

As a life long Democrat, life long Washingtonian and as a person who voted for you, I ask that you NOT Support any New or future Start up of any NUCLEAR REACTORS at Hanford.

The Hanford Site is definitely a huge and DANGEROUS Blemish on Washington State, and any activity that detracts from RIGOROUS Clean UP is a tragic mistake!

God Bless,

Tom Bailey
26116 Pillsbury Rd. S.W.
Vashon, WA. 98070

RECEIVED
JAN 30 1998

0560

1/20/98

Dear Governor Locke,

Please do not allow the re-start of the FFTF nuclear reactor. It puts at risk the health and safety of the people of Washington State, the workers at Hanford, and the precious environment, in particular the magnificent Columbia River.

There is no real need for the Tritium. There is no need for more medical Isotopes. There is clear need to fund cleanup activities and not divert any money for nuclear weapons production.

Thank You

Sarah Jaynes
951 29th Ave
Seattle, WA 98122

Dear Secretary Peña:

Changing the Tri-Party Agreement to allow the restart of the FFTF is a bad idea. It has no real medical, economic, social, or defense merit.

We don't need more bombs. We do need to clean up Hanford. The current mess at Hanford is a clear testimony to the problems associated with nuclear production. We've had enough. Please stop.

Sincerely,

Aaron Catron
316 21st Ave E.
Seattle, WA 98112

0562

Dear Gov. Locke:

Please oppose efforts to change the Tri Party Agreement to allow restart of the FFTF. Its a bad idea without any real medical economic, or social need.

We don't need more bombs. We do need to clean up Hanford. The current mess at Hanford is a clear testimony to the problems associated with nuclear production. We've had enough.

Sincerely
Aaron Dotson
316 21st Ave. E
Seattle, WA 98112

GOV LOCKE:

PLEASE DO WHATEVER IT TAKES TO MAKE CLEAR TO THE DOE AND DEPT. OF DEFENSE THE NEED TO PROCEED EXPEDITIOUSLY TO CLEAN UP HANFORD AND NOT RESTART THE FFTF. WE DO NOT NEED TRITIUM, NUCLEAR WEAPONS OR THEIR BY-PRODUCTS. MY 10 YEAR OLD ASKS WHY ADULTS PUT PROFIT BEFORE PUBLIC SAFETY! WHAT SHOULD I ANSWER?

LARRY JACOBSON

To: Senator Patty Murray
From: Georgie Kanke
3409 S W 102nd
Seattle WA 98126 (206) 935-8663

I have heard testimony from experts in medical radiology and they say FFTF is not needed.

We need to concentrate on cleanup at Hanford and get on with the promise to get rid of nuclear weapons and the nuclear waste they create.

The billions needed to provide profits for the corporations involved are sorely needed for the people of this country. Instead of wasting billions, let's provide support to children and families so that nuclear weapons and jails aren't of highest priority in our culture.

0565

Saturday 24, 198

To: Seattle Times Editor
Seattle, WA
From: Norman E. Kunkel
3409 SW Trenton - Seattle 98126 - 935-5663

Re: FFTF - Fast Flux Test Facility

The people of Washington have put up with the inefficient, unsafe disposal of nuclear waste for many years. We do not need 60 tons of waste to dispose of.

It seems to me the priority now is to clean up Hanford and do everything possible to keep the pollution out of the Columbia River.

If our Foreign Policy is a policy for peace in the world there is no need for more Nuclear weapons

January 21, 1998

Dear Governor Gary Locke,

I do not believe there are many people who think turning Hanford into a facility to produce tritium is anything but a threat to the web of life. Transporting plutonium is extraordinarily DANGEROUS, one of the most CARCINOGENIC materials known. Help cure cancer – Ha! We know that is a sham. Restarting Hanford will promote cancer. You know this, right?

We all have a responsibility to be sure Hanford gets cleaned up as best as possible and that we work to make our world safe for all of us. We are all downwind because nature, water, air, ~~[illegible]~~ nuclear waste, plutonium can't be contained.

Stop FFTF! Respect the TPA and invest the money in building communities not destroying them.

Sincerely,

Liza Burke

Liza Burke

0567

Jennifer B. Keller
3031 NE 137th St. #213
Seattle, WA 98125

Dear Governor Locke:

Please do everything you can to prevent the restarting of the FFTF reactor at Hanford. Please do not allow any reactor at Hanford to be exempted from the Tri-Party Agreement. Please maintain the commitment to clean up Hanford!

As a 20-year ~~citizen~~ resident of the Northwest, I have long valued the beauty, vibrancy, and biological richness of the Northwest environment. As a student of biology and reader of such straightforward scientific publications as Scientific American, I have been thankful that we Northwesters face nothing like the environmental devastation seen at Chernobyl (as documented in Scientific American some years ago). As a hard-working citizen who pays taxes and who is thankful that much of the (expensive) Cold War madness is over, I want the facilities at Hanford to be cleaned up. I do not want my tax dollars to be used for producing any kind of nuclear weapons, nor do I want them to be used to create ~~for~~ a grave risk (of nuclear accident) to all living things in the Hanford area.

Thank you for your time + attention.

Please, let's continue cleaning up Hanford!

Sincerely,

Jennifer B. Keller

Jennifer B. Keller

0568

Dear Gov Locke

Please join your
colleagues
to the South in Oregon
in opposing
Nuclear Weapon
Production
at Hanford
FAST Flux Reactor
will proliferate
An unstable Nuclear
Society which I thought
was nightmare of past

0569

02/12/98

Dear Secretary of Energy -

I am at the public hearing in Hood River, OR on the restart of F.F.T.F.. I am absolutely against the start up and production of nuclear materials at Hanford, and cannot condone the reduction of the clean-up project funds for this ridiculous and dangerous project. My 3 week old daughter also opposes this project, as does my wife.

Thank

Matt Rodewell

P.S.: Where's the representative from the E.P.A.

To: The Seattle P.I.
From: Georgie Funkel
3409 S.W. Trenton
Seattle, WA. 98126 (206) 935-8663

The billions of dollars needed to startup Hanford is a contractors heaven but it is hell for the families whose lives will be made less fulfilling because the breadwinners will be working not for peaceful values but for the tapes for more bombs and more jails.

We need to face the facts of greed which drive the use of billions of dollars for nuclear startups and using the smokescreen of medical isotopes to cover the disastrous decision to keep Hanford in the potential startup mode.

0571

RECEIVED
JAN 30 1998

Tri-Party Agreement Fast Flux Test Facility
Transition Milestones Public Meeting
Written Comment Form
Seattle, January 20, 1998

The Tri-Parties would like to hear from you regarding the proposed changes to the Tri-Party Agreement Fast Flux Test Facility Transition Milestones. Please provide your written comments below and give to an agency representative at the public meeting, or send to:

Ernest J. Hughes, U.S. Department of Energy
P.O. Box 550 N2-36
Richland, WA 99352
(509) 373-9381

Why do we need tritium? the Cold War is over, gang! Our cold-war former "enemies" are now our biggest trading partners! Will we nuke Nike? nuke Toys 'R Us? Nuke Microsoft? (hmmmm...)

The money is needed for cleanup — and it can only legally be used for cleanup! Also, we are morally obligated (as well as legally) to follow International Law and disarmament covenants.

Tritium (for medical isotopes) is a "red herring" issue — medical isotopes can be produced cheaper elsewhere. FFTF startup will cause numerous cases of cancer — many more than it will "cure"!!!

I am a mother and care about future generations. "Have you no shame, sir? Have you no shame?"

This is so ugly — these hearings should never be necessary. They are only shady attempts to cover-up a flouting of public health, the wishes of the public, and national and international law. Stop FFTF! Start cleanup! NOW!

Barbara Tomlinson

Barbara Tomlinson
5534-7th N.E.
Seattle WA 98105

0572-
0575

PSR

PHYSICIANS FOR SOCIAL RESPONSIBILITY
1101 Fourteenth Street Northwest Suite 700 Washington DC 20005

telephone (202) 898-0150
facsimile (202) 898-0172

January 20, 1998

Secretary Federico Pena
Secretary of Energy
U.S. Department of Energy
Washington, D.C.

Dear Secretary Pena:

We are physicians and scientists who strongly urge you not to re-start the Fast Flux Test Facility (FFTF) at the Hanford Reservation. Please consider these facts:

- Restarting FFTF for medical purposes blurs the line between military and medical uses, a line that should remain firm and strict. Moreover, a stable supply of isotopes for medical purposes can be found from other sources that are not associated with nuclear weapons production.

- New tritium production is not needed for our nation's nuclear weapons stockpiles. The U.S. has enough tritium available to meet its weapons needs for at least twenty years into the future, and more can be recycled from dismantled weapons. Furthermore, producing more tritium now would send the wrong signal to the rest of the world and jeopardize recent progress between the U.S. and Russia on nuclear arms reduction.

- Hanford is the site of enormous environmental damage that needs prompt and comprehensive cleanup attention. Restarting FFTF would hinder cleanup and disposal at Hanford by producing more waste and shifting Hanford's mission away from cleanup.

Once again we urge that you not re-start the FFTF at Hanford. Thank you for considering our views.

Sincerely,

0572 Kurt Gottfried
Hans Bethe Professor of Physics at Cornell University

0573 Andrew Harris, M.D.
President, Physicians for Social Responsibility

0574 David Hall, M.D.
Past President, Physicians for Social Responsibility

0575 Roald Hoffmann
Nobel Laureate in Chemistry
Frank H.T. Rhodes Professor of Humane Letters
Professor of Chemistry at Cornell University

0576

Public Hearing on the Fast Flux Test Facility

U.S. Department of Energy
U.S. Environmental Protection Agency
Washington State Department of Ecology

Seattle, Washington
January 20, 1998

Good evening and thank you for this opportunity to comment on the future of the fast flux test facility at the Hanford nuclear reservation.

My name is Aaron Katz. I am speaking here as a private citizen. However, my comments are informed, in part, by my four years as a member of the Washington State Nuclear Waste Advisory Council from 1987 - 1991.

I served on the council at a time when the veil of secrecy about the operation of the Hanford facility was being pried off, a time when the rationale for continued production of nuclear material was dissolving in the face of a warming of the decades-long cold war, a time when the extent of pollution and desecration of the reservation was coming to light.

To be brutally frank, the department of energy and its contractors had to be dragged kicking and screaming into these new realities. Not only did they resist the loss of the bomb-making mission of Hanford, but they attempted to side-step, obfuscate, and deny Hanford's absolutely clear new mission: To clean up the enormous and toxic mess that had been created in the name of national security. I can't tell you how many times the USDOE's representatives came to the advisory council to assuage our concerns that tanks were leaking, only to hear days later that indeed leaks had been discovered … and they neglected to tell us.

The advent of the Tri-Party Agreement seemed to put an end to that resistance. At last, it seemed, all concerned saw both the wisdom and necessity to focus <u>all</u> efforts at Hanford on the daunting challenges of clean-up. After all, an effort equivalent to the Manhattan Project would be needed to develop the science and technology that could deal with the worst kind of pollution ever confronted by humankind.

The payoff for such a singular focus would be great: reclamation of a land– once wild and still beautiful and sacred – from the ravages of weapons production … plus a new clean-up industry with (unfortunately) a worldwide market. Truly the concordance between environmental improvement and economic well-being!

So, when I read of this new idea to go back to the old Hanford mission, to use FFTF to produce tritium, I was stunned -- at first. But when I saw the purported reason was for medical isotopes, I recognized right away that warn out pattern: say one thing, do another. I won't dwell on this latest shuck and jive; others much more knowledgeable than I have squarely refuted that facade. What I <u>will</u> stress is the utter ridiculousness of this idea.

Martin D. Fleck
7848 14th Ave NE
Seattle, WA 98115

Testimony at the Hanford Tri-Party Agreement Hearing, 1/20/98, Seattle

My name is Martin Fleck, a citizen of Seattle. I am known around here for my work with Physicians for Social Responsibility. But I speak to you now as a private citizen, representing myself and my 10 year old son, who must cope with your decisions for the rest of his life. I direct my comments specifically to the Department of Energy and Washington Department of Ecology.

Are you so blind that you cannot see what is so obvious to the rest of us?

The creation of thousands of nuclear weapons and the byproduct of tons of nuclear waste ranks among the greatest human follies of all time. Hundreds of billions of dollars have already been wasted on this insane enterprise to create doomsday devices that we hope and pray are never used again. Here in Washington state, we are awash in nuclear bombs and nuclear waste. Some of the radioactive waste has reached groundwater and is contaminating the Columbia River.

Think about that. Think how would you feel if some enemy had perpetrated such a crime upon us. But no, this was done in the name of protecting us.

Meanwhile, no one even knows the contents of some of the nuclear waste tanks at Hanford. No one knows how to safely cope with the plutonium created at Hanford, with its radioactive half life of 24,000 years.

The rest of the world doesn't know whether to laugh at us or run in terror.

Cleaning up Hanford is a monumental task which we cannot shirk. It is just as difficult but far more important than sending astronauts to the moon. And cleanup will require that same kind of relentless focus. It is Hanford's **only** mission for the next 30 years. Get on with it.

But you people seem to think you can step aside, look the other way, rewrite agreements and allow Hanford to turn back history. You need a refresher course in the Hanford saga, if you would consider even for a moment letting Hanford go back and create more bomb materials, and more nuclear waste there, as if we do not have enough already.

Let's move forward and not backward. Prove to us that the Tri-Party Agreement is worth more than the paper it is written on -- hold the DOE accountable to it.

I pay taxes to fund all of your salaries. So I am instructing you, stop this before it starts.

Thank you.

0578 through 0580

Donna the following are FFTF Public Comments received on the Hanford Hotline for the official record. Roger asked me to put them in writing and send them to you.

0578

Albert Coffman
3308 19th Avenue S.
Seattle, WA 98144
(206) 722-2256
January 17th Comment: Very much against FFTF and its restart.

0579

Tereasa Mitchel
2375 Winter Street SE
Salem OR 97302

January 17th Comment: Why isn't USDOE legally responsible to us? Why can't USDOE be held responsible by us? Why doesn't the state make them legally responsible?

0580

Dick Hammond
1522 Haynes Avenue
Richland, WA 99352
(509) 943-3449

January 23rd Comment: Much in favor of changes which would delete FFTF shutdown milestones while USDOE evaluates a potential FFTF mission such as production of medical and industrial isotopes and the future production mission of tritium for the nations defense needs. Much like to express my interest in those things and therefore in modifying the milestones that have to be modified before an EIS can be prepared.

NOTE: I have sent these people a copy of the Hanford Update, the FFTF Focus Sheet, and a note letting them know that their comments will be included in the official record of comments.

Donna
I couldn't remember if I had actually sent this to you or not. Sorry
Tammie

RECEIVED
FEB 1 ? 1998
0581

Andy von Flotow
1750 Country Club Rd
Hood River, OR, 97031
ph 541-387-2288
fax 541-387-2266

13 February, 1998

Secretary Federico Pena
US Dept of Energy
1000 Independence Ave SW
Washington, DC, 20585

RE: DOE accountability to the Hanford Tri-Party Agreement

Dear Secretary Pena

Last night, in a public meeting in Hood River, Oregon, the Hanford Tri-Party Agreement was revealed to be a farce.

The public was told by representatives of the DOE and the Washington Dept of Ecology that the Agreement could not be enforced against violations by the DOE. Apparently, the DOE has unilaterally violated the Hanford Tri-Party agreement and is now seeking to have it revised to match its actions. The DOE's violation stems from the decision to keep the FFTF reactor in operational condition.

The Washington Dept of Ecology and the EPA both seem powerless to enforce the agreement. Instead, both are cooperating with the strategy of changing the agreement to make it match DOE's behavior.

The public was asked to comment.

The overwhelming response was one of anger and mistrust. The target of this anger is the DOE. The DOE's, violation of the Tri-Party clean-up agreement was seen as "business as usual." There was widespread expectation that last night's public meeting was futile, that the DOE would ignore the agreement despite any level of pressure brought to bear by the other parties to the agreement, and that we would soon witness further intentional violations of this agreement by the DOE.

The Washington Dept of Ecology received a strong message from its constituents to fight the DOE "tooth and nail." Many will be watching to see how it handles this situation.

Sincerely

A. von Flotow

Andy von Flotow

cc E. J. Hughes, DOE, Richland
Mike Wilson, Roger Stanley, Washington Dept of Ecology

FEB 1 8 1998

Andy von Flotow
1750 Country Club Rd
Hood River, OR, 97031
ph 541-387-2288
fax 541-387-2266

13 February 1998

Secretary Federico Pena
US Dept of Energy
1000 Independence Ave SW
Washington, DC, 20585

RE: DOE accountability to the Hanford Tri-Party Agreement

Dear Secretary Pena

Last night, in a public meeting in Hood River, Oregon, the Hanford Tri-Party Agreement was revealed to be a farce.

The public was told by representatives of the DOE and the Washington Dept of Ecology that the Agreement could not be enforced against violations by the DOE. Apparently, the DOE has unilaterally violated the Hanford Tri-Party agreement and is now seeking to have it revised to match its actions. The DOE's violation stems from the decision to keep the FFTF reactor in operational condition.

The Washington Dept of Ecology and the EPA both seem powerless to enforce the agreement. Instead, both are cooperating with the strategy of changing the agreement to make it match DOE's behavior.

The public was asked to comment.

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Sincerely

A. von Flotow

Andy von Flotow

cc E. J. Hughes, DOE, Richland
Mike Wilson, Roger Stanley, Washington Dept of Ecology

~~0704~~

Andy von Flotow
1750 Country Club Rd
Hood River, OR, 97031
ph 541-387-2288
fax 541-387-2266

13 February, 1998

Secretary Federico Pena
US Dept of Energy
1000 Independence Ave SW
Washington, DC, 20585

RE: DOE accountability to the Hanford Tri-Party Agreement

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Sincerely

A. von Flotow

Andy von Flotow

cc E. J. Hughes, DOE, Richland
Mike Wilson, Roger Stanley, Washington Dept of Ecology

0582

RECEIVED
FEB 12 1998

Portland, Oregon
February 8, 1998

Roger Stanley
Director of Wash. State Dept of Ecology
P.O. Box 47600
Olympia, Wa 98504-7600
Dear Mr. Stanley.

I do not want any more of the Tri Party Agreement money allocated for Cleanup of Hanford Waste used for the Bob Stanley to reactivate Hanford. I am against reactivating Hanford!

You should, as Director of the Ecology Dept of Washington State, be sticking to the clean up milestone agreed upon by the above agreement, and get on with the Cleanup!

Sincerely,

Andrean Gerber
ANDREAN F. GERBER
3704 N.E. 72nd Ave
Portland, O. 97213

0583

Lori Morgan
1709 N. 97th Street
Seattle, WA 98103

February 11, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Dear Mr. Stanley:

I am writing to express my opposition to the proposed changes in the Tri-Party agreement that would set aside several of the clean-up milestones in order to pave the way for restart of the Fast Flux Test Facility. I am outraged that the Department of Energy is *already* diverting funds appropriated for CLEAN-UP to the costs of keeping FFTF on "hot standby" (though their creative bookkeeping and linguistics would have us believe this is not what is happening).

In 1995 milestones were added to the Tri-Party agreement that stated that FFTF would be shut down and the money previously used for maintenance would be "available for higher priority ENVIRONMENTAL MANAGEMENT ACTIVITIES" (my emphasis). The proposed changes are in clear violation and are not acceptable.

I fully oppose any restart of nuclear activity at Hanford Nuclear Reservation, the most "contaminated nuclear site in our country" and I am insulted and sickened by the whole medical isotopes sham. Hanford needs to be shut down entirely and the clean up needs to get back on schedule. Using funds intended for the clean-up of Hanford to keep FFTF ready as a possible Tritium production site--which from every indication would make it an even more dangerous operation than ever before-- and pretending that the production of medical isotopes is a legitimate justification (when the use of isotopes is still in the experimental stages) is especially unconscionable.

Sincerely,

Lori Morgan

Lori Morgan

0584

Monica Zucker
3825 NE 155th Place, #403
Seattle, Washington 98155
Phone: (206) 365-2558

January 26, 1998

RECEIVED
JAN 27 1998
DEPT OF ECOLOGY

TO: Governor Gary Locke
State Department of Ecology
U. S. Department of Energy

I want to express my adamant opposition to the Department of Energy's plan to restart the Fast Flux Test Facility to produce tritium for hydrogen bombs. I will be brief and merely list my reasons:

a) The Department is breaking the Tri-Party Agreement with our state not to restart the facility.

b) It is illegal to claim that the head of the Department of Energy has power to abrogate agreements and decide on his own whether to use clean-up money to create more waste.

c) The EIS which is promised will be riddled with secrecy about national security issues, as the current releases of information already are. Citizens will have no real opportunity to protect themselves.

d) The government has been lying to us all along:

-- frittering away the clean-up money to keep the facility on stand-by,
-- telling us that the leaks which are approaching the Columbia aren't dangerous,
-- using contractors who endanger the workers, the downwinders, and all of us because they care nothing about real clean-up.

e) We do not need more tritium to create megabombs to wipe out cities. We are planning reduction of world-wide nuclear capacities. Do we expect other nations to reduce theirs while we increase ours?

Here is the government threatening us, breaking the law, and keeping us in the dark. Where is our liberty? Is this Chernoble?

Sincerely yours,

Monica Zucker

Monica Zucker

0505

1998

Jan 20, 1998

Dear Mr. Stanley,

I am writing to urge you to oppose the efforts to remove the FFTF reactor from the Hanford clean up agreement. It is discouraging to think that after all we've learned about our inability to safely store the waste from these processes, not to mention the product itself, that this proposal is even seriously being considered.

Your citizens of this country have faith in the ability of any contractor, agency, scientist, or nation to provide a safe long term solution to these nuclear processes no matter how many millions of dollars are thrown at the problem.

The burdens faced by the DOE are already staggering, there can be no reasonable justification to add

0586

RECEIVED

JAN 2 9 1998

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Sonja Pettersen

Name SONJA PETTERSEN

Address 3412 NE Fremont St
Portland OR 97212-2665

0587

January 19, 1998

Roger Stanley
ashington State Department of Ecology
.O. Box 47600
Olympia, Washington 98504-7600

RECEIVED
JAN 26 1998

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Asifa Mahegali

Name ASIFA MAHEGALI

Address 2854 SE COLT Dr Apt263
Portland OR 97202

0588

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

RECEIVED
JAN 26 1998

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature

Name KEIVAN JINNAH

Address 3705 SE MARKET ST 122
Portland OR 97214

0589
+
0590

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

FEB 9 1998

Reply To
Attn Of: ECL-117

Kathleen A. Juergens
Patrick W. Norton
P.O. Box 3814
Portland, Oregon 97208

Re: Fast Flux Text Facility and Deletion of Milestone M-81-00
0589 0590

Dear Ms. Juergens and Mr. Norton:

This letter is in response to your letter dated January 16, 1998, to Ms. Carol Browner. Thank you for your comments on the deletion of Fast Flux Test Facility (FFTF), M-81 series milestone, from the Hanford Federal Facility Agreement and Consent Order Tri-Party Agreement. As you have noted, the U.S. Environmental Protection Agency (EPA) did not participate in the public meetings dealing with these Tri-Party Agreement changes. EPA has shared the regulatory responsibilities at Hanford since October 1995 with the Washington State Department of Ecology (Ecology) under a system of "single regulator." The purpose of this system is to allow the Department of Energy (DOE) to deal with either EPA or Ecology on each project. Ecology is the lead regulatory agency for the M-81 series milestones and all facility transition projects at Hanford. EPA seldom participates in public meetings on Ecology lead projects or permit issues covered by the Tri-Party Agreement.

EPA must approve any major milestone change including the M-81 series deletion currently under consideration. EPA supports deletion of these milestones from the Tri-Party Agreement. We do not believe cleanup funds should be used to support FFTF in standby condition and that the Tri-Party Agreement should not in any way be associated with the decision on future use of this reactor. As you are aware, Ecology and EPA have not always agreed with DOE on the definition of "environmental cleanup" at Hanford, but maintaining FFTF in standby is clearly not cleanup.

Printed on Recycled Paper

I hope this gives you a clear picture of where EPA stands on the issue of deletion of the M-81 series milestones from the Tri-Party Agreement.

If you have additional questions, please contact Doug Sherwood, Hanford Project Manager, at (509) 376-9529.

Sincerely,

Randall F. Smith

Randall F. Smith, Director
Environmental Cleanup Office

cc: Doug Sherwood

KATHLEEN A. JUERGENS
PATRICK W. NORTON
P.O. BOX 3814
PORTLAND, OR 97208

January 16, 1998

Ms. Carol Browner
Administrator
Environmental Protection Agency
401 M Street SW
Washington, DC 20460

Dear Ms. Browner:

We are writing to express our strong opposition to any proposal to restart the Fast Flux Test Facility at the Hanford Nuclear Reservation. Although the EPA has apparently chosen not to involve itself in the current public comment process regarding proposed changes to the Tri-Party Agreement governing Hanford, we send you our comments nonetheless, in the hope that you will listen to the voices of Pacific Northwesterners in coming to a final decision on this matter.

The entire region of the Pacific Northwest suffers the toxic legacy of decades of mismanagement at Hanford. In Oregon, over a million of us live within 50 miles of the Columbia River, directly downriver from the Hanford Reservation. Radioactive waste in the groundwater already threatens the river and the health and lives of all of us who live near it. Future generations of Oregonians are at risk if the cleanup at Hanford does not proceed with the utmost expediency. Yet instead of the urgently needed cleanup, we are now faced with a proposal to <u>restart</u> the FFTF at Hanford and produce yet <u>more</u> radioactive waste. This is unacceptable to us!

We in the Pacific Northwest had thought this issue was settled when the U.S. Department of Energy, the EPA and the State of Washington signed the Tri-Party Agreement, which lays out the only sane course of action at Hanford: decommissioning of the FFTF reactor and cleanup of the entire site. We were shocked and outraged at the DOE's unilateral decision to take the FFTF out of "deactivation" and put it back on "hot standby." While a decision is pending regarding restarting the reactor, an estimated $30 million per year will be diverted from the cleanup budget to keep it on standby. Meanwhile, the DOE cannot even find $12 million in its budget for medical monitoring of the "downwinders."

We are told that if the FFTF is restarted, it will produce medical isotopes for cancer treatment...eventually, after it is first used to produce tritium for hydrogen bombs. It is clear to

us that the U.S. already has enough medical isotopes, and more than enough hydrogen bombs! At a time in history when real progress is being made on world arms reduction, it is tragically foolish and destructive for the U.S. to even consider restarting its nuclear war machine. Meanwhile, in exchange for these dubious "benefits," we in the Northwest are asked to accept further risk of harm to our environment, further risk of cancer, and further risk of a catastrophic nuclear accident that could render our part of the country uninhabitable.

All of this is contrary to the spirit of the Tri-Party Agreement and the will of the people of this region. This is not good science; it's not good public policy; and it's just plain wrong.

We are dismayed to see that the EPA, as a signatory to the TPA, seems to be doing nothing substantive to oppose this course of action. At a recent hearing in Portland, the question was raised "Where is the EPA?" This is a very good question. We depend on the EPA, as the enforcer of the nation's environmental laws, to stand up for us when we are endangered by misguided and short-sighted proposals such as this. Where do you stand on this issue? What do you plan to do to protect the health, safety and lives of the people of the Pacific Northwest?

Please write back and let us know.

Sincerely,

Kathleen A. Juergens

1

Patrick W. Norton

Patrick W. Norton

2

0591

Tri-Party Agreement Fast Flux Test Facility
Transition Milestones Public Meeting
Written Comment Form
Richland, January 22, 1998

The Tri-Parties would like to hear from you regarding the proposed changes to the Tri-Party Agreement Fast Flux Test Facility Transition Milestones. Please provide your written comments below and give to an agency representative at the public meeting, or send to:

Ernest J. Hughes, U.S. Department of Energy
P.O. Box 550 N2-36
Richland, WA 99352
(509) 373-9381

THE FFTF IS A VALUABLE NATIONAL ASSET. I BELIEVE IT WILL PROVE TO BE THE LOW COST OPTION FOR THE COMBINED MISSIONS OF TRITIUM PRODUCTION, PU DISPOSITION, AND PRODUCTION OF MEDICAL ISOTOPES.

GIVEN THE NUMBER OF MEDICAL ISOTOPES THAT ARE IN CLINICAL TRIAL STAGES OF TESTING, AND THE WOEFULLY INADEQUATE PRODUCTION FACILITIES THAT EXIST WITHIN THE US TO MEET THE EXPECTED DEMAND, IT IS PRUDENT THAT THE FFTF BE IN A STANDBY CONDITION WHILE THE OPTIONS ARE ANALYZED.

I THEREFORE SUPPORT REMOVAL OF THE FFTF TRANSITION MILESTONES FROM THE TRI PARTY AGREEMENT

[illegible]

0592

Due Back to DOE 2/2

Tri-Party Agreement Fast Flux Test Facility
Transition Milestones Public Meeting
Written Comment Form
Hood River, February 12, 1998

The Tri-Parties would like to hear from you regarding the proposed changes to the Tri-Party Agreement Fast Flux Test Facility Transition Milestones. Please provide your written comments below and give to an agency representative at the public meeting, or send to:

Ernest J. Hughes, U.S. Department of Energy
P.O. Box 550, A7-29
Richland, WA 99352
(509) 373-9381

There Should be no Changes to the tri-Party Agreement — the Effort Should continue to be Clean up. The public comment At Seattle-portland and Hood River (Even though they bussed people From the tri-cities to Hood River) has been hands down keep the tri-parting Agreement the way it is written - keep the Effort towards clean up. Do NOT go Back on your word

Stephen J. Curley
PO Box 511
Hood River OR 97031

0593

Tri-Party Agreement Fast Flux Test Facility
Transition Milestones Public Meeting
Written Comment Form
Hood River, February 12, 1998

The Tri-Parties would like to hear from you regarding the proposed changes to the Tri-Party Agreement Fast Flux Test Facility Transition Milestones. Please provide your written comments below and give to an agency representative at the public meeting, or send to:

Ernest J. Hughes, U.S. Department of Energy
P.O. Box 550, A7-29
Richland, WA 99352
(509) 373-9381

I am writing in opposition to the proposed changes to the Tri-Party Agreement for the FFTF. The Tri-Party agencies must keep the agreement they made to clean-up Hanford. The FFTF should remain in transition mode, as was agreed upon in the TPA. The people most affected by this, those downriver from Hanford, have shown they oppose the proposed changes to the TPA and the re-start of FFTF. The argument of medical isotopes is not a good one. We must first clean up those messes already created and focus on cleaning up that which causes cancer. Please do not let us down. Keep your promise. Clean up Hanford!!

Sincerely,
Julie Thielaes
16 Montello Ave.
Hood River, OR 97031

0594

Due Back to DOE 2/2

Tri-Party Agreement Fast Flux Test Facility
Transition Milestones Public Meeting
Written Comment Form
Hood River, February 12, 1998

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Ernest J. Hughes, U.S. Department of Energy
P.O. Box 550, A7-29
Richland, WA 99352
(509) 373-9381

PLEASE DO NOT SHUTDOWN FAST FLUX TEST FACILITY AT HANFORD. THIS FACILITY SHOULD REMAIN CLOSED. [illegible] COMING FROM PAST OPERATION

0595

✓

Due Back to DOE 2/2

Tri-Party Agreement Fast Flux Test Facility
Transition Milestones Public Meeting
Written Comment Form
Hood River, February 12, 1998

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Ernest J. Hughes, U.S. Department of Energy
P.O. Box 550, A7-29
Richland, WA 99352
(509) 373-9381

A letter to me from Terry Lash of the DOE and dated Feb. 3, 1998 states that maintaining the FFTF in standby will not affect cleanup activities at other areas and facilities at the Hanford site. Since it costs about $30 million to keep the Facility on hot standby, how could such an expenditure not interfere with clean up funds?

Now there's a proposal to exempt the FFTF from the Tri-Party Agreement. I'm appalled to think that such a breach of an honorable agreement could be considered. It's vital for those of us who live in the area to be able to trust actions taken to further our safety. I urge you to stick to the Transition Milestones.

Hanford is strewn with nuclear waste and the false assurances of the Department of Energy.

Sincerely,

Nancy Faller

Nancy Faller
2207 Barge St.
Yakima, WA 98902

0597

Leslie C. Davenport
Senior Engineer, Nuclear Safety (Retired)
Consultant, Criticality Safety
1922 Mahan Avenue
Richland, WA 99352

February 20, 1998

Mr. Ernest J. Hughes
U.S. Department of Energy
Richland Operations Office
P.O. Box 550 (N2-36)
Richland, WA 99352

Dear Mr. Hughes:

Please include the following in the record of public comments on the Proposed Tri-Party Agreement Changes for the Fast Flux Text Facility, Milestone M-81. If there are questions, please contact me by telephone at (509)-946-4409.

Please delete the current Fast Flux Test Facility (FFTF) transition program and associated milestones from the Tri-Party Agreement (TPA) scope. On January 1997, the Secretary of the U.S. Department of Energy (DOE) issued DOE's decision to maintain Hanford's FFTF in a standby mode pending a decision on whether or not the facility will play a role in the nation's tritium production strategy. This decision has made the TPA M-81 series milestones and M-20-29A milestone no longer relevant because FFTF is no longer in transition. Also, the pending decision as to whether or not FFTF will play a role in the nation's tritium production strategy is not a decision that will be made by the TPA agencies.

I support an interim tritium mission for the FFTF. The proposed accelerator will take too long to come on-line to fill the near term needs for tritium for the U.S. weapons program. Similarly, the use of commercial reactors for tritium production will be a difficult and time consuming political decision. It has already been decided that tritium will be produced in the U.S. The FFTF is the only way that tritium can be produced in the interim, and by using a facility that already exists and has previously produced tritium. The FFTF is also a cost effective method for the U.S. taxpayers of providing this interim tritium supply that does not violate a public-designated separation of commercial electrical power generation and defense production.

I support a long term medical isotopes mission for the FFTF. The U.S. needs an assured supply of isotopes for both diagnosis and therapy, so that research and clinical trials can proceed. The FFTF can produce dozens of different isotopes of high quality and sufficient quantity to support expanding demand for medical isotopes while maintaining a substantial level of tritium production. A proposal using private capital has already been made to produce medical isotopes, which I applaud, and this could take the FFTF out of the DOE budget, releasing the FFTF shutdown funds for other needed cleanup.

I support the option of using the U.S. surplus weapons-usable plutonium in fabricating mixed oxide (MOX) fuel for once-through use in the FFTF. The Fuels and Materials Examination Facility (FMEF), adjacent to the FFTF reactor, is one candidate being considered for MOX fuel fabrication. Such MOX fuel is the fuel of choice for the FFTF production of tritium and medical isotopes. It would also help the U.S. reduce its excess stockpile of weapons grade plutonium at a minimal cost to the taxpayer.

Sincerely,

L C Davenport

Leslie C. Davenport,
Senior Engineer, Nuclear Safety (Retired)
Consultant, Criticality Safety

Tri-Party Agreement Fast Flux Test Facility
Transition Milestones Public Meeting
Written Comment Form
Hood River, February 12, 1998

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Ernest J. Hughes, U.S. Department of Energy
P.O. Box 550, A7-29
Richland, WA 99352
(509) 373-9381

2/19/98

Dear Mr. Hughes:

I am opposed to changes in the Tri Party Agreement FFTF Transition Milestones for the following reasons:

1. I do not want ANY additional nuclear waste products sited or created at Hanford. As a person who lives downwind and downstream the damage and risk of damage already in place is already excessive.
2. I do not want any additional weapons grade tridium or plutonium created anywhere. I am not at all convinced that the best protection against war is a strong defense and object to heavy spending of tax dollars in that direction.
3. It is my understanding that the bi-product medical isotopes would not be produced until the facility had been running for approximately TEN years. The costs and risks and generated wastes during that period of time do not justify, in my view, the uncertain benefits of those medical isotopes
4. The economy of the Tri cities can be strongly supported by the primary mission of the Tri-Party agreement, clean up. The opinions of relatively few local Tri-city residents with specialized training who seek to protect their jobs should not be sufficient to put the rest of that population as well as the entire down river population at risk.
5. The Columbia River is an incalculably valuable economic and natural resource. It has already been compromised by activities at Hanford and is at far greater risk from the residue of those activities already present. Repairing that damage should be the entire focus of the Tri-Party Agreement. No activity whatsoever should be permitted under that agreement which would in ANY way increase or risk increasing damage to the Columbia River. Given the failure of previous efforts to prevent such damage no convincing scenario exists for me to say that there is not significant risk from any reactor start-up at Hanford.

In sum, RETAIN THE MILESTONES, meet the ones already missed, do not remove the Fast Flux Test Facility from the Tri-Party agreement and demand a higher level of performance and success from the contractors involved in the clean-up. There is already something wrong with the accountability process and the level of ongoing, relatively unfruitful, expenditures at Hanford.

Sincerely,

Peter Frothingham

Peter Frothingham
PO Box 408
Odell, OR 97044-0408

0596

2/19/98

Dear Mr. Hughes:

I am opposed to changes in the Tri Party Agreement FFTF Transition Milestones for the following reasons:

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3. It is my understanding that the bi-product medical isotopes would not be produced until the facility had been running for approximately TEN years. The costs and risks and generated wastes during that period of time do not justify, in my view, the uncertain benefits of those medical isotopes.
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Sincerely,

Peter Frothingham

Peter Frothingham
PO Box 408
Odell, OR 97044-0408

0598

PO Box 17147
Seattle, WA 98107-0847
Jan. 7, 1998

DEPARTMENT OF ECOLOGY
OLYMPIA
'97 JAN -9 A9:40

Tom Fitzsimmons, Director
Washington State Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

Dear Mr. Fitzsimmons:

I've been told that instead of cleaning up the super-fund sites at Hanford as promised, the Department of Energy is planning on restarting a breeder reactor there and creating still more nuclear waste. Please don't let them do that.

My husband is a Hanford downwinder and we know first hand that this stuff is dangerous. Perhaps the Department of Energy will justify it's actions by claiming 'It's for defense.' This leads me to wonder, then ... who will defend us from the Department of Energy.

Sincerely,

Carole Woods

Carole Woods

0599 ✓

Ernest J. Hughes, U.S. Department of Energy
P.O. Box 550 N2-36
Richland, WA 99352

COMMENTS ON FFTF TRI-PARTY AGREEMENT

I object to deletion of the current FFTF transition program milestones from the Tri-party agreement scope. Some of my reasons are outlined below.

One of the assumptions which have been used by the U.S. DOE to justify the need to delete the FFTF milestones is that safety issues involved in operation of the FFTF to produce tritium at levels of 1.5Kg/year or greater can be resolved quickly so that production rates are not significantly delayed. In the detailed discussion which follows, I intend to show that this assumption is incorrect and inaccurate.

There has been much experience with the original fuel used in FFTF irradiations. However, there are significant changes proposed in order to produce tritium , particularly at levels of 1.5Kg/year or greater. One of these changes is increasing the plutonium enrichment up to 42% compared to the 20% to 29% typically used.

One of the main safety issues has to do with this enrichment increase and it"s effect upon reactor stability, maximum fuel temperatures, and the power-to-melt in the fuel pins.

A major concern of going to the higher plutonium enrichment is that, during power operation, the fuel may restructure. That is, the plutonium may separate from the uranium in each fuel pin This would mean that analytical calculations of such major safety parameters as the maximum fuel temperature, the power-to-melt, and the Doppler coefficient would be in error by an unknown amount because the calculations assume a homogeneous mixture of plutonium and uranium in the fuel pins.

In the FFTF Draft Technical Information Document it was stated that two full-sized FFTF tests with 33% plutonium were successfully irradiated to high burnup. Furthermore, test pins with 40% Plutonium were irradiated and examined at EBR-II. It is believed that these tests do not prove that 42% enriched pu fuel will not restructure.

This is because, in all likelyhood, the tests were performed with Light water grade Plutonium rather than Weapons grade Plutonium which is proposed for the tritium mission in FFTF. Furthermore, in all likelyhood, the tests in FFTF and EBR-II were never examined for restructuring due to budget limitations for liquid metal reactor research.

These tests could be examined in the future. However, it is not clear that stringent temperature limits have been maintained in the test assemblies over the years since they were irradiated. If it cannot be proved that the temperature limits were maintained, the integrity of possible examination results cannot be verified. This would mean that new very time consuming and costly irradiations and examinations would be required. Moreover, the FFTF is the only facility where they could be performed.

Another major safety issue is the sodium void coefficient for the central fuel assembly. In the original core configuration for the FFTF, as described in the FSAR (Final Safety Analysis Report), the sodium void worth for the positive void region of the central fuel assembly was calculated to be +7 cents of reactivity. If, for example , that portion of the central fuel assembly experienced a bubble due to sodium boiling, the reactivity of the whole reactor would instantly increase by 7 cents and the power level would shoot up from 400MW to 430MW for a short time before control rods could be inserted to reduce the reactivity. In the original core, such an occurance was calculated to lead to no serious consequences such as fuel melting and cladding breach.

In the reference core for tritium production in the FFTF, it is likely that the sodium void worth for the positive void worth region of the central fuel assembly is much more positive than +7 cents. This, coupled with the increased linear heat rate due to use of the 42% weapons grade Plutonium and the possibility of increased temperatures in fuel pins due to fuel restructuring means that boiling may be more likely than predicted by a calculation which assumes fuel homogeneity. Hence, there may be an increased chance of fuel melting and cladding breach beyond what an analytical calculation would predict if it neglects fuel restructuring.

If the sodium were to boil in the positive void worth portion of the central fuel assembly with the 42% Pu, the power would probably shoot to much higher than 430MW and some fuel melting and cladding breach would likely occur before the reactivity could be reduced using control rods.

This is an issue that must be thoroughly understood prior to operation at full power with 42% Pu in the central fuel assembly or other inner core positions. It is necessary to have the experimental results from examination of 42% Pu fuel assemblies prior to full power operation with such assemblies.

It is believed that significant FFTF safety issues cannot be resolved quickly because of the need for irradiation to high burnup and examination of 42% Pu fuel asssemblies to determine the effects of possible fuel restructuring. Such irradiations and examinations can only be done in the FFTF and would cause years

of delay.

For the reasons stated above plus several others which I was unable to include because of time limitations, I believe that the FFTF milestones should not be deleted from the Tri-party agreement.

I specifically request a copy of the document which responds to comments during the FFTF hearing period.

Sincerely,

David L. Johnson

David L. Johnson
P.O. Box 1034
Enumclaw, WA 98022
(360) 825-0480

David L. Johnson
P.O. Box 1034
Enumclaw, WA 98022

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Ernest J. Hughes, US Dept of Energy
P.O. Box 550 ~~H2-36~~ R3-79
Richland, WA 99352 116A

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0600

Tri-Party Agreement Fast Flux Test Facility
Transition Milestones Public Meeting
Written Comment Form
Richland, January 22, 1998

The Tri-Parties would like to hear from you regarding the proposed changes to the Tri-Party Agreement Fast Flux Test Facility Transition Milestones. Please provide your written comments below and give to an agency representative at the public meeting, or send to:

Ernest J. Hughes, U.S. Department of Energy
P.O. Box 550 N2-36
Richland, WA 99352
(509) 373-9381

THE FFTF IS A VALUABLE NATIONAL ASSET. I BELIEVE IT WILL PROVE TO BE THE LOW COST OPTION FOR THE COMBINED MISSIONS OF TRITIUM PRODUCTION, Pu DISPOSITION, AND PRODUCTION OF MEDICAL ISOTOPES.

GIVEN THE NUMBER OF MEDICAL ISOTOPES THAT ARE IN CLINICAL TRIAL STAGES OF TESTING, AND THE WOEFULLY INADEQUATE PRODUCTION FACILITIES THAT EXIST WITHIN THE US TO MEET THE EXPECTED DEMAND, IT IS PRUDENT THAT THE FFTF BE IN A STANDBY CONDITION WHILE THE OPTIONS ARE ANALYZED.

I THEREFORE SUPPORT REMOVAL OF THE FFTF TRANSITION MILESTONES FROM THE TRI PARTY AGREEMENT

Floyd [illegible] Gardner
Operations Engineer
FFTF Crew "A"

0601

Tri-Party Agreement Fast Flux Test Facility
Transition Milestones Public Meeting
Written Comment Form
Richland, January 22, 1998

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I THEREFORE SUPPORT REMOVAL OF THE FFTF TRANSITION MILESTONES FROM THE TRI PARTY AGREEMENT

Eugene C. Ogden

01602

Tri-Party Agreement Fast Flux Test Facility
Transition Milestones Public Meeting
Written Comment Form
Richland, January 22, 1998

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I THEREFORE SUPPORT REMOVAL OF THE FFTF TRANSITION MILESTONES FROM THE TRI PARTY AGREEMENT

Robert L Vellum

0603

EARNEST J. HUGHES
U.S. DEPARTMENT OF ENERGY
Post Office Box 550 (N2-36)
RICHLAND, WA 99352

Dear Mr. Hughes,

1. I am strongly opposed to the restart proposal at Hanford for the production of nuclear weapons.

2. No exceptions from the Tri Party Clean Up Agreement should ever be made for any project at Hanford. Funds should be reverted to the cleanup of toxic and nuclear waste which still plague the facility.

3. I am opposed to the risky shipment of plutonium through our state to Hanford. The health risks are too great.

4. Hanford's horrible track record demands total cleanup and permanent shut down.

5. It got to stop! Here

Respectfully,

Name: [illegible]

Address: PO Box
1980 [illegible]
[illegible] 97632
11 - George [illegible]
[illegible]

Mr. Ernest Hughes
USDOE
PO Box 550 (N2-36)
Richland, WA
99352

99352/0550

0604

519 West Roy, #217 Seattle, WA 98119

February 17, 1998

RECEIVED

FEB 19 1998

Governor Gary Locke
PO Box 40002
Olympia, WA 98504

Dear Governor Locke:

Please make sure that *no nuclear production whatsoever* happens at Hanford. This means getting the FFTF (Fast Flux Test Facility) off of standby status and cleaning it up, period.

Producing a poison like tritium by definition is a problem. Common sense alone tells us that. It takes a lot of very bad stuff to produce it (like tons of plutonium brought into our state) and then we get a lot of bad stuff back out in the form of nuclear waste, more poison that we don't *really* know what to with. It's all a big guess with unknown consequences for future generations over a time period we can't even imagine. And then there is *always* the possibility, perhaps even a likelihood, that we'll have an accident despite our best-laid plans.

What makes this whole issue so bizarre is that, besides there being so many good reasons for not producing tritium at Hanford due to threats to public health and safety and the environment, *it seems totally unclear that we even need tritium.*

I have heard perfectly conservative military types state that 2,000 bombs would work just as well as a deterrent as the 12,000 we have and that any more tritium we could possibly "need" could be had through recycling our "excess" supply of bombs. In addition, what I hear in the news these days is that the world, including the US, is at least trying to move towards nuclear disarmament. Therefore, to say that we *might* need more tritium seems absurd at best and totally irresponsible at worst.

There seems to be something wrong with the Department of Energy being able to unilaterally opt out of the Tri-Party Agreement. *Who* exactly thinks we need tritium? And do they represent the opinion of the majority of people of this country?

Let us be a reasonable and wise and responsible people. Let us do what we can to help clean up the mess we have made at Hanford and not make it worse.

Sincerely yours,

0604 Lona Badgett

Lona Badgett

cc: Patty Murray, US Senator
Roger Stanley, Washington State Dept. of Ecology
Energy Secretary Pena, USDOE

0605

#2039 assigned by Ecology

CITY OF
RICHLAND

505 Swift Blvd. • Box 190 • Richland, Washington 99352 • (509) 943-7390 • FAX (509) 943-5666

DEPARTMENT OF ECOLOGY
OLYMPIA

'97 FEB -6 A9:20

OFFICE OF THE CITY MANAGER

February 3, 1998

John Wagoner, Manager
Department of Energy, Richland Operations
P.O. Box 550 (A7-50)
Richland, WA 99352

Chuck Clarke, Regional Administrator
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, WA 98101

Tom Fitzsimmons, Director
Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504

Re: Modification of Fast Flux Test Facility (FFTF) Transition Milestones

Dear Messrs. Wagoner, Clarke and Fitzsimmons:

As indicated in my January 30 letter, the Richland City Council adopted the enclosed Resolution No. 14-98 at their February 2, 1998 meeting. The resolution expresses support for Tri-Party Agreement modifications to maintain the FFTF in a standby status while it is considered by the Department of Energy for a tritium production role.

Sincerely,

Joseph C. King
City Manager

Enclosure

RESOLUTION NO. 14-98

A RESOLUTION of the City of Richland, Washington supporting the deletion of Fast Flux Test Facility (FFTF) transition milestones from the Tri-Party Agreement (TPA)

WHEREAS, the Secretary of Energy has placed the FFTF on "hot standby" pending an evaluation of the reactor for possible use in performing the Department's tritium production mission; and

WHEREAS, current TPA milestones covering shutdown of the FFTF are consequently inappropriate, as they cannot be met while deactivation and decommissioning activities are suspended; and

WHEREAS, it is a matter of national policy that the United States maintain a nuclear weapons capability, tritium is required to replace deteriorating stocks in existing weapons components, and the Department of Energy is responsible for supplying tritium for the Defense Department ; and

WHEREAS, use of the FFTF in producing tritium would avoid several billion dollars in construction costs compared to the expense of building a new facility, thereby leaving more resources available for environmental cleanup; and

WHEREAS, studies have concluded the FFTF can produce both tritium and vital medical isotopes and this dual tritium - isotope mission has been endorsed by the Hanford Communities and several other organizations; and

WHEREAS, a full environmental impact analysis will be conducted by the Department of Energy should it decide to use the FFTF for tritium production, providing ample opportunity to evaluate consequences of restarting and operating the reactor.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Richland that it supports modification of FFTF Tri-Party Agreement milestones to suspend transition activities while the facility is considered for tritium production.

BE IT FURTHER RESOLVED that this Resolution shall take effect immediately.

ADOPTED by the City Council of the City of Richland at a regular meeting this 2nd day of February, 1998.

LARRY HALER
Mayor

APPROVED AS TO FORM:

THOMAS O. LAMPSON
City Attorney

~~0614~~

Assign to Nuc Waste for A response

CITY OF RICHLAND

505 Swift Blvd. • Box 190 • Richland, Washington 99352 • (509) 943-7390 • FAX (509) 943-5666

DEPARTMENT OF ECOLOGY

'97 FEB -2 A10:10

OFFICE OF THE CITY MANAGER

January 30, 1998

John Wagoner, Manager
Department of Energy, Richland Operations
P. O. Box 550 (A7-50)
Richland, WA 99352

Chuck Clarke, Regional Administrator
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, WA 98101

Tom Fitzsimmons, Director
Washington Department of Ecology
P. O. Box 47600
Olympia, WA 98504

Re: Modification of Fast Flux Test Facility (FFTF) Transition Milestones

Dear Messrs. Wagoner, Clarke and Fitzsimmons:

The Richland City Council is scheduled to adopt the accompanying resolution at its meeting of February 2, 1998. I am sending this letter now to comply with your public comment deadline. A signed copy of the resolution will be mailed to you next week. The resolution expresses support for Tri-Party Agreement modifications to maintain the FFTF in a standby status while it is considered by the Department of Energy for a tritium production role.

Sincerely,

Joseph C. King
City Manager

Enclosure

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ADOPTED by the City Council of the City of Richland at a regular meeting this 2nd day of February, 1998.

LARRY HALER
Mayor

APPROVED AS TO FORM:

THOMAS O. LAMPSON
City Attorney

GL Troyer

Statement Regarding the Removal
Of The Fast Flux Test Facility Milestones
From The Tri-Party Agreement

Prepared for Public Hearing
January 20, 1998
Seattle, Washington

My purpose with this statement is to support the use of the Fast Flux Test Facility (FFTF) for the production of medical isotopes and to give my reasons for removal of the facility from the umbrella of the Tri-Party Agreement (TPA). There are several inter-related aspects of this topical area that critics have embroiled with non-factual perceptions and faulty reasoning. I shall address several of them such as issues of safety, nuclear materials, Hanford Site cleanup, and stewardship of the public trust.

The FFTF was built by taxpayer monies for the primary purpose of testing safety aspects of systems and materials for plutonium burning reactors. The expert designers are to be commended for building a versatile world-class facility. Other nations have recognized its utility and have explored ways of participating in its use. Some of those same designers are now proposing a continuance of use with a mission that can be even more directly felt by the citizens: the production of medical isotopes. It is nearly criminal to advocate throwing such a system away, one that is already paid for by the sweat of America. It can now become a direct benefit to this citizenry.

Medical isotopes are potential silver bullets in the diagnosis and treatment of osteoporosis and cancer respectively. We are already seeing certain medical research such as breast cancer halted for lack of such isotopes. I am really concerned about the logic processes of certain critics who wish to deny such advances. My wife and I have 5 grandchildren that continue to get hugs from their grandmother. She is a direct benefactor of nuclear medicine. In fact, one third of all hospital patients are affected by nuclear technology. As a scientist, I can see no reason why we won't have continued advances in nuclear medicine except for one big 'if the isotopes are available'. It is a distressing fact that 9% of women will face some form of breast cancer, with a large number terminal. Nuclear medicine is a significant tool in this arena.

The FFTF has a unique advantage for certain isotope production. The nature of its internal radiation allows certain isotopes either exclusively or more efficiently than other sources. Thus, the FFTF opens the door beyond existing sources. And, it's ours.

As a potential production facility, the FFTF is not logically in a category for cleanup under the TPA. Its current holding status by the Federal government effectively stymies any milestones for it in the TPA. Therefore, its current status sets up the TPA for failure. Arguments against removal falsely promote that monies would be diverted from cleanup to production. On the contrary, it would free up monies for cleanup effort because the milestones simply are not required. The concept of bridging to the medical isotope mission brings monies from the defense

sector through savings by avoidance of building a new facility. It has been estimated that the bridging effort would cost only one tenth the money annually versus a fast track alternate approach. Regardless, our country will continue to assure its defense. After all, it's in the preamble to our constitution. Let's use what the tax payers have paid for already. Therefore, removal from TPA milestones is a correct solution. It can always be put back in if necessary.

As to safety, the negative perception of nuclear technology is just that, a perception. When placed on any factual comparison base, this technology outshines the rest of human endeavors hands down. Several books have been written (Cohen, Waltar) which will attest to this. When given a level risk based playing field, this technology will always win. For example, our country spends $1.1 billion in medical benefits annually for black lung disease. There are 175,000 recipients with 8,000 being added annually. Their prognosis? Not good. There is no comparable statistic for nuclear technology except for the positive in lives saved (medicine) or living standard supported (electricity).

The FFTF has had a long standing record of safe and clean operations. Its cooling system is closed loop. No external river water is warmed or any steam emitted. No green house gases are generated. Compare that to the plume coming from our southern neighbor with the Boardman coal fired electric plant. And, don't forget, coal plants emit directly measurable radioactivity every minute of operation, sufficient to set off alarms in downwind nuclear plants. As a further anecdote on safety and the concern espoused by critics, I have personally observed the leader of Heart of America covering up the only available fire extinguisher in a public meeting room with an erroneous propaganda poster. Perhaps one protests too much?

Finally, two comments on nuclear fuel and waste. As I stated earlier, the FFTF was designed as a plutonium burner. The original plutonium used came from defense sources. The resulting spent fuel is unusable for defense. Therefore, two aspects are covered. First, the cross fertilization of defense material into the private sector has already been accomplished regardless of treaties. Remember that the original mission of the FFTF was to test systems for commercial application. Secondly, its use provides a way of disposing of our excess plutonium inventory without just throwing it down a hole. The inventory is a national treasure which the taxpayers own. They should get the maximum utility out of it. What better way to use our nation's most advanced nuclear technology resource?

For these reasons, I fully support the removal of the FFTF from the TPA umbrella and encourage use of the FFTF for the betterment of our citizens.

Gary L. Troyer
614 Cottonwood
Richland WA 99352
509-946-3425

James N. Pazzieri, Engineer, Richland
(These remarks are given as a private citizen)

FFTF is a unique and virtually irreplaceable multibillion-dollar national asset. FFTF can produce the largest variety and quantity of many isotopes of any facility in the Western hemisphere. There is currently an acute shortage of a number of medical isotopes such that even some very promising cancer clinical trials cannot be completed. Without increased supplies of medical isotopes from FFTF some new life-saving nuclear medicine treatments will not be available. These statements on the shortage of isotopes and the need for FFTF are also stated in the November 27, 1997 letter from the Nuclear Medicine Research Council to Secretary of Energy Pena. The letter was signed by a number of nuclear medicine experts and includes many who are nationally and some internationally known, fourteen M.D.s from a number of eminent universities and cancer centers across the country, two Nobel laureates, and others (the letter is attached to my remarks).

FFTF can produce tritium on an interim basis much sooner and at far less cost to taxpayers than other options. Also, the urgent need to set a positive example for other countries by quickly beginning to reduce the nation's stockpile of weapons-grade plutonium, can be initiated by FFTF much sooner than the schedule for other options. Also, FFTF is virtually the only reactor in the world that can carry out nuclear waste (including actinide) conversion experiments that have the potential to significantly reduce nuclear waste hazards and cleanup/storage costs. In addition, Plutonium-238 which is needed as a power source, and has been required and used on more than forty space missions, has to be purchased from Russia because without FFTF there is an inadequate U.S. supply.

FFTF has a distinguished record with demonstrated excellence in design, operations, safety, and meeting milestones. The Japanese equivalent of

the Wall Street Journal stated that FFTF is one of the few Centers of Excellence in the world.

In summary, FFTF has many years of potential life remaining and can safely and efficiently carry out many missions, a number of which cannot be carried out by any other existing or planned U.S. facility. FFTF is needed to initially carry out a triple mission for the country of medical isotope production, interim production of tritium for defense and medical applications, and to reduce the amount of weapons grade plutonium. Consequently, it is imperative that the FFTF cleanup requirements be deleted from the Tri-Party Agreement (TPA).

J.N. Pagliere 1-22-98

NUCLEAR MEDICINE RESEARCH COUNCIL

POST OFFICE BOX 845, RICHLAND, WA 99352
URL: HTTP://WWW.CBVCP.COM/NMRC
E-MAIL: SM_BOWYER@PNL.GOV

November 26, 1997

Marc A. Garland
President
509-627-5891

Charles W. Lindenmeier, Ph.D.
Vice-President

Robert A. Burk, P.E.
Secretary

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Darrell R. Fisher, Ph.D.

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Donald J. Hammervold

Dolores E. Mitchell

Wanda I. Munn

Maynard J. Plahuta

Robert E. Schenter, Ph.D.

Stanley W. Scott

Donald R. Segna

nas S. Tenforde, Ph.D.

Ann O. Worcester

The Honorable Federico F. Peña
Secretary of Energy
1000 Independence Avenue SW
Washington, DC 20585

Dear Mr. Secretary:

Nuclear medicine offers more effective, less costly, and less debilitating forms of treatment for many diseases, greatly increasing the health care and quality of life of patients. During the past decade, major advances have been made in the use of radioisotopes for the effective diagnosis and treatment of cancer, cardiovascular disease, arthritis, and other diseases. It has been demonstrated, for example, that the use of radiolabeled antibodies for the selective destruction of cancer cells provides an increased probability of long-term survival with fewer debilitating side effects than chemotherapy or external beam irradiation.

The widespread use of these new nuclear medicine techniques will not be possible, however, unless sufficient quantities of radioisotopes are readily available. There is currently a shortage of isotopes for medical research and for FDA-approved medical applications. Several clinical trials involving the treatment of cancer using radiolabeled antibodies have been curtailed due to a shortage of isotopes such as copper-67 and rhenium-186. Prostate cancer patients have been denied treatment with radioactive seed implants due to an insufficient supply of palladium-103. Without an adequate supply of medical isotopes to carry out clinical trials, medical research will also decline as a result of the lack of motivation to develop innovative new radioisotope procedures for treating disease.

On September 19-20, ten leading nuclear medicine physicians and researchers from throughout the United States participated in a conference held in Richland, WA, on "The Future Role of the Fast Flux Test Facility (FFTF) as a Supplier of Diagnostic and Therapeutic Medical Isotopes." These experts unanimously agreed that the United States is facing a critical shortage of radioisotopes for medical diagnostic and therapeutic applications by the early part of the twenty-first century, and that new accelerator and reactor sources are needed to fill this need. At the Richland conference, representatives of the Department of Energy described the proposal to restart FFTF for the mission of producing tritium for national defense applications, while simultaneously producing medical isotopes that are not available in sufficient quantities from existing U.S. sources.

In December, 1996, over sixty physicians and distinguished researchers requested Secretary O'Leary to review and strongly consider the potential for future FFTF operation, including isotope production. We have been very pleased and encouraged by the Department's steps this year to do just that. Restart of the FFTF for an interim tritium production mission would also provide critically needed medical isotope production capabilities, unmatched by any other reactor in the Western hemisphere.

Much work remains to be done to enhance health care through nuclear medicine techniques. The medical community is doing its share, despite the shortage of existing isotope supplies for clinical trials and the uncertainties that are faced in the future supplies of isotopes for medical research and therapeutic applications. To that end, it is critically important that the Department make available its unique resources, such as the FFTF, to sustain and enhance its partnership with the nuclear medicine community — a partnership that can do so much to save lives and improve the quality of life for critically ill patients.

We strongly encourage the Department to maintain its long-term commitment to the production of medical isotopes and continue its consideration of restarting the FFTF.

Sincerely,

Marc A. Garland
President

Susan L. Golladay
Board Co-Chair

Darrell R. Fisher, Ph.D.
Board Member

Robert E. Schenter, Ph.D.
Board Member

Thomas S. Tenforde, Ph.D.
Board Member

We, the undersigned, concur with this letter prepared by the Nuclear Medicine Research Council.

S. James Adelstein, M.D., Ph.D.
Daniel C. Tosteson University Professor,
Harvard University
Past-President, Society of Nuclear Medicine

A. Bertrand Brill, M.D., Ph.D.
Professor of Radiology,
Vanderbilt University School of Medicine
Professor of Radiology,
University of Massachusetts

Robert F. Carretta, M.D.
Director, Department of Nuclear Medicine,
Roseville Hospital, Roseville, CA
Vice-President-Elect, Society of Nuclear Medicine
Past-President, American College of
Nuclear Physicians

Sally J. DeNardo, M.D.
Professor of Internal Medicine and Radiology,
University of California at Davis

Alan R. Fritzberg, Ph.D.
Chief Scientist and Chairman of the
Scientific Advisory Board,
NeoRx Corporation, Seattle, WA

Elissa L. Kramer, M.D.
Associate Professor of Clinical Radiology,
New York University School of Medicine

George E. Laramore, Ph.D., M.D.
Acting Chairman, Department of
Radiation Oncology,
University of Washington School of Medicine

Carol S. Marcus, Ph.D., M.D.
Director, Nuclear Medicine Outpatient Clinic,
Harbor-UCLA Medical Center
Professor of Radiological Sciences,
University of California at Los Angeles

Conrad E. Nagle, M.D.
Chief, Nuclear Medicine Department,
William Beaumont Hospital, Troy, MI
Past-President, American College of
Nuclear Physicians

Martin L. Nusynowitz, M.D.
Professor of Radiology, Internal Medicine,
and Pathology, University of Texas
Medical Branch at Galveston
President, American College of
Nuclear Physicians

Haakon Ragde, M.D.
Urologist, Northwest Hospital, Seattle, WA
Assistant Medical Director,
University Hospital, Seattle, WA
Board of Directors, Pacific Northwest
Cancer Foundation, Seattle, WA

David A. Scheinberg, M.D., Ph.D.
Chief, Leukemia Service,
Memorial Sloan-Kettering Cancer Center

Glenn T. Seaborg, Ph.D.
Nobel Laureate in Chemistry
University Professor of Chemistry,
University of California at Berkeley
Associate Director, Lawrence Berkeley
National Laboratory

Aldo N. Serafini, M.D.
Professor of Medicine and Radiology,
University of Miami School of Medicine

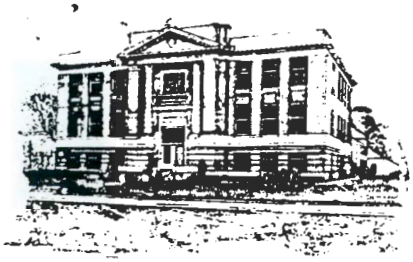
Edward B. Silberstein, M.D.
Professor of Medicine and Radiology,
University of Cincinnati College of Medicine
Board of Trustees, Society of Nuclear Medicine

Huibert M. Vriesendorp, M.D., Ph.D.
Radiation Oncologist,
Arlington Cancer Center, Arlington, TX

Rosalyn S. Yalow, Ph.D.
Nobel Laureate in Physiology and Medicine

cc: Congressional Delegation of Washington
Congressional Delegation of Oregon
Congressional Delegation of Idaho
The Honorable Gary Locke, Governor of Washington
The Honorable John Kitzhaber, Governor of Oregon
The Honorable Phil Batt, Governor of Idaho

0609



Board of County Commissioners
BENTON COUNTY
P.O. Box 190 · Prosser, WA 99350-0190
Phone (509) 786-5600 or (509) 736-3080
Fax (509) 786-5625

Leo Bowman
DISTRICT 1
Max Benitz, Jr.
DISTRICT 2
Claude L. Oliver
DISTRICT 3

RECEIVED
JAN 26 1998

January 12, 1998

John Wagoner, Manager
U. S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, WA 99352

Tom Fitzsimmons, Director
Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Doug Sherwood, Manager
U. S. Environmental Protection Agency
Hanford Project Office
712 Swift Blvd, Suite 5
Richland, WA 99352

Re: Proposed Deletion of FFTF Tri-Party Agreement Milestones

Dear Tri-Party Agencies:

Benton County supports deleting the current Fast Flux Test Facility (FFTF) transition to cleanup milestones from the Tri-Party agreement. No unnecessary actions should be taken which could jeopardize potential future missions for the FFTF before pending decisions on the future of the reactor are made. The county supports restart of FFTF for the joint missions of interim tritium production, medical research and isotope production, and disposition of excess weapons grade materials. These joint missions have also been endorsed by resolution through our state association, the Washington State Association of Counties (enclosure).

Benton County is confident using FFTF for interim tritium production will also make more money available in the Department of Energy for Hanford cleanup. Protecting and remediating along the Columbia River, removing and vitrifying waste from the tanks, and cleanup and transition of high-risk facilities remain our top priorities for Hanford cleanup. The county will continue to monitor and provide input into the cleanup process,

and to hold high expectations for results. It is important to continue to demonstrate and publicize real cleanup progress to the region and the nation.

Sincerely,

BOARD OF BENTON COUNTY COMMISSIONERS

Leo M Bowman

Leo Bowman, Chairman

Enclosure

cc: Secretary Peña, USDOE
Hanford Communities
Roger Stanley, Ecology
Ernest Hughes, USDOE

A RESOLUTION OF THE WASHINGTON STATE ASSOCIATION OF COUNTIES IN SUPPORT OF THE FAST FLUX TEST FACILITY

WHEREAS, the FFTF is a national asset that can meet important defense, medical, and weapons disposition needs; and

WHEREAS, the FFTF should be restarted and given the joint missions of interim tritium production, medical research, isotope production, and disposition of excess weapons grade materials; and

WHEREAS, several reports, including those conducted by the JASON Panel and the Argonne National Laboratory confirm that FFTF is technically capable of producing tritium for the nation's stockpile; and

WHEREAS, the U. S. Department of Energy failed to adequately consider the technical, economic, and schedule arguments in favor of the FFTF in its Tritium Record of Decision and NEPA process; and

WHEREAS, the use of the FFTF to provide this interim source of tritium supports accelerated cleanup by not excessively draining resources from other U. S. Department of Energy programs; and

WHEREAS, nuclear medicine provides life-saving benefits which are made possible through the application of nuclear technology; and

WHEREAS, the United States must take the lead in nuclear disarmament through disposition of excess weapons-usable fissile materials; and

WHEREAS, Tri-Cities region and state interests are supportive of an interim tritium mission for the FFTF coupled with a replacement long-term mission of medical research and isotope production, and plutonium disposition; and

WHEREAS, restart of the FFTF is a state goal;

NOW, THEREFORE, BE IT RESOLVED that the Washington State Association of Counties hereby supports the restart of the FFTF for the joint missions of interim tritium production, medical research, isotope production, and disposition of excess weapons grade materials.

Recommendation of the Board of Directors: ___

Action of the Association: _____

Karen Miller

Karen Miller, President
Washington State Association of Counties
November 15, 1996 at the Fall Legislative Conference at Richland, Benton County, Washington

0610

January 24, 1998

Roger Stanley
WDOE
PO BOX 47600
Olympia, Washington 98504-7600

RE: FFTA, TPA, WDOE/USDOE/EPA

I support the proposed changes in the Tri-Party Agreement allowing the time to make a decision on the reactivation of the Fast Flux Test Facility.

I used the address on the "Hanford Update". I wish they would give addresses not just phone numbers and e mails. Are written comments via the mail still acceptable?

Also I will ask again why are most of the meetings held in Seattle?

Sincerely

William Johns
South 12608 Scribner Road
Cheney, Washington 99004.

RECEIVED
JAN 26 1998

Tri-Party Agreement

HANFORD UPDATE

A bulletin on Hanford cleanup and compliance

Volume 10 , Number 1 — Janurary/February, 1998

Special Report: Fast Flux Test Facility Public Comment

Public comment is being accepted until January 30, 1998 on proposed changes to the Tri-Party Agreement (TPA) that would delete deactivation milestones for the Fast Flux Test Facility (FFTF). The FFTF operated from 1982 to 1992, when it was then placed in a standby mode.

In 1995, the FFTF was added to the Tri-Party Agreement after a decision was made by theUnited States Department of Energy (USDOE) to shut the reactor down, based on the lack of a definable mission. Since then, early deactivation milestones have been met, but none that would permanently prevent the reactor from restarting.

In January 1997, then Secretary of Energy Hazel O'Leary elected to halt deactivation and keep the reactor in a standby mode to allow for a possible evaluation of the FFTF for future missions. Consequently, the work schedules currently in the TPA are out of date, and are no longer being acted on. It is important to note that the USDOE has not made a decision to actively concider the advisability of restart. Should that decision be made, an open public process will be required. Nonetheless, there is already much debate regarding restart issues.

Under a restart FFTF's primary mission would be as an interim source of tritium for the nation's defense needs until a permanent source can be found. Tritium is a component of nuclear weapons which is subject to decay, making it necessary to re-supply. An additional and concurrent mission for the FFTF would be as a supplier of medical isotopes.

Under this potential mission, the FFTF's prime focus would be on tritium production for the government until a permanent facility could be constructed (most likely in South Carolina). When that facility is completed, the mission would focus on medical isotope production to meet a potential market demand.

Opponents of restart note that the market for medical isotopes is still unproven, and that the nation's need for tritium would decrease if international treaties are ratified. Additionally, there is strong resistance to any mission on the Hanford Site that could divert cleanup funds to a production mission. The USDOE maintains however, that no funding for cleanup will be used to pay for restart of FFTF. The funding would come from a separate USDOE budget. The Washington Department of Ecology, is concerned that neither the present standby mode,nor a potential restart should be allowed to impact cleanup efforts or funding for those efforts.

Each of the parties do agree that any new mission for the FFTF would create additional hazardous waste at Hanford, which would have to be managed appropriately.

It is important to note that the proposed Tri-Party Agreement changes deal only with the project's current standby status, which is a result of the Secretary of Energy's decision to halt deactivation until decisions on FFTF's future are made. *(Continued)*

FFTF (cont.)

If the decision is to not restart the FFTF, and to continue with deactivation, current TPA milestones will be adjusted and new timetables will be set. Any decision to evaluate the FFTF for restart would be a public process under the National Environmental Policy Act.

There are a series of public meetings regarding this TPA proposal scheduled in January throughout the region. You are encouraged to attend and comment. The meetings are scheduled from 7:00 to 9:30 p.m. and are in the following locations:

January 13 - Hood River, Hood River Inn (Gorge Room)

January 14 - Portland, Oregon State Office Building (1st Floor Conference Rm.)

January 20 - Seattle, Seattle Center Northwest Rooms (Rainier Room)

January 22 - Richland, Federal Building (Auditorium)

There will be opprotunities for an additional pre-meeting at each of the locations, with space being provided for presentations by interest groups. The pre-meeting will be from 5:00 to 7:00 p.m. at each of the locations.

For more information, contact Roger Stanley, Ecology (360)407-7108, e-mail: rost461@ecy.wa.gov., *or Ernest J. Hughes USDOE (509)373-9381, e-mail:* ernest_j_hughes@rl.gov. *Or, call the Hanford Cleanup Line, 1(800)321-2008.*

200 Areas Soil Investigation Strategy public comment completed

A proposed modification to the Tri-Party Agreement detailing a new strategy for cleaning up waste soil sites in the 200 Area recently underwent public comment. The public comment period ended January 7,1998.

The 200 Area Soil Investigation Strategy seeks to streamline cleanup by reducing 32 geographic units into 23 "similar-waste type" groups. The proposed plan is aimed at arriving at the best proven technology for treating a given type or types of wastes, and applying that technology to a group of waste sites with similar waste characteristics. The plan also seeks to integrate aspects of the two main regulatory laws governing cleanup, the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). The combining of RCRA and CERCLA would subsequently reduce the large volumes of paperwork associated with investigating each waste site.

For more information, contact Brian Foley, USDOE (509) 376-7087

HAB Quarterly Public Involvement Meeting set

The next Hanford Advisory Board Quarterly Public Involvement Meeting is planned for February 4, 1998 from 1-3 p.m. at the Radisson Hotel, Flight Room, 17001 Pacific Hwy. S., Seattle, Washington. Immediately following that meeting, a meeting of the Hanford Advisory Board's Public Involvement Committee will take place at the same location, starting at 3 p.m. Your attendance is strongly encouraged.

For more information, contact Michael Turner, Ecology (509) 736-3037

D611

Baldonado, Donna

From: donaldevett@juno.com
Sent: Friday, January 30, 1998 12:35 PM
To: rost461@ecy.wa.gov
Subject: FFTF, Public Comment

I am in favor of a restart of the FFTF. I believe the mission is there to continue an interim source of tritium for the nation's defense needs until a permanent source can be found and also a supplier for medical isotopes.

I do not agree that the need for tritium will decease if international treaties are ratified.
There will always be a need for a strong nuclear defense. China & Russia certainly do not have such intentions of deceasing their nuclear deterrent. They may reduce some of their nuclear weapons, but never to the point that they cease development and research in this technical field.

I firmly believe that any funding for the restart of the FFTF would be strictly for this project and that none of the funds would be used for the Hanford cleanup

True, a certain amount of hazardous waste will occur at Hanford due to the restart program, but I am confident that responsible people will manage it safely as in the past.

I highly recommend approval to restart the FFTF at Hanford.

Lt. Col. Donald E. Evett, USAF, Ret.

You don't need to buy Internet access to use free Internet e-mail.
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Or call Juno at (800) 654-JUNO [654-5866]

0612

EARNEST J. HUGHES
U.S. DEPARTMENT OF ENERGY
Post Office Box 550 (N2-36)
RICHLAND, WA 99352

Dear Mr. Hughes,

1. I am strongly opposed to the restart proposal at Hanford for the production of nuclear weapons.

2. No exceptions from the Tri Party Clean Up Agreement should ever be made for any project at Hanford. Funds should be reverted to the cleanup of toxic and nuclear waste which still plague the facility.

3. I am opposed to the risky shipment of plutonium through our state to Hanford. The health risks are too great.

4. Hanford's horrible track record demands total cleanup and permanent shut down.

Respectfully,

Name: Peter McGrain

Address: 207 Maple St.

Bingen, WA 98605

0613

EARNEST J. HUGHES
U.S. DEPARTMENT OF ENERGY
Post Office Box 550 (N2-36)
RICHLAND, WA 99352

Dear Mr. Hughes,

1. I am strongly opposed to the restart proposal at Hanford for the production of nuclear weapons.

2. No exceptions from the Tri Party Clean Up Agreement should ever be made for any project at Hanford. Funds should be reverted to the cleanup of toxic and nuclear waste which still plague the facility.

3. I am opposed to the risky shipment of plutonium through our state to Hanford. The health risks are too great.

4. Hanford's horrible track record demands total cleanup and permanent shut down.

Respectfully,

Name: JAY CARROLL

Address: BOX 323

BINGEN, WA 98605

0614 ~~1215~~

EARNEST J. HUGHES
U.S. DEPARTMENT OF ENERGY
Post Office Box 550 (N2-36)
RICHLAND, WA 99352

Dear Mr. Hughes,

1. I am strongly opposed to the restart proposal at Hanford for the production of nuclear weapons.

2. No exceptions from the Tri Party Clean Up Agreement should ever be made for any project at Hanford. Funds should be reverted to the cleanup of toxic and nuclear waste which still plague the facility.

3. I am opposed to the risky shipment of plutonium through our state to Hanford. The health risks are too great.

4. Hanford's horrible track record demands total cleanup and permanent shut down.

Respectfully,

Name: Natasha D. Bachelle
Address: Natasha D. Bachelle
1341 LINCOLN ST
HOOD RIVER, OR 97031

0615
+
0616

2 public comments re FFTF
(recieved by Tammie McClure @ Ecology hot line

A. from Albert Coffman 206 722 2256
3308 19TH AVE. S.
0615 Seattle, WA 98144
comment: Very much against restart of FFTF

B. from Teresa Mitchell
2375 Winter St. SE
0616 Salem ORE 97302
comment: I don't understand why DOE isn't legally responsible to WA state, and why DOE can't be held responsible by the state to not restart the FFTF.

2/17/98

061 2

Baldonado, Donna

From: Mark Beck [beckmk@whitman.edu]
Sent: Thursday, February 12, 1998 3:55 PM
To: ernest_j_hughes@rl.gov
Cc: governor.locke@governor.wa.gov; rost461@ecy.wa.gov; eclipse@3-cities.com; frederico.pena@hq.doe.gov; senator_murray@murray.senate.com
Subject: Tri-Party agreement and the FFTF

February 12, 1998

Earnest J. Hughes
United States Department of Energy

Dear Mr. Hughes,

This is a letter regarding modifications to the Tri-Party Agreement (TPA) concerning the Fast Flux Test Facility (FFTF). I am opposed to deleting the M-20-29A and the M-81 series milestones from the TPA. I realize that these milestones cannot reasonably be met, but removing them will create a barrier to the timely shutdown of the FFTF. I feel that deleting these milestones from the TPA will be construed as tacit acceptance for a DOE proposal to restart the FFTF. I do not wish to see the FFTF restarted.

If the FFTF is restarted, it will be for tritium production. I am opposed to the production of tritium in the strongest possible manner. The rational for needing tritium is to maintain our nuclear arsenal at levels dictated by the START I treaty. To maintain that nuclear capability tritium will be necessary by the year 2005. If, however, one wishes to maintain a nuclear arsenal at the level dictated by the START II treaty, which the United States Senate has already ratified, then it will be unnecessary to have any further tritium production until 2015.

By the DOE's own admission, the use of the FFTF for tritium production is purely an interim solution, or an insurance policy. The DOE has already decided that its long-term tritium demands will be supplied by a commercial light water reactor, or by new accelerator-based technology. By reducing arms levels to those specified in the START II treaty, there is no urgent need for tritium, and hence no reason to restart the FFTF.

I have also heard a number of people who claim that the FFTF will be important in the production of medical isotopes. You and I both know that this is a red-herring. DOE documents clearly state that the FFTF is being considered for tritium production, and the decision to restart will be based solely on its usefulness to produce tritium. Whether or not the FFTF ever makes medical isotopes is irrelevant in the decision making process. The DOE only floats all this talk about medical isotopes because "There is little support for operation of the FFTF solely as a tritium producer." This quotation is from a Pacific Northwest National Laboratories (PNNL) report dated Nov. 21, 1997 (the report is available of the FFTF web page.) Furthermore, while the FFTF is capable of making medical isotopes, it is certainly not a cost effective means of doing so. Again quoting from the PNNL report, "a stand alone medical isotope mission for the facility cannot be economically justified given current market conditions." There are better ways to make medical isotopes.

In conclusion, I reiterate that I do not wish to see the Tri-Party Agreement modified, and I do not wish to see the FFTF restarted.

Sincerely,

Mark Beck
1333 Alvarado Terr.
Walla Walla, WA 99362

****

Prof. Mark Beck
Dept. of Physics, Whitman College
Walla Walla, WA 99362

Ph: 509-527-5260
Fax: 509-527-5904
URL: http://www.whitman.edu/~beckmk/
I have a PGP key on my Web page.
****

0618

Baldonado, Donna

From: rhoads@3-cities.com
Sent: Friday, February 06, 1998 12:25 PM
To: ernest_j_hughes@rl.gov
Cc: rost461@ecy.wa.gov
Subject: Comments on Proposed Changes to TPA M-81

Dear Mr. Hughes,

This message is in regard to the current proposal by the Department of Energy, the Washington State Department of Ecology and Region 10 of the U.S. Environmental Protection Agency to suspend the current Tri-Party Agreement milestones regarding transition of the Fast Flux Test Facility.

I fully support the Department's initiative to suspend the TPA milestones pending a decision on a possible role for FFTF in producing tritium and ultimately, medical isotopes. I favor use of this existing and economical resource, with its associated facilities, by the department as an interim facility for tritium production until a permanent facility is acquired.

In addition, I encourage the department to proceed with an evaluation of restarting FFTF for tritium and medical isotopes production under the National Environmental Policy Act, so that it may be given adequate consideration in conjunction with other ongoing NEPA evaluations for the department's tritium production alternatives.

Thank you for the opportunity to comment on this proposal.

Kathy Rhoads
4913 Richardson Rd.
Pasco, WA 99301

0619

Baldonado, Donna

From: William & Elizabeth Hathaway [wehathaway@worldnet.att.net]
Sent: Wednesday, February 11, 1998 4:05 PM
To: rost461@ecy.wa.gov
Subject: Hanford (reopening)

Dear Mr. Stanley,

This must be exhausting for you to deal with all of us. I'm sure they don't pay you enough. But, I have to send my 'no' to add to the tally. It is surreal to see this issue back in the arena. Technology hasn't been able to clean up the past wrongs. It has been costly. For any gain, Washington state sees in the short-term, the losses will carry far into the 21st century.

Sincerely,

Elizabeth Hathaway

0620

Baldonado, Donna

From: LLAckerman@aol.com
Sent: Friday, January 30, 1998 5:00 PM
To: rost461@ecy.wa.gov
Subject: Hanford

Please don't restart FFTF at Hanford. Hanford is one of the most polluted places in the United States. It is not a legacy that we are proud of: Killing human beings, causing severe health problems, killing the environment. Many people who worked on the Manhatten Project, including my step-Grandfather, have spoken out against the horror of the nuclear industry. Hanford needs to be cleaned up and put away forever. If you grew up in Central Washington like I did you would know that you can't justify FFTF.

Both the Govenors of Washington and Oregon have deep concerns about FFTF. The downwinders in WA and OR have suffered enough. One of the most beautiful places in the world, the Hanford Reach, will be threatened even more. Threatening the Reach more will seriously peril the fate of salmon in Washington. The salmon issue as you may know is an international one of great importance.

The Department of Ecology's mission is to preserve and protect the environment of Washington State. Protecting the environment will protect human beings. Ecology has worked hard to clean up Hanford, I know it takes a big part of your budget and your time. Ecology needs to stand up for the citizens of Washington against the Department of Energy.

Let's put Hanford to bed completely and safely.

Sincerely,

Laura Ackerman
2011 E Boone Ave
Spokane WA 99202
llackerman@aol.com

0621

Baldonado, Donna

From: Susan Crampton [scrampt@methow.com]
Sent: Friday, January 30, 1998 11:46 AM
To: rost461@ecy.wa.gov
Subject: Hanford FFTF

1/30/98

Roger Stanley
DOE

Dear Roger:

FFTF increased activity? NO!
Hanford needs downscale and clean-up, not increased activation and pollution!
Governor Locke and Washington citizens oppose increased FFTF activity. Scientific data identifies numerous problems with reactivation plans. The serious health and pollution threats are not acceptable.
The wrong idea in the wrong place.

Susan Crampton MD
Twisp, WA

01622

Baldonado, Donna

From: Kelleyba@aol.com
Sent: Saturday, January 31, 1998 3:52 PM
To: rost461@ecy.wa.gov
Cc: ernest_j_hughes@rl.gov
Subject: comments on FFTF restart

Roger Stanley
Washington State Department of Ecology
PO Box 47600
Olympia, WA 98504-7600
rost461@ecy.wa.gov

re: comments on FFTF restart

Dear Mr. Stanley,
I am writing regarding the proposed restart of the Fast Flux Test Facility at Hanford. I oppose the restart of the FFTF. I oppose the proposed restart for a number of reasons:

* US DOE's own documents say: "No engineer would propos a fast reactor to make tritium from lithium. Modifying a test reactor places the reliable operation of the plant at risk" (US DOE's Defense Program, "Areas of Concern on FFTF").

* The Tri-Party Agreement milestones provide for the FFTF to be shut down, and for more money to be freed up for clean-up. Restart of the FFTF would break that promise.

* Restart of the FFTF would create many more tons of high-level nuclear waste at Hanford. I want to see the existing wastes cleaned up, not more created.

* I don't want to see 33 metric tons of Plutonium shipped into this state.

* Because of the schedule push, an internal DOE report said, "No time is provided in the schedule to accomodate any safety testing..." That is unacceptable to me.

For the above reasons, I oppose the restart of the FFTF at Hanford. It makes me angry that the state Dept. of Ecology and US Dept. of Energy would consider breaking their promises to the people of Washington, made in the Tri-Party Agreement. Further, why should the average person in Washington support this proposal when your own employees and those of US DOE, who work on behalf of the public, have described this proposal as unwise and potentially unsafe? The Dept. of Ecology represents me and all the other citizens of Washington in making this decision, and you do have choices. I urge you to choose not to agree to the restart of the FFTF.

I will continue to follow what happens in this process. Please send a response to my comments to the mailing address below.

Sincerely,
Becky Kelley
Seattle, WA

e-mail: kelleyba@aol.com
address: 14037 26th Ave NE
Seattle, WA 98125

0623

Baldonado, Donna

From: Mike Petersen [mpeters@televar.com]
Sent: Thursday, January 29, 1998 2:14 PM
To: rost461@ecy.wa.gov
Subject: fftf comments

Mike Petersen
8506 West Fork Trout Ck. Rd.
Republic, WA 99166

Jan 29, 1998

Roger Stanley
Washington Dept of Ecology
PO Box 476000
Olympia, 98504-7600
email: rost461@ecy.wa.gov

Dear Roger,

Please accept these comments concerning proposed changes to the Hanford Cleanup Agreement. The radioactive wastes at Hanford pose a significant threat to the Columbia River and the health and welfare of Oregon and Washington residents.

I understand cleanup dollars have been diverted to keep the FFTF reactor on ?hot standby - is DOE in agreement with this diversion?

Dept of Ecology should recommend that the FFTF should be shut down and cleaned up starting now. Shipping more plutonium to fuel the FFTF will increase the threat of accidents from nuclear waste spillage, such as the secret spill outside of Baker City, Oregon a few years ago. Hiding waste inside Covenant Transport semi-trucks will only work until one of these trucks hits an icy/foggy section of I-84 and overturns.

A statement has been made that;?The newly created High-Level Nuclear Waste would be far more dangerous than any other nuclear reactor wastes stored at Hanford.? Is this true, and why would DOE go along with this if it is true?

The change in cleanup appears to violate the Tri-Pary Agreement, what is the reason that DOE is going along with this? What will the State get in return for allowing transport and production of radioactive, hazardous waste?

I am opposed to the operation of the FFTS and want cleanup to proceed now.

Thank you, please respond to my concerns, in a letter or e-mail. Send to Mike Petersen, 8506 West Fork Trout Creek Rd., Republic, WA 99166.

Sincerely,

Mike Petersen

cc: Secretary of Energy, Fredrico Pena

0624

Baldonado, Donna

From: Peter Prehn [noflik@rightathome.com]
Sent: Wednesday, January 28, 1998 2:44 PM
To: Chelan Co Watch; Wenatchee Natn'l Forest Watch; rost461@ecy.wa.gov

Dear Governor Locke,

Your environmental and social record have be encouraging to the future of our state. I take the time to write because I subscribe to several eco-nets
that are concerned with forests and gold-mine cyanide and nuclear waste. Thus I is hopeful to have a governor, in you sir, who will put his shoulder behind finding leverage to persuade corporate Washington that it is our best interest to promote a vision of Washington as a beautiful, relatively unspoiled natural wonder, and struggle to conserve our inherited natural wealth and our commitment to the future of our species, regardless of race.

The nature of the beast being what it is, e-mail is shorthand for getting a message to you sir, but I hope you will do whatever is in your power to close down Hanford as a production site of radio-active substances.

Hanford has seved its function. The Radioactive Nuclear power dream has gone bust, hopefully we no longer require atomic weapons in the future, and if we do, supposedly we have produced enough.

We who live here upwind in Washington deserve security that our thyroids will function properly, our children develop properly, and that no Chernobyls will happen in our back yard. We would be remiss in not expressing to you our urgent concern that there come closure to Hanford as a potential nuclear catastrophe, cataclysmic or chronic leakage, the news is bad.

Peter Prehn
POB 13
Peshastin WA 98847

0625

519 West Roy, #217 Seattle, WA 98119

February 17, 1998

RECEIVED
FEB 19 1998

Governor Gary Locke
PO Box 40002
Olympia, WA 98504

Dear Governor Locke:

Please make sure that *no nuclear production whatsoever* happens at Hanford. This means getting the FFTF (Fast Flux Test Facility) off of standby status and cleaning it up, period.

Producing a poison like tritium by definition is a problem. Common sense alone tells us that. It takes a lot of very bad stuff to produce it (like tons of plutonium brought into our state) and then we get a lot of bad stuff back out in the form of nuclear waste, more poison that we don't *really* know what to with. It's all a big guess with unknown consequences for future generations over a time period we can't even imagine. And then there is *always* the possibility, perhaps even a likelihood, that we'll have an accident despite our best-laid plans.

What makes this whole issue so bizarre is that, besides there being so many good reasons for not producing tritium at Hanford due to threats to public health and safety and the environment, *it seems totally unclear that we even need tritium.*

I have heard perfectly conservative military types state that 2,000 bombs would work just as well as a deterrent as the 12,000 we have and that any more tritium we could possibly "need" could be had through recycling our "excess" supply of bombs. In addition, what I hear in the news these days is that the world, including the US, is at least trying to move towards nuclear disarmament. Therefore, to say that we *might* need more tritium seems absurd at best and totally irresponsible at worst.

There seems to be something wrong with the Department of Energy being able to unilaterally opt out of the Tri-Party Agreement. *Who* exactly thinks we need tritium? And do they represent the opinion of the majority of people of this country?

Let us be a reasonable and wise and responsible people. Let us do what we can to help clean up the mess we have made at Hanford and not make it worse.

Sincerely yours,

Lona Badgett

Lona Badgett

cc: Patty Murray, US Senator
Roger Stanley, Washington State Dept. of Ecology
Energy Secretary Pena, USDOE

D626

Richard Bayer, M.D.
6800 SW Canyon Drive
Portland, OR 97225
503-292-1035 (voice/fax)
ricbayer@teleport.com

Wednesday, January 14, 1998

To: Secretary Pena

Re: FFTF at Hanford Nuclear Reservation in Washington State

[This was read and submitted by Richard Bayer, MD on January 14, 1998 at the Oregon State Office Building, 800 NE Oregon, in Portland, Oregon during a public hearing on the Fast Flux Test Facility (FFTF) of Hanford Nuclear Reservation]

Dear Mr. Pena:

Thank you for allowing public discussion of the efforts to restart the Fast Flux Test Facility at the Hanford Nuclear Reservation in Washington State.

Hanford Nuclear Reservation has a legacy as a bomb factory and a major source of pollution for one of the great watersheds of the world, the Columbia River. My hometown, Portland, Oregon just happens to sit on this great river which is becoming increasing polluted from activities at Hanford.

The Hanford Nuclear Reservation is also notorious for releases of radioactive gasses that have caused cancer in downwinders. I have taken care of some of these people including a young woman who had cancer when she was a teenager. Her cancer had been "in remission" for many years and I had taken care of her for 10 years when a lymph node enlarged suggesting the possibility of recurrent cancer. The trauma and anguish that she, her husband, and children went through during the evaluation is not worth the money that investors hope to make in this gamble. Consider for a moment how much the health of you and your loved ones is worth. Would you trade this away for a promise of gold?

There is now a PR smokescreen to "sell" the FFTF as a way to help America make medical isotopes to cure cancer. America imports most of its isotopes just as we do oil, electronics, and children's toys. In the April 1997 CounterPunch newsletter, authors Ken Silverstein and Alexander Cockburn wrote an article entitled, "Plot to 'Cure AIDS', Make H-Bombs and $5 Billion". They describe how this PR blitz was masterminded by Richard Thompson, who they describe as "a former Air Force Officer and Democratic Party wheeler dealer/ entrepreneur in Washington State, and by Williams Stokes, respectively vice president and president of Advanced Nuclear & Medical Systems".

The FFTF was supposed to make tritium for nuclear weapons. However, because of competition for making "tritium only" from plants and heavy-weight politicians like Pete Domenici of New Mexico (Los Alamos) and Strom Thurmond and South Carolina (Savannah River), the

folks who were pushing to restart FFTF knew they would fail if Hanford competed as a "tritium only" plant. This is why the medical mission was invented and why the PR blitz is occurring. Leaked "Sensitive and Confidential" memos explain all of this and the heroic efforts of whistle-blower Randall Bonebreak have made this information public. With more political manipulation stretching all the way from Washington State to the White House to Germany, the FFTF went on "hot stand-by" instead of being shut down. This "hot standby status" costs more than thirty million dollars per year that is taken away from clean-up efforts. You can read about it in detail in the newsletter and other publications.

The main reason I bring this up is to expose the obvious scam of using the medical isotope issue as a smokescreen to try to privatize the FFTF and make large sums of money. This would help the FFTF proponents including Advanced Nuclear and Medical Systems dodge charges that Hanford and FFTF is only a "bomb factory" and give Hanford the political nod to make tritium instead of facilities in New Mexico or South Carolina. It has everything to do with money and nothing to do with health.

I have certainly been involved with medical isotopes for both diagnosis and treatment of many people with various illnesses. Nuclear medicine specialists have expressed no fear of any shortage of isotopes. Some prefer isotopes made in USA rather than Canada and support production of isotopes at Hanford. Strangely, those "corporate-friendly" experts don't seem to live downstream from Hanford. Others specialists have stated that the imported supply is stable thus there is no need for the FFTF to produce medical isotopes. In addition, reports that I have read state that isotope production would not occur for more than a decade.

Medical doctors use a "risks versus benefits assessment" before recommending any drugs or procedures. It seems quite obvious to me that in this particular situation, any remote possibility of benefit from extra medical isotopes made at the FFTF is overshadowed by unreasonable risks. These risks include delaying clean-up at Hanford, causing more cancer by further pollution of a river that runs between the largest city in Oregon and one of the larger cities in Washington State, and possibly a Chernobyl type accident in our back yard. One of the dangers less mentioned is the risk that our government no longer has any credibility when discussing nuclear issues.

Lastly, there is now an effort by the proponents of nuclear power to have the people who may get the jobs come to the city and to the state that gets the pollution, but doesn't get the jobs. This is a cynical attempt to sow the seeds of death because of lust for money. This tactic uses those who are desperate for jobs as pawns in the game and is strategic corporate hypocrisy in the extreme but alas is, "business as usual" in environmental and labor issues. I am all for well-paying jobs in our neighboring state but the jobs at Hanford should be for cleaning up and not creating more waste. The radioactive waste will be around for a long time and if we focus on cleaning up, then we will have clean-up jobs for a very long time. Please shut down the FFTF and refocus on resolving this life-threatening situation of dangerous radioactive waste. Thank you.

Sincerely,

Richard Bayer, MD

Tells the Facts and Names the Names

CounterPunch

APRIL 1997 | *Ken Silverstein & Alexander Cockburn* | VOL. 4, NO. 7&8

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Clinton Crowd Said Yea!

Plot to "Cure AIDS", Make H-Bombs and $5 Billion

The story of how the AIDS plague was recruited to boost H-bomb production, but one bizarre moment in a notably amazing saga of "reinventing government" in the Clinton-Gore years, begins in Washington DC on November 20, 1995. For the leading players in our tale, that fall day was overshadowed by a long-dreaded and now impending event: the final shut-down of the Fast Flux Test Facility, a breeder reactor at the Department of Energy's Hanford Nuclear Reservation in eastern Washington.

The Fast Flux, as it is familiarly known, had been placed on stand-by status in the Bush years, and was scheduled for decommission for the sound reason that it had long since outlived its purpose. That purpose had been to test fuels and materials for the eighth wonder of Tennessee, the Clinch River Breeder Reactor, which enjoyed a spectacularly poisonous career under the unremitting solicitude of its prime protector, Al Gore.

Glumly contemplating the Fast Flux shutdown were several hundred Department of Energy employees dependent on the nuclear plant for their paychecks, a Consortium of about a dozen large corporate contractors at Hanford, including Westinghouse, Lockheed, Batelle, Bechtel, TRW Environmental, Fluor and Informatics, this last a consulting firm composed of former DoE officials and former Rockwell personnel who had worked at Hanford. The third group present at the meeting were staffers for the members of the Washington congressional delegation, led by Marla Marvin, a former timber industry lobbyist who now works for Senator Patty Murray. Murray had been strident in her support for a new bomb-making mission for the Hanford reactors.

On the other side of the table (though this deployment scarcely did justice to the cordial nature of the relationship) was Dr. Terry R. Lash, director of the DoE's Office of Nuclear Energy, Science and Technology. The impresario of the the entire conclave was Richard Thompson, a former Air Force officer and Democratic Party wheeler dealer/entrepreneur in Washington state.

As a confidential DoE memo of the occasion frankly noted, the purpose of the meeting was to stave off shut-down until such time as the Fast Flux could be transferred to private ownership, retooled at taxpayer expense and then launched on its new mission: production of tritium, which the Consortium estimated would net the partners anywhere from four to five billion dollars a year. "The Consortium's interest in the Fast Flux", the DoE memo states, "is contingent on the Consortium securing a 20-year contract with the Department for the purchase of tritium irradiation services. Without a tritium production contract, the Consortium is not interested in the facility."

For those **CounterPunch** readers not intimately acquainted with the finer points of thermo-nuclear weapons production, let it be said that tritium puts the oomph into an H-bomb explosion. The compound has a half-life of 12.3 years. So to keep nuclear weapons user-ready, the tritium needs to be replaced on a regular basis.

Right now a shortfall in the US tritium stockpile is expected by 2005, if the START II treaty is not implemented. If

(Flux, continued from p. 1)

START II is approved, the crisis in tritium supply is deferred until 2015.

The juxtaposition of the two words "Hanford" and "tritium" was itself, as all present at the November meeting knew well, politically fissile to the highest degree. For one thing, the specter of tritium production haunts the local communities around Hanford. Decades of nuclear production have rendered the area a radioactive wasteland. A so-called "tritium plume" spreads out across the aquifer under Hanford and seeps into the nearby Columbia River. Moreover, a new generation of H-bomb production at Hanford would arouse the hated legions of Greenpeace to disruptive activity.

Worse yet, news that tritium might be produced at Hanford would detonate the congressional delegations of New Mexico and South Carolina, led by those most puissant of legislators, Pete Domenici and Strom Thurmond, whose half life is four times that of tritium. Earlier in 1995, the Los Alamos National Laboratory in New Mexico and the Savannah River Nuclear Plant in South Carolina had been selected by the DoE as the primary sites for tritium production. "The 'tritium only' mission", a secret Consortium memo emphasized with fierce underlinings, "has ZERO chance/probability of success – the delegations from South Carolina and New Mexico will KILL the 'tritium only' mission, leaving Hanford with NO long term mission."

It was Thompson, the operator from Washington, who pointed a way out of this impasse. Looking at the DoE's Lash, Thompson counselled thus: "You all should be riding the AIDS cure bandwagon." To a hushed audience Thompson outlined his plan, distributing a memo labelled "Sensitive and Confidential" and titled "Privatize the Fast Flux". The overall strategic thrust was a plan to transfer a public asset worth billions to private hands at no cost to the latter. The tactical manuevers toward this end were candidly outlined for the DoE bureaucrats.

It was crucial, the memo counselled, to stress the "humanitarian mission" of Fast Flux *redivivus*. Blithely ignoring the fact that the Fast Flux was producing nothing of the sort, the memo proclaimed: "We should mount a PR campaign to save America's last producer of medical isotopes." Thompson said the campaign should emphasize the fact that upwards of 95 per cent of the medical isotopes now used in the United States are imported. "This will capture the patriotic allegiance/flair of Congress." Under no circumstances, the memo emphasized, should the subject of tritium production be broached. Instead, "the undeniable worthiness of the humanitarian mission must be highlighted and exploited to the maximum sensitivity of our society."

Prominent in Thompson's mind was the O'Leary problem. The then Secretary of Energy had declared that all the nuclear reactors at Hanford should be shut down permanently and the mission of the reservation would become one of environmental clean-up. How to outflank that public commitment? The idea was to give O'Leary political cover, and what better camoflauge than the war on AIDS?

Kennedy said that the Fast Flux might "lead to a cure for cancer and AIDS".

Kennedy Comes Aboard

On November 28, 1995, eight days after the meeting with Lash, a letter arrived on the desk of Secretary O'Leary from Senator Edward Kennedy. The themes articulated by Thompson just over a week earlier were ably mirrored in the missive of this champion of health care. Kennedy urged O'Leary to "evaluate the potential of the Fast Flux in supplying radiopharmaceuticals to meet the nation's medical requirements." The senator called for an immediate halt to the decommissioning of the Fast Flux while the DoE considered the privatization scheme offered by the Consortium. Kennedy said that the Fast Flux might "lead to a cure for cancer and AIDS".

The coincidence of views between Kennedy and Thompson was scarcely fortuitous. Thompson had enlisted a young law student, Randall Bonebreak, to arrange financing and political support for the Consortium. Bonebreak had a friend in the Kennedy camp who lost no time in impressing the potential of the Fast Flux on his employer. Days after the arrival of Kennedy's letter on O'Leary's desk, the draining of the sodium coolant from the reactor core of the Fast Flux was halted and the plant was placed on "hot stand-by". Stage one of the renaissance of the Fast Flux had been successfully achieved.

The Consortium now faced a delicate task: persuasion of the Department of Energy that the Fast Flux should preface its new mission of mercy with the task of producing tritium for H-bombs. These earnings – in sales to the DoE – would theoretically generate income for production of the medical isotopes some 15 years down the road. All this had to be done without alienating the New Mexico or South Carolina delegations. To this end, the three most powerful members of the Washington congressional delegation paid a visit to O'Leary. Senators Slade Gorton and Patty Murray along with the redoubtable Rep. Norm Dicks ensconced themselves in the Secretary's office and, as another DoE memo reported, "reinforced their united view that Fast Flux should be included as a possible tritium production option".

Dicks fastened on two vital points. At that time the DoE was preparing an environmental impact statement on tritium production, in connection with possible output and waste disposal at Savannah River and Los Alamos. It was vital, Dicks insisted, that this report include at least a mention of the Hanford reactor as a possible option in producing tritium. In any inconvenient brandishing of the nation's environmental laws, this line would get everyone off the hook. Dicks also noted that some of the political opposition to the Fast Flux's tritium mission could be deflected by labelling it an "interim" project, since the Savannah River facility would not be operational until 2012.

Enter Hugh Rodham

By now the Consortium was running at full tilt under the name Advanced Nuclear & Medical Systems. Its next task was to carry its message within the ramparts of the White House itself. Mistrusting O'Leary, it turned first to the influence-peddling brother of the First Lady, Hugh Rodham, at that time mingling the practice of law in Miami with the duties of hosting a syndicated radio show. We now depend on the narrative of Randall Bonebreak, who elected in October of 1996 to blow the whistle on the whole scheme, thus landing himself in deep trouble and, at the time of this writing, in a state courthouse in Ellensburg, Washington. According to Bonebreak, Richard

Thompson and his partner, Williams Stokes, respectively vice president and president of Advanced Nuclear & Medical Systems, retained Rodham with a down payment of $50,000 to press their cause with the Clintons. Rodham duly wrote a letter to Clinton touting the privatization scheme and raised the matter with his sister. Under instructions from Thompson, he strongly emphasized personal themes. Had Advanced Nuclear & Medical Systems been up and running a decade earlier, Rodham stressed to the Clintons, things might have gone very differently for Bill Clinton's mother and Al Gore's sister, both felled by cancer. Thompson was a guest on Rodham's radio show where the AIDS cure potential of the Fast Flux was vigorously touted.

As the 1996 presidential campaign gathered momentum, so did the lobbying offensive by the Consortium. Glen Phipps, a Democratic congressional hopeful in the Hanford district, had a private audience with the President in April of that year, where he claimed that restarting the Fast Flux would generate thousands of new jobs. Vice president Al Gore and his staff received no less than four briefings on the subject from March through June. Gore was told how beautifully the privatization of the Hanford nuclear plant would fit in with the vice president's "reinventing government" initiative.

A Foot in the White House

Despite the fine work of Hugh Rodham, Thompson and his cohorts had yet to attain their supreme political objective, face time with the President. The big corporations in the Consortium were shovelling truckloads of money at the Democratic National Committee. For example, the Fluor Corporation had given $100,000 to the DNC on May 6 and was swiftly compensated for this disbursement two months later, acquiring the $5 billion management contract for Hanford, previously held by Westinghouse. Fluor had had the prudence to hire Peter Knight, subsequently compaign manager for the Clinton/Gore re-election effort, as their lobbyist a year earlier. Despite allegations surfacing in early 1996 that Fluor's handling of the clean-up of the Fernald Nuclear Plant in Ohio was incompetent, costly and dangerous, the Hanford contract was signed off on by Thomas Grumbly, deputy secretary of energy and a former Gore staffer.

Lacking Fluor's resources, Thompson and Stokes wanted to short-circuit the cumbersome rituals of campaign financing by excercising the arts of intellectual persuasion on the Commander in Chief. To that end, they hired a Democratic Party operator from Chicago by the name of Vincent Tomaso, who was a close friend of White House press spokesman Mike McCurry and of former DNC chairman David Wilhelm, himself a Chicagoan. Excited memos about Fast Flux's potential then passed from Thompson and Tomaso to the White House staffers.

These memos soon found their mark and a meeting was set between Thompson, Tomaso and senior White House aide George Stephanopoulos. According to Thompson's notes "both Clinton and Gore had given 'thumbs up' to the project and after a one-hour briefing to George Stephanopoulos he 'strongly endorsed the process.' " After the successful session with Stephanopoulos, the way was cleared for an encounter with the President. Thompson and Tomaso finally got their meeting with Clinton at the Democratic National Convention in Chicago.

The hustlers ambushed Hillary in Seattle and told her Hanford could be a "medical Mecca".

A few days before Thompson and Tomaso imparted their vision to Bill in Chicago, they were able to ambush Hillary Rodham Clinton in Seattle, whither the First Lady had journeyed to visit the Hutchinson Cancer Center. Flourishing what Bonebreak says are entirely fictitious and misrepresented research papers from the Center, Thompson and Tomaso lectured the First Lady on the colossal potential for victory over cancer and AIDS represented by the New Hanford which, they said, could become a "medical Mecca". (Hanford is of course infamous for having itself caused thousands of cancers — mostly of the thyroid gland — durings its 40 year history as a plutonium factory.)

The Cells of Kalkar

Politically the pieces were now all in place. The vital factors were now financing and fuel. Bonebreak was assigned that mission. In August of 1996, he took himself off to Europe for colloquy with sources of venture capital. During this excursion he set up a meeting in Essen, Germany, for himself and Thompson with executives from Schnell-Bruter-Kernkraftwerksgesellschaft, a conglomerate of Dutch, Belgian and German utility companies. In the late 1980s this conglomerate — SBK — had been engaged in the construction of a German breeder reactor at Kalkar, the SNR-300, which had proved to be an economic disaster, mired in cost overruns, and burdened with nearly 300 highly radioactive plutonium fuel cells, now stored in Hanau, Germany, and Dunreay, Scotland. The SBK executives offered Thompson's firm $35.8 million to take this liability off their hands, removing the cells to Hanford and using them to fuel the Fast Flux.

This was not the first time SBK had looked hopefully westward in direction for relief. The company had tried to offload the cells to Hanford in 1991, but the Bush administration rejected the proposal when it decided to shut down the Fast Flux. SBK didn't give up. It secured the services of a Washington, DC fixer, Howard K. Shapar, a senior partner at the lobbying firm of Shaw, Pittman, Potts & Trowbridge. Shapar specializes in representing foreign nuclear companies seeking to do business in the US. His clients include the Australian Nuclear Science & Technology Organization, Denmark's Rise National Laboratory, Germany's NUKEM GmbH, the Japan Atomic Energy Research Institute, Sweden's Studsvik Nuclear A.B., and the Taiwan Power Company. All of these companies are looking to the United States as a potential repository for their nuclear waste. Shapar was particularly attracted by the Hanford option presented by Thompson. In order to help open Hanford's gates to foreign nuclear materials Shapar had enlisted the help of one of his other clients, Nuclear Fuels Services, Inc., an outfit with the virtue of being the only US firm with a permit to transport, internationally, any nuclear fuels or waste. The firm was headed by a man legendary in nuclear circles, Paul Shutt, a student of Albert Einstein.

Shapar, Thompson, Bonebreak and Shutt met in Paris shortly after the gathering with the SBK executives in Germany. Bonebreak says that Shutt

promised to acquire all of the necessary permits for the transport and disposition at Hanford of the SBK plutonium cells. Shutt said that he would convince DoE officials that leaving the fuel in Europe presented a security risk. This approach yielded speedy results. A memo to Secretary O'Leary from Willis W. Bixby, deputy assistant secretary for Nuclear Materials and Facilities Stabilization, recommended that "from a non-proliferation aspect, the US government should encourage the transfer of material from Germany to the US. If the US does not take the fuel, the Germans may be forced to reprocess it ... Executing this transfer will require close cooperation with and support from numerous stakeholder groups, governments and agencies." Translation: a lucrative contract for Nuclear Fuels Services, Inc.

For his part, Shapar placed Bonebreak and Thompson in contact with some of his other European clients, arranging for further shipments of nuclear fuel. "I suddenly found myself in the center of an international market in nuclear waste," Bonebreak tells us. "It was bizarre and frightening."

Bonebreak Gets Scared

In August Bonebreak was beginning to have qualms about the entire scheme. He was, a little late perhaps, starting to feel that Thompson was, as he now puts it to **CounterPunch**, "a damn crook". Two days before he left for Europe, IRS agents seized all of Thompson's personal accounts and records involving a failed real estate venture. This raid came two weeks after Thompson was forced to resign his State Transportation Commission post, brought up on allegations of sexual harassment. This last misfortune may have endeared him to former Washington governor Mike Lowry and President Bill Clinton (whom he met three weeks later), both of whom had endured their own travails in this area.

Aside from these insights into Thompson's tumultuous life, Bonebreak suddenly discerned – again, perhaps a little late – the real purpose of Advanced Nuclear & Medical Systems. Shapar confided to him that, as Bonebreak recalls it, "with a little modification any nuclear fuel from commercial reactors in Europe could be used for almost anything, even tritium production." Bonebreak woke up to the fact that he was involved in what appeared to be a conspiracy to breach the International Atomic Energy Treaty, which forbids trade in commercial nuclear fuel for the production of nuclear weapons. He also realized that the German Constitution prohibited the government and any German company from having anything to do with the production of nuclear weapons. A final factor in Bonebreak's trepidation was his instructions to set up labyrinthine overseas accounts in Lichtenstein and the Caymans in order to house the cash from SBK and transactions with other European nuclear companies.

Bonebreak was beginning to feel that Thompson, his boss and a prime mover behind the Fast Flux scheme, was "a damn crook".

As the embattled Thompson surveyed his operations in September of 1996 he must have felt a surge of pride in the Napoleonic speed and success of his campaign. Everything was now in place, and polls showed that his benefactor, the Clinton administration, was on the way to easy victory (though Thompson had covered this bet with an overture to Bob Dole). It looked as though O'Leary's Energy Department was going to give the vital go-ahead for the privatization plan. The Fast Flux was still humming away in hot stand-by, awaiting its new mission. Thompson was within reach of his billions.

Thompson, however, had not reckoned on Bonebreak, who was feeling ever more deeply that "I was up to my ass with a bunch of crooks, wondering how far they were willing to go. I didn't want to be implicated in their crimes and wanted to try to undo what I had helped to create."

The Whistle Is Blown

On October 4, Bonebreak arranged a meeting with the IRS in Seattle, carrying with him a briefcase crammed with internal documents from Thompson and the DoE. Bonebreak says the IRS agents listened to him with interest, indicated there was not much they could do, but that the *Seattle Times* was just down the street. This was not exactly what Bonebreak, looking to cover himself, had in mind. Instead, he went to Greenpeace, where he met with Tom Clements, of the group's International Nuclear Campaign.

Clements counselled two courses. First, Bonebreak should leak the whole affair to the German weekly, *Der Spiegel*, thus raising alarm in Europe and blocking the planned SBK shipments. Second, he should unburden himself to the Washington, DC-based Government Accountability Project, which might give him some protection as a whistleblower when Bonebreak's betrayed associates turned on him, as he accurately felt they were bound to do.

On October 8 Bonebreak learned that Thompson was about to leave for Washington, DC to sign a contract with the Energy Department, commencing the privatization of the Fast Flux. Bonebreak duly cleaned out his office in Ellensburg, in central Washington northwest of Hanford, collected his files and headed to DC himself for a meeting with reporters from *Der Spiegel*. He spent four days telling them his story and was able to direct them to Thompson's hotel, where they confronted the great schemer. The story broke

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in Germany, causing political uproar.

Two weeks later Bonebreak was in jail in Washington state, charged with burglary and possession of stolen documents. The Washington police had shown up at his Ellensburg home as the Bonebreaks were sitting down to dinner. Bonebreak's father opened the door to find the police preparing to smash it down with a battering ram. They demanded Bonebreak's files. He quickly handed them over, and the cops promptly ransacked the rest of the house. Bonebreak sat in jail for two weeks before being released on $50,000 bail. The charges had been lodged by Richard Thompson, who claimed that the material Bonebreak had given to the *Der Spiegel* reporters was "proprietary information worth millions of dollars". In fact, nearly all of the Bonebreak Papers have been made publicly available by the DoE as a result of Freedom of Information Act requests lodged by the Government Accountability Project. Even so, as CounterPunch goes to press, Bonebreak's trial is about to commence. He faces a possible prison term of 12 years and fines totalling more than half a million dollars.

The Road to Chernobyl

None of these explosive goings on appear to have perturbed the Department of Energy, which now awaits the firm leadership of former Transportation Secretary Frederico Pena, perhaps most famous for his spirited defense of Valu-Jet, in the fraught moments after the ramshackle operation had managed to kill more than a hundred of its customers in the Florida Everglades. One of O'Leary's last acts before she headed into private life and a seat on the board of the powerful energy company AES was to give the official sanction to Hanford's role as a potential site for the production of tritium and for the burning of commercial nuclear waste in the Fast Flux reactor. The price tag for keeping the Fast Flux in hot stand-by is roughly $32 million a year, money that will be diverted from Hanford's already impoverished environmental clean-up accounts.

One of O'Leary's last acts before she headed into private life was to approve Hanford as a potential site for tritium production.

O'Leary's Energy Department made this decision, knowing all the while that the Fast Flux was not designed for such a role. In a March 1996 report, given to us by the Government Accountability Project, the DoE's Office of Defense Programs reviewed the Fast Flux's capability to burn enriched plutonium and produce tritium. The report stated explicitly, "No engineer would propose a fast reactor to make tritium from lithium, which is a thermal neutron absorber, and modifying a test reactor to the strength capacity of a production machine ... places the plant at great risk." The Office of Defense Programs cautioned that any use of the Fast Flux in this manner "could trigger a very serious accident." The results might be "catastrophic". This report was transmitted to O'Leary on March 21, 1996, by her deputy secretary Charles Curtis, who dryly noted that it would be "fair to say that Terry Lash [before whom Thompson had made his initial pitch in 1995] would reserve judgement on this matter. However I believe that it is important to face the issue, make a decision and move on. I am convinced that the Fast Flux presents too many risks to warrant further investment or inquiry." O'Leary ignored this advice.

This story — and if we believe Charles Curtis, it could have climaxed in a Chernobyl-type explosion — is not merely the epitaph to a scam, but an omen of what is to come. Reagan and Bush wanted to shut down the Department of Energy and turn its responsibilities over to the Defense Department. Clinton/Gore, in the name of reinventing government, want to sell off most of its assets. In the years to come, we may well see scores of privatized nuclear reactors on government sites such as Hanford, importing nuclear waste to produce anything from hydrogen bombs to medical isotopes. Just look how far a couple of unsavory characters from Washington state got with their scheme. ■

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Washington, DC 20036

22 98
Richard Bayer
6800 SW Canyon Drive
Portland, OR 97225

0627

RECEIVED
JAN 26 1998

1/22/98

To; Roger Stanley
Dept.of Ecology
P.O.Box 47600
Olympia,Wa.
98504-7600

Dear Mr.Stanley

The restarting of the reactor at Hanford,makes about as much sense as dumping raw sewage into the Puget Sound again. We've been down this path before, we should have learned from our previous mistakes.

Let's see if we can clean up the mess that we've created, before we add to it. I am very concerned with the future of the Columbia River, it's to important to the N.W. to have it turned in to a radioactive drainage ditch.

Let me go on the record for apposing the restart of Hanford, for any reason. We've given too much of our state already.

Respectfully,

James L. Johansen

0628

RECEIVED

lori ann Brudvik Lindner
PO Box 332
Vaughn, WA 98394
253/884-4263

Mr. Roger Stanley
WA State Dept. of Ecology
PO Box 47600
Olympia, WA 98504-7600

Dear Mr. Stanley:

As an environmentalist and a citizen of this great state, I would like to express my concern for the proposed changes to Hanford. As I am sure you are aware, if dangerous new wastes are created at Hanford the risk of a severe accident is inevitable. How can we justify jeopardizing our citizenry and our physical environment to benefit a limited few who will reap economic rewards through the potential suffering of others? This is totally unacceptable. I implore you to take action against the proposed change to the Tri-Party Agreement which deletes the FFTF shut-down and clean-up requirements. These changes are antithetical to the progress made in the Tri-Party Agreement. We cannot afford to have the Dept. of Energy's deal with Ecology remove the 13 Hanford Clean-Up milestones. Our money should not be spent further polluting our grounds and destroying what we have worked so hard to construct - a clean up plan!

Thank you for your attention to these issues. A response regarding my concerns would be very much appreciated. Please respond to my address at the top of this letter.

Sincerely,

lori ann Brudvik Lindner

lori ann Brudvik Lindner

D629

RECEIVED
JAN 26 1998

January 23, 1998

Linda Sowulo
6453 SE Clackamas Rd
Milwaukie, OR 97267

Roger Stanley
WA State Dept of Ecology
PO Box 47600
Olympia, WA 98504-7600

Dear Mr Stanley,

I would like to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility to produce tritium for nuclear weapons and medical isotopes.

I concur with the experts that state the radioactive wastes at Hanford threaten the Columbia River — as well as the health and welfare of the citizens of Washington and Oregon. This high-level nuclear waste would be far more dangerous than any other nuclear reactor waste stored at Hanford. Also, this proposal would divert money and attention away from cleanup efforts — which, as outlined by the Tri-Party Agreement — should be the highest priority on Hanford!

I highly suggest that you reject the proposal to restart the FFTF at Hanford, and ask for your response...

Thank you,

0630

Mr. Robert Stanley
Washington State Dept. of Ecology
P.O. Box 47600
Olympia, Wa. 98504-7600

RECEIVED
JAN 26 1998

Dear Sir:
Please do everything in your Power to stop the start up of the FFTF at Hanford — We do not needs tons of Plutonium coming into our state. Spend that money to protect the Columbia River & down stream communities. Clean up the waste of the last 50 years.
Medical radioactive isotopes are not needed as you learn from Hot W. Doctors Tuesday night.

Sincerely
T. K. Kurtz D.D.S.
9634 15th Ave N.W.
Seattle, Wa 98117

D631

RECEIVED
JAN 1998

605 S.E. 121 Ave. #9
Vancouver, WA 98683-6069
January 20, 1998

Roger Stanley
WA State Dept. of Ecology
P.O. Bo 47600
Olympia, WA 98504-7600

RE: Production of tritium for nuclear weapons -- NO!

Dear Mr. Stanley:

Please use whatever power or pressure you have to stop any new role for Hanford.

I think the existing contamination is bad enough; it threatens the health of the people here in the Northwest, particularly those of us who live next to the Columbia River...especially Vancouver and Portland as well as all the other smaller towns.

Please send me your response to my comments.

Yours sincerely,

Helmi Kortes-Erkkila

Helmi Kortes-Erkkila

0632

RECEIVED
JAN 1998

Roger Stanley
Washington State Dept. of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

January 23, 1998

Dear Mr. Stanley:

I strongly oppose the proposed changes to the Tri-Party Agreement. Keeping the FFTF Reactor on hot standby and/or restarting operation of the reactor will divert hundreds of millions of dollars that should be used for Hanford cleanup per the original agreement. I do not wish to see the reactor used to produce more weapons-grade tritium, and it is clear from the testimony of many medical experts that there is no medical need for additional radioactive isotopes. Plutonium from all over the country would be imported to Hanford to supply fuel for the reactor, which would create dangerous new wastes. Ecology should honor the original Tri-Party Agreement to clean up Hanford and not expose Washington's citizens and environment to even more nuclear hazards.

Please mail me a response to my comments.

Sincerely,

Susan J. Perkins

Susan J. Perkins

7731 14th Avenue NW
Seattle, WA 98117

0633

Kurt A. C. Munnich
4704 West Glenhaven Drive
Everett, WA 98203-1735
January 22, 1998

Roger Stanley
Washington State Dept of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Dear Mr. Stanley:

As I understand it, USDOE has requested a change in the Hanford Tri-Party Argeement to facilitate the start-up of the Fast Flux Test Facility (FFTF). I oppose the changes AND the start-up of the FFTF.

Fundamentally, I oppose the production of Tritium. The world needs to ELIMINATE nuclear weapons. If the millions of dollars spent on FFTF were committed to eliminating nuclear weapons, our world would be a safer place to live. We need to give up this expensive and dangerous charade.

Since you and I are not likely to eliminate nuclear weapons single-handedly, the LEAST we can do is PRESERVE the Hanford Tri-Party Agreement. If "national security" dictates keeping FFTF on "hot" standby or restarting it, this must NOT divert efforts and resources AWAY from Hanford Cleanup. Any proposal to restart FFTF MUST go through a FORMAL environmental review process. IF the reactor is restarted, it MUST be REGULATED by appropriate state and federal agencies, and meet ALL contemporary safety and emission standards. This includes the transport and storage of large quantities of weapons-grade Plutonium. Finally, the reactor's mission MUST be balanced with beneficial activities such as producing medical isotopes AND destroying surplus weapons-grade Plutonium.

Very Truly Yours,

Kurt A. C. Munnich

0634

THEY CANNOT
LEGALLY RE-
START FFTF.

CLEAN UP
HANFORD
INSTEAD!

Vivian T. Williams
424 35TH AVE
SEATTLE WA
98122

Newburyport MA 01950
JAN 98
Kristin Elliott Inc.

USA 20

RECEIVED
JAN 26 1998

ROGER STANLEY
WASH. STATE
DEPT. OF ECOLOGY

P.O. BOX 47600
OLYMPIA WA
98504-7600

0635

RECEIVED

JAN 1998

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Dr. Scott Ferguson MD.

Name Dr. Scott Ferguson MD.

Address 3412 NE Fremont St.
Portland, OR 97212

0636

RECEIVED

JAN 1998

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Crystal Urban

Name CRYSTAL URBAN

Address 5005 SE BOISE
Portland, OR 97206

0637

January 19, 1998

oger Stanley
ashington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

RECEIVED
JAN 21 1998

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature _____

Name The Ohgushis

Address 3946 S.E. Grant St.
Portland, OR 97214

0638

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

RECEIVED
JAN 26 1998

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature _____

Name Jean Bukowski

Address [illegible]

0639

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

RECEIVED
JAN 26 1998

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Dr. ANTONIN KODET

Name 2707 SE 32ND AVE.

Address PORTLAND, OR
97202

0640

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

RECEIVED
JAN 26 1998

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Sara Hazel

Name Sara Hazel

Address 5108 NE 23rd
Portland OR 97211

0641

January 19, 1998

oger Stanley
ashington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

RECEIVED
JAN 1998

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Rachel Gross

Name RACHEL GROSS

Address 8433 SE 13th
PORTLAND, OR 97202

0642

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

RECEIVED
JAN 1998

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature George Kirby

Name George Kirby

Address 1512 Taylor St
Portland, OR 97205

0643

January 19, 1998

RECEIVED
1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature [illegible]

Name GLENDA LAYTON

Address 3204 NE 64th Ave
PORTLAND, OR

0644

January 19, 1998

RECEIVED
1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature [illegible]

Name SCOTT D. CISCO

Address 1626 NE 19th
[illegible]

January 19, 1998

RECEIVED

JAN 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature _____

Name _____

Address _____

_____

0646

January 19, 1998

RECEIVED

JAN 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature _____

Name Adam E Gonzalez

Address 204 SE [illegible]

[illegible]

0647

RECEIVED

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature [signature]

Name David Zeoli

Address 2024 NW Overton St. #E
Portland, Oregon 97209

0648

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

RECEIVED

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature [signature]

Name VIRGINIA NASH

Address 2841 SE TIBBETTS

PORTLAND OR 97202

0649

January 19, 1998

RECEIVED

JAN 2 3 1998

oger Stanley
ashington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Eamon Brennan Kos

Name Eamon Brennan-Kos

Address 4604 SE 48 Portland
OR 97206

0650

January 19, 1998

RECEIVED

JAN 2 3 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature [illegible]

Name Conradine Zarnott

Address 1325 SE Beech St

0651

January 19, 1998

RECEIVED
JAN 23 1998

oger Stanley
ashington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Angela McKenzie

Name Angela McKenzie

Address 5827 NE 31st Av.

PdX OR 97211

0652

January 19, 1998

RECEIVED
JAN 23 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

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Signature Wendy Anita Van Dilla

Name Wendy Anita Van Dilla

Address 1310 NE 152nd Ave

0653

RECEIVED

JAN 1998

January 19, 1998

Roger Stanley
ıshington State Department of Ecology
.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Nicolas Kats

Name NICOLAS KATS

Address 607 NE Cook St
Portland OR 97212

0654

January 19, 1998

RECEIVED

JAN 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Curt Eastin

Name CURTIS EASTIN

Address 16803 SE 19th St
Vancouver WA 98683

0655

January 19, 1998

RECEIVED
JAN 2 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature _____

Name _____

Address _____

_____

0656

January 19, 1998

RECEIVED
JAN 2 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

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Signature _____

Name _____

Address _____

0657

January 19, 1998

RECEIVED

JAN 2 9 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Laura [illegible]

Name 1021 NE 33rd Ave

Address Portland OR 97232

0658

January 19, 1998

RECEIVED

JAN 2 9 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Kimberley J. Horner

Name Kimberley J. Horner

Address 13233 SE Shannon View Dr.

Clackamas OR 97015

0659

January 19, 1998

RECEIVED

JAN 2 1 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature

Name Kenneth Weiser

Address Portland, OR

18747 S Terry Michael Dr
OC OREGON

0660

January 19, 1998

RECEIVED

JAN 2 1 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Linda Gelles

Name LINDA Gelles

Address 6305 SE Aldercrest Ct

[illegible]

0661

January 19, 1998

RECEIVED
JAN 1 9 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature [illegible]

Name Jeff Baker

Address 8037 SE Main St
Portland OR 97215

0662

January 19, 1998

RECEIVED
JAN 1 9 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature Rhonda Marcus

Name Rhonda Marcus

Address 4552 SE 100th
Portland, OR 97266

0663

January 19, 1998

RECEIVED
JAN 2 3 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature [illegible]

Name SHEILA M FRIDDEMANN

Address 616 NE Floral Place
Pox OR 97232

0664

January 19, 1998

RECEIVED
JAN 2 3 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

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Signature [illegible]

Name Heather Bightol

Address 6855 N Atlantic
[illegible]

0665
RECEIVED
JAN 23 1998

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

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Signature Hilary Back

Name Hilary Back

Address 329 SE 20th Ave, #1
Portland, OR 97214

0666
RECEIVED
JAN 23 1998

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

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Signature Sierra L. Levy

Name Sierra L. Levy

Address 5247 N. Haight
Portland, OR [illegible]

0667

January 19, 1998

RECEIVED
JAN 23 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

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Signature Victoria L. Larson

Name Victoria L. Larson

Address 10,000 SE 222nd Ave.
Gresham, OR 97080-8717

0668

January 19, 1998

RECEIVED
JAN 23 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

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Signature Hoda A. Petro

Name Hoda A. Petro

Address P.O. Box 33575
Portland OR 97292

0669

RECEIVED

JAN 23 1998

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stanley,

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Signature [illegible]

Name Patrick Hoffman

Address 30118 S. Camp Colton Dr
Colton OR 97017

0670

RECEIVED

JAN 23 1998

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

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Signature Christine Craig

Name Christine Craig

Address 7134 SE Alder Apt #10
[illegible]

0671

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

RECEIVED
JAN 26 1998

Dear Mr. Stanley,

I am writing today to express my opposition to the proposal to restart the Hanford Fast Flux Test Facility (FFTF) to produce tritium for nuclear weapons and medical isotopes. I agree with Oregon Governor John Kitzhaber that the radioactive wastes at Hanford threaten the Columbia River as well as the health and welfare of the citizens of both Washington and Oregon. The High-Level Nuclear Waste that would be created by restart of the FFTF would be far more dangerous than any other nuclear reactor wastes stored at Hanford. Furthermore, this proposal would divert money and attention away from cleanup efforts, which should, as promised by the Tri-Party agreement, be the highest priority at Hanford. I suggest that you reject the proposal to restart the FFTF at Hanford. Please mail me a response to this letter.

Signature [illegible]

Name DHAI BARR

Address 2843 NE 52nd
Portland, OR 97213

0672

January 19, 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

RECEIVED
JAN 26 1998

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Signature [illegible]

Name Michael Stadtfrancer

Address 2239 SE 34th Ave
[illegible]

0673

January 19, 1998

RECEIVED
JAN 29 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

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Signature Susan L Allen

Name Susan Allen

Address 8602 SE Taylor St
Portland OR 97216

0674

January 19, 1998

RECEIVED
JAN 29 1998

Roger Stanley
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

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Signature [illegible]

Name Thad Jacobs

Address 11338 SW Aventine Circle
Portland OR 97219

W045

RECEIVED
JAN 15 1998

Jan. 10, 1998

To: Roger Stanley, WA State Dep't. of Ecology

I do NOT want Hanford's cleanup agreement changed to open up a path for FFTF to produce weapons materials!!!!

Increasing toxic wastes leaching into our streams, rivers, and acquifers will sabotage the health of our communities and ecosystems. Our drinking water will ultimately become "chemical cocktails!"

Pul-eeze! I implore you to think rationally ... and not wait for a crisis to emerge!!! This equates SURVIVAL!!!

— over →

Extremely Concerned,
Lynora Saunders, M.S.

P.S. – I would appreciate a response to the above issue.

13798 S.W. Knaus Rd.,
Lake Oswego, OR
97034

Tel. (503) 636-1169