Appendix A

Cultural Resource Review

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Appendix A
Cultural Resource Review

Pacific Northwest
National Laboratory
Operated by Battelle for the
U.S. Department of Energy

December 1, 2004

Mr. Roger Christensen, Director
Operations Division
U. S. Department of Energy, Pacific Northwest Site Office
MSIN K8-50
Richland, Washington 99352

Dear Mr. Christensen,

SUBJECT: CULTURAL RESOURCES REVIEW OF PNNL CAPABILITY REPLACEMENT LABORATORIES CONSTRUCTION SITE (HCRC #2003-300-013)

In compliance with 36 CFR 800, the following National Historic Preservation Act (NHPA), Section 106 assessment of the subject project has been completed for the U. S. Department of Energy Pacific Northwest Site Office (PNSO).

Project Description
A request for cultural and ecological resources review was received by the Pacific Northwest National Laboratory (PNNL) Cultural Resources Project (CRP) regarding a DOE/PNSO undertaking located south of the 300 Area of the Hanford Site (Figure 1). DOE/PNSO plans to build replacement laboratories in a triangular parcel north of Horn Rapids Road approximately 100 acres in size (Figure 2). These laboratories will replace existing facilities in the 300 Area of the Hanford Site that PNNL must vacate over the next several years. This cultural resources review covers all work related to pre-construction activities including planning and site analysis as well as construction of the facilities.

Notifications and Tribal Involvement
Pursuant to 36 CFR 800, on March 6, 2003, the cultural resources review process was initiated and the Washington State Historic Preservation Office (SHPO) and 5 affected tribes were notified of the request and definition of Area of Potential Effect (APE). The current APE is confined to the triangular parcel north of Horn Rapids Road depicted in Figure 2.

On March 17, 2004, a DOE/PNSO representative gave a presentation on project at the U. S. Department of Energy Richland Operations Office (DOE-RL) Cultural and Historic Resources Program tribal issues meeting. No comments were received.

Identification of Historic Properties
A preliminary records and literature review conducted by CRP during the week March 6, 2003 revealed the following:

- Portions of the APE have been surveyed previously (HCRC #s 93-300-063, 89-300-023, and 89-300-027).

- Seven historic archaeological sites (H3-440, H3-439, H3-442, H3-438, H3-443, H3-444, and H3-21). Six of the seven sites consist of historic trash scatters such as cans, glass fragments,

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Telephone (509) 376-4626 ■ Email ellen.prendergast@pnl.gov ■ Fax (509)376-2210

ceramics, etc. H3-21 is a remnant segment of the Richland Irrigation Canal and was determined eligible for the National Register of Historic Places in 1994 (Figure 3 and Attachment 1). Subsequent documentation of portions of the canal approximately 1 mile southwest of the project area was documented in 1997 during the 1100 Area transfer project (HCRC# 97-1100-003). With the exception of H3-21, the remaining six sites were determined not eligible by DOE-RL and SHPO concurrence was obtained on December 8, 1994.

- One pre-contact isolate (45BN511) has also been located. The pre-contact isolate is a single cryptocrystalline silicate lithic flake.
- The current EMSL building located immediately south of the APE was surveyed and shovel tested for cultural resources prior to construction (HCRC #94-300-002); a ground penetrating radar survey was also conducted. No archaeological deposits were found. The proximity of this subsurface data to the project area suggests that there is low potential for the presence of subsurface archaeological deposits to be located in the APE.
- A few sites have been located within ½ mile of the APE. These include 45BN644, located south of the project area noted as an isolated short-term pre-contact activity area, consisting of a possible hearth, basalt anvil stone, and basalt cobble tools; two pre-contact archaeological sites have been located on the lower river terrace (45BN106 and 45BN162), approximately 1 kilometer from the eastern extent of the APE and a Native American cemetery is located within 150 meters of the APE.

Field Activities

- On March 13, 2003, CRP and tribal cultural resources staff surveyed the unsurveyed portions of the APE; nothing was found.
- On March 2, 2004, reconnaissance of the Richland Irrigation Canal was conducted by the CRP with project personnel. During reconnaissance, one new historic archaeological site consisting of domestic refuse scatter, not previously recorded was observed. CRP staff recorded the site as HT-2004-002.

Findings

The CRP recommends that this undertaking will have no affect to H3-440, H3-439, H3-442, H3-438, H3-443, H3-444, and 45BN511 because these sites are not historic properties. The CRP also recommends that HT-2004-002 is not eligible for listing in the National Register of Historic Places and will not be affected by this undertaking. A determination of eligibility report recommending the site's ineligibility is attached (Attachment 2).

There is no surface indication that the EMSL cemetery, located approximately 150 meters from the APE, extends into the APE. As a protective measure, pre-construction activities in the eastern portion of the project area will be monitored by an archaeologist. Should any human remains be uncovered, work will stop and procedures will be followed as mandated by the Native American Graves Protection and Repatriation Act (NAGPRA). No visual impact of the completed facilities is expected on the cemetery or ceremonies held there because the maximum height of the new facilities is planned at two stories.

The entire segment of H3-21 within the project boundaries will be destroyed constituting an adverse affect to this National Register-eligible property. The CRP recommends that a Memorandum of Agreement (MOA) be developed between DOE/PNSO and Washington SHPO to address this adverse effect. The MOA should incorporate the following stipulations to mitigate the adverse affect to H3-21.

1. The portion of H3-21 in the project area has been fully documented (Attachment 1).
2. The construction manager will make an effort to retain pieces of the concrete canal liner or make plaster or pliable casts of the canal section with interpretive value.

December 1, 2004
Page 3

3. The project will provide interpretive information about the Richland Canal, for example through onsite displays and preparation of interpretive materials.

Based upon this information, the CRP recommends that the only adverse effect to historic properties caused by pre-construction and construction activities will be to the Richland Canal, and that mitigation be determined in a Memorandum of Agreement to be signed before any damage to the canal occurs. DOE/PNSO will submit an official letter of documentation to the SHPO, Tribes and interested parties of our findings. **Pursuant to 36CFR Section 800, SHPO, tribes and interested parties have 30 days to respond in receipt of this letter. No project activities should begin until the SHPO has concurred with the findings stated above and an MOA has been signed.**

All workers should be directed to watch for cultural materials (e.g. bones, artifacts) during all work activities. If any are encountered, work in the vicinity of the discovery must stop until an archaeologist has been notified, assessed the significance of the find, and, if necessary arranged for mitigation of the impacts to the find. The SHPO must be notified if any changes to project location or scope are anticipated. If you have any questions, please call me at 376-4626.

Very truly yours,

Ellen Prendergast-Kennedy

Ellen Prendergast-Kennedy, M. A.
Research Scientist/Anthropologist
Cultural Resources Project

Concurrence: DC Stapp
D. C. Stapp, Project Manager
Cultural Resources Project

EPK:mgm

cc: File/LB
T. Aldridge K8-50
RS Weeks K3-75
D. Trader K8-50

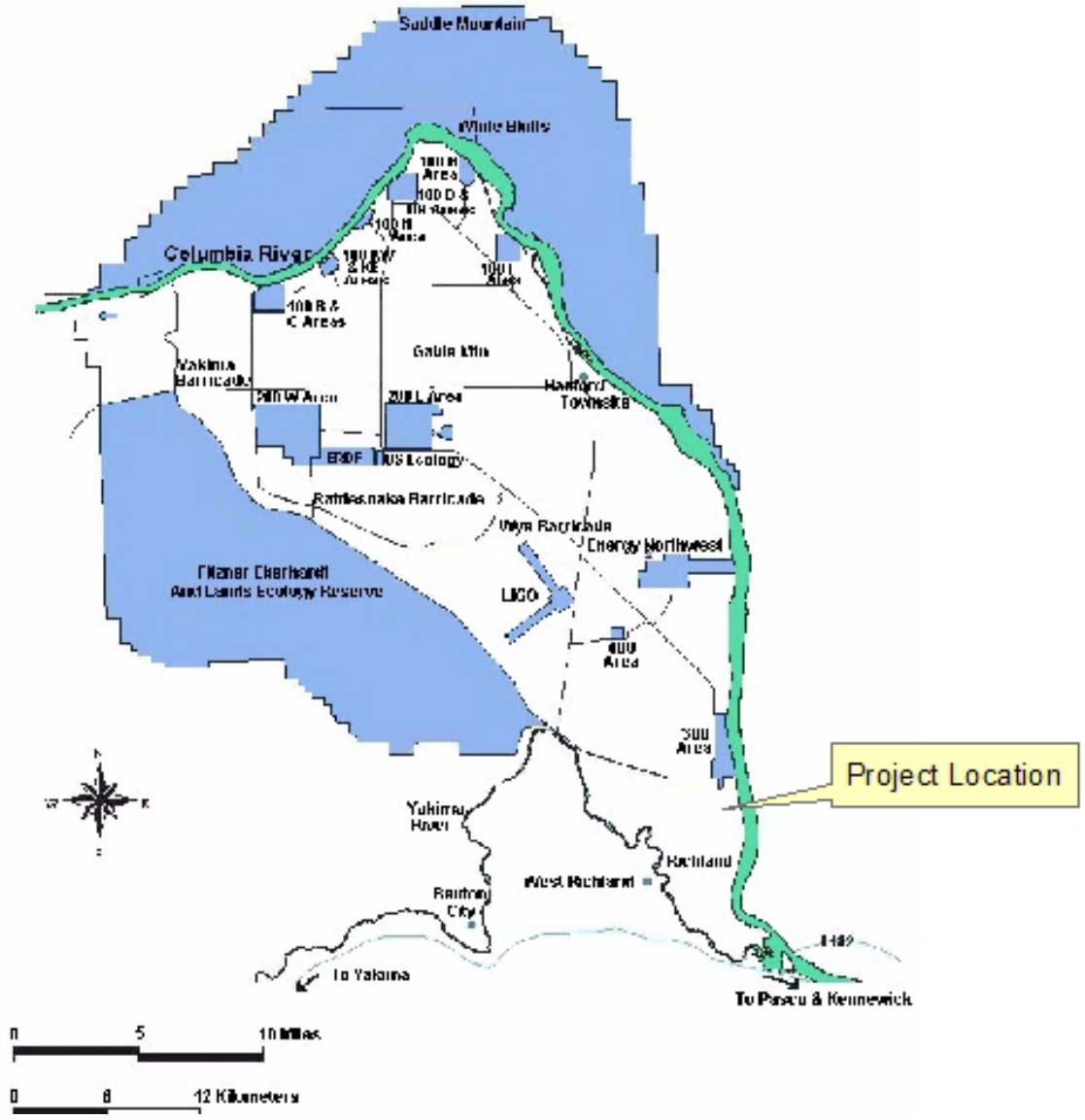

Figure 1. Project location in relation to Hanford Site.

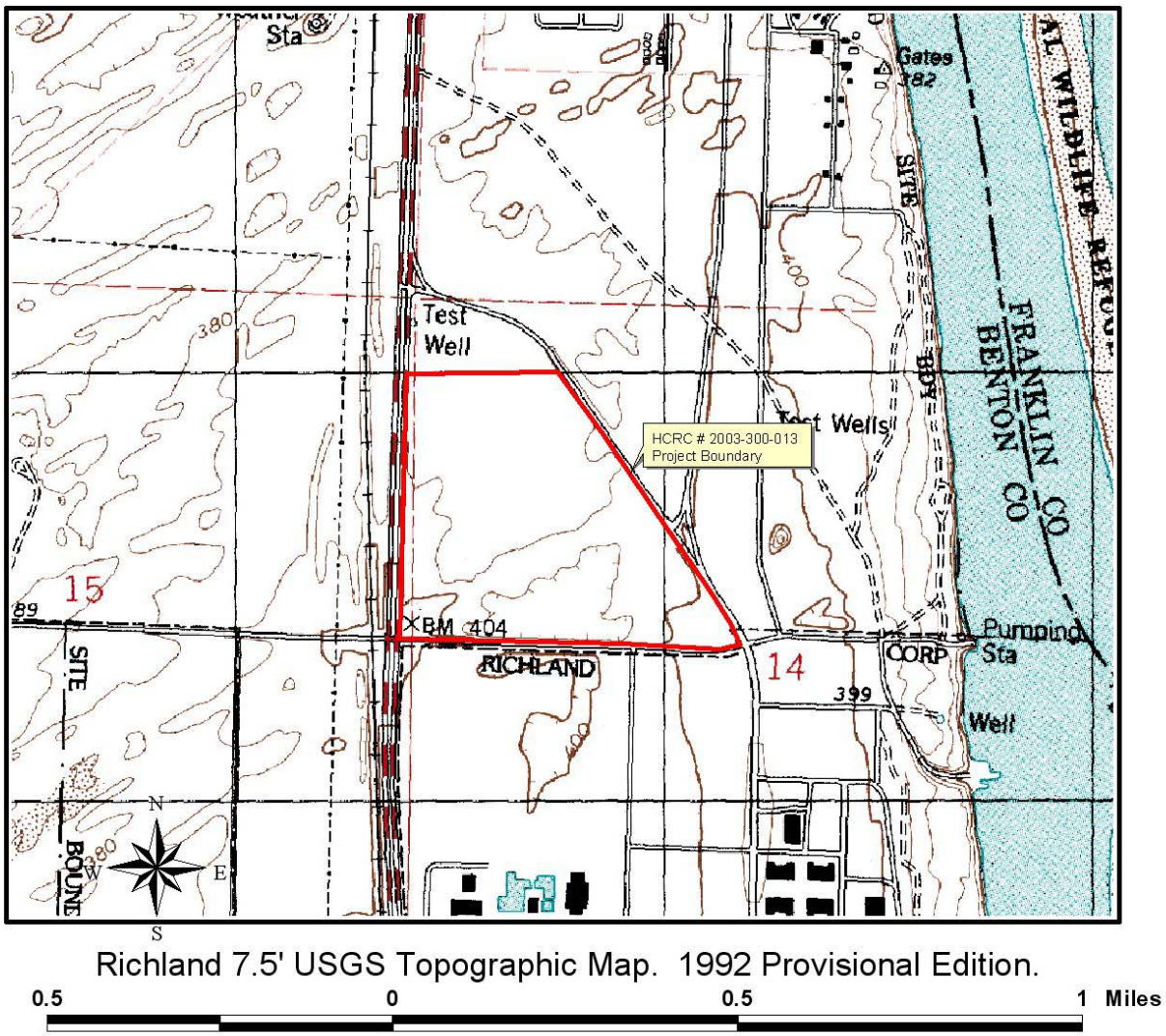

Figure 2. Area of Potential Effect on USGS Topographic map.

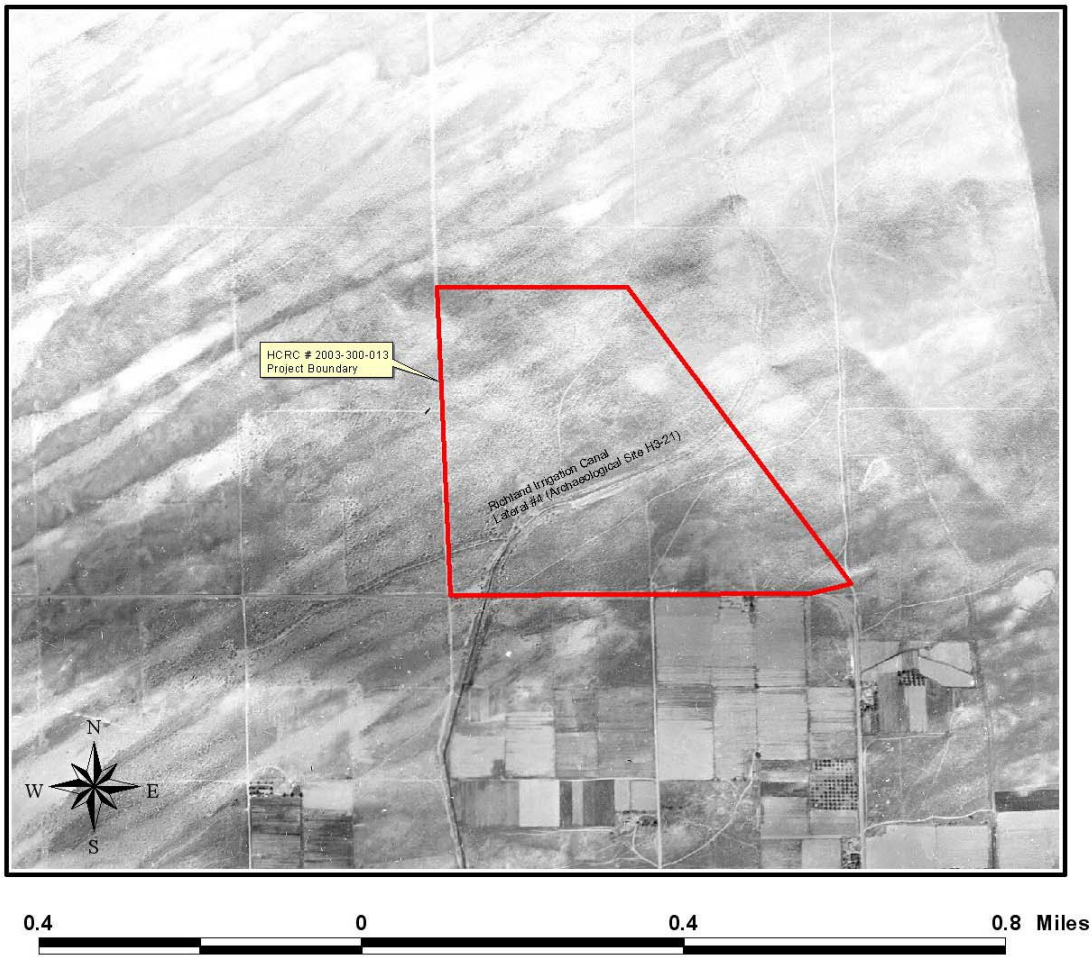

Figure 3. Richland Irrigation Canal on a 1941 aerial photograph in relation to Area of Potential Effect.

Department of Energy
Pacific Northwest Site Office
P.O. Box 350, K8-50
Richland, Washington 99352

05-OD-0028

DEC 16 2004

Dr. Allyson Brooks
State Historic Preservation Officer
Office of Archaeology and Historic Preservation
Washington Department of Community,
Trade and Economic Development
P.O. Box 48343
Olympia, Washington 98504

Dear Ms. Brooks:

CULTURAL RESOURCES REVIEW OF CAPABILITY REPLACEMENT FACILITIES CONSTRUCTION SITE – (HCRC #2003-300-013)

Enclosed is a cultural resources review completed by the U.S. Department of Energy (DOE), Pacific Northwest Site Office (PNSO) on December 1, 2004, for the subject project located in Richland, Washington. The results of the records and literature review conducted by staff at the Pacific Northwest National Laboratory (PNNL) Cultural Resource Project are described in the enclosed cultural resources review. The results indicate that this undertaking will not have an adverse effect on historic properties, with the exception of one resource: the Richland Irrigation Canal (H3-21). Before any activities occur that will impact H3-21, a Memorandum of Agreement will be developed to address the adverse effects. Additionally, PNSO finds that HT-2004-002 is not eligible for the National Register of Historic Places. Pursuant to 36CFR 800.2 (4), we are providing documentation to support these findings and to involve your office as a consulting party in the National Historic Preservation Act of 1966 Section 106 Review process. Upon your concurrence, we intend to perform some investigatory/site characterization activities away from H3-21.

Please note that this review is sent to you from the DOE PNSO instead of the DOE Richland Operations Office (RL). This is because DOE recently transferred administrative oversight of PNNL and the subject property from RL to PNSO. PNSO has been designated a DOE field office with responsibility for a PNNL Site that has been separated from the rest of the Hanford Site. As a result, PNSO will be interacting with you in the future on PNSO-funded activities.

Dr. Allyson Brooks -2- DEC 16 2004
05-OD-0028

We look forward to working with you regarding the protection of important cultural resources located on the PNNL Site. If you have any questions or require additional information, please contact Theresa Aldridge, Operations Division, on (509) 372-4508.

Sincerely,

Paul W. Kruger
Manager

OD:TLA

Enclosure

cc: A. Fyall, HRP&MP, w/encl.
W. Grisham, WBHF, w/encl.
C. Hulse, EBCHS, w/encl.
G. Leth, CREST Museum, w/encl.
E. L. Prendergast-Kennedy,
PNNL, w/o encl.
A, Rodriguez, RL, w/encl.
J. Sonderman, FCHS, w/encl.

02/08/05 TUE 16:21 FAX 509 372 4037 STO 002

STATE OF WASHINGTON

Office of Archaeology and Historic Preservation

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
(Mailing Address) PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 Fax Number (360) 586-3067

January 24, 2005

Mr. Paul W. Kruger
Department of Energy
Pacific Northwest Site Office
P.O. Box 350, K8-50
Richland, Washington 99352

In future correspondence please refer to:
Log: 012405-01-DOE
Property: Richland Irrigation Canal, Horn Rapids Road, 300 Area, Hanford Site
Re: Cultural Resources Review of PNNL Capability Replacement Laboratories Site

Dear Mr. Kruger:

Thank you for contacting the Washington State Office of Archaeology and Historic Preservation (OAHP). The above referenced project has been reviewed on behalf of the State Historic Preservation Officer (SHPO) under provisions of Section 106 of the National Historic Preservation Act of 1966 (as amended) and 36 CFR Part 800. From your letter, I understand that the Pacific Northwest Site Office (PNSO) will construct a replacement for existing laboratories on a triangular parcel north of Horn Rapids Road. My review is based upon documentation contained in your communication.

In response, I concur that the current project as proposed will have an "ADVERSE EFFECT" on the National Register of Historic Places eligible archaeological site H3-021 (Richland Irrigation Canal). This site was previously determined eligible in 1994 and it is my understanding that the proposed replacement project will result in the removal of the remains of this site. In view of the apparent adverse effect, I recommend that a memorandum of agreement (MOA) be developed for execution amongst the SHPO, the Department of Energy (DOE), the Advisory Council on Historic Preservation (ACHP) (if participating), and any other interested/affected parties. The MOA should identify specific measures to mitigate the adverse effects of the action on the National Register eligible resource. Please forward a draft MOA to SHPO for review and comment. Also, I recommend that alternatives be explored that would preserve in place portions of the canal as part of the project and/or landscape design.

Again, thank you for the opportunity to review and comment on this proposal. Please note that OAHP requires that all historic property inventory forms submitted to our office be submitted in an electronic version using the new Microsoft Access database. If you have not registered for a copy of the database please log on to our website at www.oahp.wa.gov for further instruction. Should you have any questions, please feel free to contact me at 360-586-3073 or gregg@cted.wa.gov.

Sincerely,

Gregory Griffith
Deputy State Historic Preservation Officer

RECEIVED
JAN 3 1 2005
DOE-PNSO-CC

ADMINISTERED BY DEPARTMENT OF COMMUNITY, TRADE & ECONOMIC DEVELOPMENT

STATE OF WASHINGTON
Department of Archaeology and Historic Preservation
1063 S. Capitol Way, Suite 106 • PO Box 48343 • Olympia, Washington 98504-8343

360) 586-3065 • Fax Number (360) 586-3067

July 23, 2005

Mr. Paul W. Kruger
Department of Energy
Pacific Northwest Site Office
P. O. Box 350, K8-50
Richland, Washington 99352

In future correspondence please refer to:
Log: 012405-01-DOE
Re: MOA, Richland Irrigation Canal, Horn Rapids Road, 300 Area

Dear Mr. Kruger:

Enclosed please find the original copy of the Memorandum of Agreement (MOA) pertaining to the above referenced action in the 300 Area at the Hanford Site (HCRC 2003-300-013). The MOA has been signed by State Historic Preservation Officer (SHPO) Allyson Brooks. I am retaining a copy of the executed document in our files for future reference.

On behalf of the SHPO and DAHP staff, I want to thank you and your staff for your assistance in this effort. As you work to implement the stipulations called for in the MOA, please be sure to contact our office should any questions arise about the various tasks or should any archaeological resources be uncovered during construction. I may be reached at 360-586-3073 or greg.griffith@dahp.wa.gov.

Sincerely,

Gregory Griffith
Deputy State Historic Preservation Officer

Enclosure

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION
Protect the Past. Shape the Future

RECEIVED
JUL 25 2005
DOE-PNSO-CC

MEMORANDUM OF AGREEMENT

BETWEEN THE U.S. DEPARTMENT OF ENERGY, PACIFIC NORTHWEST SITE OFFICE

AND THE WASHINGTON STATE HISTORIC PRESERVATION OFFICER

REGARDING

THE ADVERSE EFFECT TO THE RICHLAND IRRIGATION CANAL (ARCHAEOLOGICAL SITE #H3-21)

WHEREAS the U.S. Department of Energy (DOE), Pacific Northwest Site Office (PNSO) proposes to conduct the Pacific Northwest National Laboratory Capabilities Replacement Laboratories Project ("Project"), to replace laboratory facilities in the 300 Area of the Hanford Site, which has been targeted for aggressive remediation by the DOE Office of Environmental Management to reduce costs and speed cleanup of the Hanford Site; and

WHEREAS PNSO has established the Project's area of potential effects (APE), as defined at 36 CFR 800.16(d), to be the DOE Office of Science triangular land parcel bounded by George Washington Way on the east and north, Stevens Blvd., on the west, and Horn Rapids Road on the south (HCRC#2003-300-013); and

WHEREAS PNSO has determined that the Project will have an adverse effect on the Richland Irrigation Canal (Archaeological Site H3-21) as described in the Cultural Resource Review letter dated December 1, 2004 (attached as Appendix A); and

WHEREAS PNSO has consulted with the Washington State Historic Preservation Officer (SHPO), Wanapum, Confederated Tribes of the Umatilla Indian Reservation, Yakama Nation, the Confederated Tribes of the Colville Reservation, Benton County, Hanford-White Bluffs Foundation, East Benton County Historical Society, Franklin County Historical Society, and the Columbia River Exhibition of History, Science, and Technology in accordance with Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470 (NHPA), and its implementing regulations (36 CFR 800.6(b)(1)) to resolve the adverse effects of the Project on historic properties; and

NOW, THEREFORE, PNSO and the Washington SHPO agree that prior to PNSO's initiation of ground disturbance PNSO shall assure that the following stipulations are implemented in order to take into account the effects of the Project on historic properties, and that these stipulations shall remain in effect until this MOA expires, is amended or is terminated.

STIPULATIONS

PNSO shall ensure that the following stipulations are implemented:

I. Prior to project implementation, PNSO will prepare thorough documentation of Site H3-21. PNSO shall consult with the SHPO to determine the appropriate mitigation and documentation standard for this effort. Said documentation shall be prepared by a cultural resource professional meeting National Park Service Professional Qualifications as published in 36 CFR 61. An original of the documentation shall be provided to the SHPO with copies provided to other appropriate local and/or regional repositories as designated by the SHPO.

II. PNSO shall work with a local historical organization to prepare interpretive materials of the history and significance of the Richland Irrigation Canal in consultation with the SHPO. If any objects or artifacts are recovered for interpretive use prior to or during construction, that will be done at the discretion of the partnering organization and become their property. PNSO will retain responsibility for the interpretive materials for one year following their production. Long-term telling of the Richland Irrigation Canal ultimately will then become the responsibility of local historical organizations.

III. During Project design and facility construction, PNSO will attempt to retain in place a portion of the H3-21 Richland Irrigation Canal Segment I and incorporate it into the general landscaping of the facility until such time that the area is needed for other purposes. Failure to preserve any portion of the canal will not effect any other sections of this agreement.

IV. **DURATION**

If this agreement or amendments thereto, remains in effect as of February 28, 2009, this agreement shall be automatically terminated. If the parties agree that a new agreement is necessary to the accomplishment of the Project, the parties may re-initiate review of the Project in accordance with 36 CFR 800.

V. **MONITORING AND REPORTING**

On or before March 31 of each year, beginning in March 2006, until PNSO and SHPO agree in writing that the terms of this agreement have been fulfilled or is automatically terminated, PNSO shall prepare and provide an annual report to the SHPO addressing the following topics:

a. Progress in completing interpretive materials for the Richland Irrigation Canal;

b. Any changes that PNSO believes should be made in implementation of this agreement.

VI. DISPUTE RESOLUTION

Should any party to this agreement object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, PNSO shall consult with the objecting party(ies) to resolve the objection. If PNSO determines, within 30 days, that such objection(s) cannot be resolved, PNSO will;

A. Forward all documentation relevant to the dispute to the Advisory Council on Historic Preservation (Council) in accordance with 36 CFR 800.2(b)(2). Upon receipt of adequate documentation, the Council shall review and advise PNSO on the resolution of the objection within 30 days. Any comment provided by the Council, and all comments from the parties to the MOA, will be taken into account by PNSO in reaching a final decision regarding the dispute.

B. If the Council does not provide comments regarding the dispute within 30 days after receipt of adequate documentation, PNSO may render a decision regarding the dispute. In reaching its decision, PNSO will take into account all comments regarding the dispute from the parties to the MOA.

C. PNSO's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged. PNSO will notify all parties of its decision in writing before implementing that portion of the Undertaking subject to dispute under this stipulation. PNSO's decision will be final.

VII. AMENDMENTS AND NONCOMPLIANCE

If any signatory to this MOA, including any invited signatory, determines that its terms will not or cannot be carried out or that the amendment to its terms must be made, that party shall immediately consult with the other parties to develop an amendment to this MOA pursuant to 36 CFR 800.6(c)(7) and 800.6(c)(8). The amendment will be effective on the date a copy signed by all of the original signatories is filed with the Council. If the signatories cannot agree to appropriate terms to amend the MOA, any signatory may terminate the agreement in accordance with Stipulation VIII, below.

VIII. TERMINATION

The parties to this agreement may determine whether or not this agreement shall continue in effect, be amended, or be terminated. Either party may terminate this agreement for good cause. If this agreement remains in effect as of February 28, 2009, this agreement shall be automatically terminated.

Execution of this MOA by PNSO and the Washington SHPO, and its submission to the Council in accordance with 36 CFR 800.6(b)(1)(iv), shall, pursuant to 36 CFR 800.6(c), be considered to be an agreement with the Council for the purposes of Section 110(l) of NHPA. Execution and submission of this MOA, and implementation of its terms provides

evidence that PNSO has afforded the Council a reasonable opportunity to comment on the Project and its effects on historic properties.

PACIFIC NORTHWEST SITE OFFICE

U.S. Department of Energy

By:_____ Date: 6/14/05

WASHINGTON STATE HISTORIC PRESERVATION OFFICER

By:_____ Date: 6/22/05

Attachment: Appendix A

Department of Energy
Pacific Northwest Site Office
P.O. Box 350, K8-50
Richland, Washington 99352

05-OD-0033

DEC 1 6 2004

Ms. Camille Pleasants
Tribal Historic Preservation
Officer
Confederated Tribes of
the Colville Reservation
P.O. Box 150
Nespelem, Washington 99155

Dear Ms. Pleasants:

CULTURAL RESOURCES REVIEW OF CAPABILITY REPLACEMENT FACILITIES CONSTRUCTION SITE – (HCRC #2003-300-013)

Enclosed is a cultural resources review completed by the U.S. Department of Energy (DOE), Pacific Northwest Site Office (PNSO) on December 1, 2004, for the subject project located in Richland, Washington. The results of the records and literature review conducted by staff at the Pacific Northwest National Laboratory (PNNL) Cultural Resource Project are described in the enclosed cultural resources review. The results indicate that this undertaking will not have an adverse effect on historic properties, with the exception of one resource: the Richland Irrigation Canal (H3-21). Before any activities occur that will impact H3-21, a Memorandum of Agreement will be developed to address the adverse effects. Additionally, PNSO finds that HT-2004-002 is not eligible for the National Register of Historic Places. Pursuant to 36CFR 800.2 (4), we are providing documentation to support these findings and to involve your office as a consulting party in the National Historic Preservation Act of 1966 Section 106 Review process. Upon your concurrence, we intend to perform some investigatory/site characterization activities away from H3-21.

Please note that this review is sent to you from DOE PNSO instead of the DOE Richland Operations Office (RL). This is because DOE recently transferred administrative oversight of PNNL and the subject property from RL to PNSO. PNSO has been designated a DOE field office with responsibility for a PNNL Site that has been separated from the rest of the Hanford Site. As a result, PNSO will be interacting with you in the future on PNSO-funded activities.

Ms. Camille Pleasants -2- DEC 16 2004
05-OD-0033

We look forward to working with you regarding the protection of important cultural resources located on the PNNL Site. If you have any questions or require additional information, please contact Theresa Aldridge, Operations Division, on (509) 372-4508.

Sincerely,

Paul W. Kruger
Manager

OD:TLA

Enclosure

cc w/o encl:
E. L. Prendergast-Kennedy, PNNL

Department of Energy
Pacific Northwest Site Office
P.O. Box 350, K8-50
Richland, Washington 99352

05-OD-0030

DEC 1 6 2004

Mr. Patrick Sobotta, Director
Environmental Restoration/
Waste Management Program
Nez-Perce Tribe
P.O. Box 365
Lapwai, Idaho 83540

Dear Mr. Sobotta:

CULTURAL RESOURCES REVIEW OF CAPABILITY REPLACEMENT FACILITIES CONSTRUCTION SITE – (HCRC #2003-300-013)

As I indicated to you in previous correspondence, the U.S. Department of Energy's (DOE) Pacific Northwest Site Office (PNSO) is working with the Pacific Northwest National Laboratory (PNNL) to design the appropriate approach to replace important research facilities that will be decommissioned by DOE in the 300 Area of the Hanford Site. In the spirit of our desire to actively include the Nez Perce Tribe in the planning of this project, enclosed is a cultural resources review completed by PNSO on December 1, 2004, for the subject project located in Richland, Washington.

The results of the records and literature review conducted by staff at the PNNL Cultural Resource Project are described in the enclosed cultural resources review. The results indicate that this undertaking will not have an adverse effect on historic properties, with the exception of one resource: the Richland Irrigation Canal (H3-21). Before any activities occur that will impact H3-21, a Memorandum of Agreement will be developed to address the adverse effects. Additionally, PNSO finds that HT-2004-002 is not eligible for the National Register of Historic Places. Pursuant to 36CFR 800.2 (4), we are providing documentation to support these findings and to involve your office as a consulting party in the National Historic Preservation Act of 1966 Section 106 Review process. Upon your concurrence, we intend to perform some investigatory/site characterization activities away from H3-21.

Mr. Patrick Sobotta -2- DEC 16 2004
05-OD-0030

We look forward to working with you regarding the protection of important cultural resources located on the PNNL Site. If you have any questions or require additional information, please contact Theresa Aldridge, Operations Division, on (509) 372-4508.

Sincerely,

Paul W. Kruger
Manager

OD:TLA

Enclosure

cc w/o encl:
E. L. Prendergast-Kennedy, PNNL
M. Sobotta, NPT
V. Sonneck, NPT

Department of Energy
Pacific Northwest Site Office
P.O. Box 350, K8-50
Richland, Washington 99352

05-OD-0031

DEC 16 2004

Ms. Teara Farrow, Acting Manager
Cultural Resource Protection Program
Confederated Tribes of the
Umatilla Indian Reservation
P.O. Box 638
Pendleton, Oregon 97801

Dear Ms. Farrow:

CULTURAL RESOURCES REVIEW OF CAPABILITY REPLACEMENT FACILITIES CONSTRUCTION SITE – (HCRC #2003-300-013)

The U.S. Department of Energy's (DOE) Pacific Northwest Site Office (PNSO) is working with the Pacific Northwest National Laboratory (PNNL) to design the appropriate approach to replace important research facilities that will be decommissioned by DOE in the 300 Area of the Hanford Site. In the spirit of our desire to actively include the Confederated Tribes of the Umatilla Indian Reservation in the planning of this project, enclosed is a cultural resources review completed by PNSO on December 1, 2004, for the subject project located in Richland, Washington.

The results of the records and literature review conducted by staff at the PNNL Cultural Resource Project are described in the enclosed cultural resources review. The results indicate that this undertaking will not have an adverse effect on historic properties, with the exception of one resource: the Richland Irrigation Canal (H3-21). Before any activities occur that will impact H3-21, a Memorandum of Agreement will be developed to address the adverse effects. Additionally, PNSO finds that HT-2004-002 is not eligible for the National Register of Historic Places. Pursuant to 36CFR 800.2 (4), we are providing documentation to support these findings and to involve your office as a consulting party in the National Historic Preservation Act of 1966 Section 106 Review process. Upon your concurrence, we intend to perform some investigatory/site characterization activities away from H3-21.

Ms. Teara Farrow -2- DEC 16 2004
05-OD-0031

We look forward to working with you regarding the protection of important cultural resources located on the PNNL Site. If you have any questions or require additional information, please contact Theresa Aldridge, Operations Division, on (509) 372-4508.

Sincerely,

Paul W. Kruger
Manager

OD:TLA

Enclosure

cc w/o encl:
J. Longenecker, CTUIR (Richland Office)
S. Harris, CTUIR
E. L. Prendergast-Kennedy, PNNL

Department of Energy
Pacific Northwest Site Office
P.O. Box 350, K8-50
Richland, Washington 99352

05-OD-0032

DEC 16 2004

Ms. Lenora Seelatsee
Wanapum
Grant County P.U.D.
P.O. Box 878
Ephrata, Washington 98823

Dear Ms. Seelatsee:

CULTURAL RESOURCES REVIEW OF CAPABILITY REPLACEMENT FACILITIES CONSTRUCTION SITE – (HCRC #2003-300-013)

As I indicated to you in previous correspondence, the U.S. Department of Energy's (DOE) Pacific Northwest Site Office (PNSO) is working with the Pacific Northwest National Laboratory (PNNL) to design the appropriate approach to replace important research facilities that will be decommissioned by DOE in the 300 Area of the Hanford Site. In the spirit of our desire to actively include the Wanapum in the planning of this project, enclosed is a cultural resources review completed by PNSO on December 1, 2004, for the subject project located in Richland, Washington.

The results of the records and literature review conducted by staff at the PNNL Cultural Resource Project are described in the enclosed cultural resources review. The results indicate that this undertaking will not have an adverse effect on historic properties, with the exception of one resource: the Richland Irrigation Canal (H3-21). Before any activities occur that will impact H3-21, a Memorandum of Agreement will be developed to address the adverse effects. Additionally, PNSO finds that HT-2004-002 is not eligible for the National Register of Historic Places. Pursuant to 36CFR 800.2 (4), we are providing documentation to support these findings and to involve your office as a consulting party in the National Historic Preservation Act of 1966 Section 106 Review process. Upon your concurrence, we intend to perform some investigatory/site characterization activities away from H3-21.

Ms. Lenora Seelatsee -2- DEC 16 2004
05-OD-0032

We look forward to working with you regarding the protection of important cultural resources located on the PNNL Site. If you have any questions or require additional information, please contact Theresa Aldridge, Operations Division, on (509) 372-4508.

Sincerely,

Paul W. Kruger
Manager

OD:TLA

Enclosure

cc w/o encl:
R. Buck, Jr., Wanapum
E. L. Prendergast-Kennedy, PNNL

Department of Energy
Pacific Northwest Site Office
P.O. Box 350, K8-50
Richland, Washington 99352

05-OD-0029

DEC 16 2004

Mr. Russell Jim, Manager
Environmental Restoration/
Waste Management Program
Yakama Nation
2808 Main Street
Union Gap, Washington 98903

Dear Mr. Jim:

CULTURAL RESOURCES REVIEW OF CAPABILITY REPLACEMENT FACILITIES CONSTRUCTION SITE – (HCRC #2003-300-013)

As I indicated to you in previous correspondence, the U.S. Department of Energy's (DOE) Pacific Northwest Site Office (PNSO) is working with the Pacific Northwest National Laboratory (PNNL) to design the appropriate approach to replace important research facilities that will be decommissioned by DOE in the 300 Area of the Hanford Site. In the spirit of our desire to actively include the Yakama Nation in the planning of this project, enclosed is a cultural resources review completed by PNSO on December 1, 2004, for the subject project located in Richland, Washington.

The results of the records and literature review conducted by staff at the PNNL Cultural Resource Project are described in the enclosed cultural resources review. The results indicate that this undertaking will not have an adverse effect on historic properties, with the exception of one resource: the Richland Irrigation Canal (H3-21). Before any activities occur that will impact H3-21, a Memorandum of Agreement will be developed to address the adverse effects. Additionally, PNSO finds that HT-2004-002 is not eligible for the National Register of Historic Places. Pursuant to 36CFR 800.2 (4), we are providing documentation to support these findings and to involve your office as a consulting party in the National Historic Preservation Act of 1966 Section 106 Review process. Upon your concurrence, we intend to perform some investigatory/site characterization activities away from H3-21.

Mr. Russell Jim, Manager -2- DEC 16 2004
05-OD-0029

We look forward to working with you regarding the protection of important cultural resources located on the PNNL Site. If you have any questions or require additional information, please contact Theresa Aldridge, Operations Division, on (509) 372-4508.

Sincerely,

Paul W. Kruger
Manager

OD:TLA

Enclosure

cc w/o encl:
L. Aleck, YN
G. Cleveland, YN
E. L. Prendergast-Kennedy, PNNL

01/27/05 THU 17:15 FAX 509 372 4037 STO 001
01/27/05 THU 16:41 FAX 509 376 1466 DOE OTR 001

COPY

Confederated Tribes and Bands
of the Yakama Nation

Established by the
Treaty of June 9, 1855

Ltrs from PNSO to Tribes sent 12-16-04

25 January 2005

Mr. Paul W. Kruger
Department of Energy
Pacific Northwest Site Office
P.O. Box 350, K8-50
Richland, Washington 99352

Dear Mr. Kruger,

Re: Historic Preservation Easement proposed as a solution to future management of EMSL Cemetery (HT-2001-017), 45BN28 and associated Restoration Project Area

The Yakama Nation has been solicited to be included in the planning phase of the proposed Capability Replacement Facilities Construction Site (Dec 16 letter from DOE to Russell Jim). In a recent meeting of Tribal representatives responsible for protecting cultural sites at Hanford, the "Capabilities Replacement Facilities Construction Site" cultural resources survey and evaluation was reviewed (HCRC #2003-300-013).

In this ongoing review, a number of proposed alternatives are under consideration that would protect the adjacent Cemetery and would include the fenced restoration area known to Tribes as the EMSL Cemetery and Restoration Area, associated with the fishing area known to archaeologists as 45BN28. In our view, this could and should be accomplished in conjunction with the proposed replacement of the "important research facilities that will be decommissioned by DOE in the 300 Area", the main proposed encroachment project in that area and a harbinger of future development proposals. While no indigenous cultural properties have yet been identified for the lands in question, an important area lies adjacent to this triangle of land, and is the subject of our proposal which arose in this context.

The adjacent area in question, the original preferred alternative site for the EMSL and part of a long recognized cultural property (45BN28) was found to contain Native American burials and was abandoned for the purposes of construction. As you are aware, eventually at the request of Tribal representatives led by Rex Buck of the Wanapam, DOE set the area aside for the purposes of restoration and protection.

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A preferred option partially scoped by Tribal representatives is to place the EMSL Cemetery and Restoration Project Area along with the remaining damaged portions of 45BN28 within a designated Conservation Easement that would have certain limited and approved access and uses, agreed upon by Tribal authorities compatible with protection and maintenance of the restoration area and protection of the cultural property. Monitoring, ingress and egress, and further restoration activities would be several of the essential topics to be considered.

In our proposed scenario, DOE would lease the EMSL property to PNNL with a provision that PNNL negotiate a Conservation Easement on the parcel with the intent to protect the restoration and cemetery area while allowing compatible access for such activities as walking or bicycling on a designated path. Monitoring and maintenance as a botanical area of restored native plants would be a considered requirement. As herein conceived Tribal representatives would assume a yearly monitoring and reporting role on the status of the easement while conducting compatible cultural uses. While linking these projects may require a more comprehensive planning effort, it this appears to be a "win, win" opportunity. Please contact me at (509) 452-2502.

Sincerely,

Russell Jim, Yakama Nation ER/WM

cc:
LaRena Sohappy, Hazardous Waste Committee/Cultural Committee Chair
Andrea Spencer, Interim Deputy Director, YN DNR
Johnson Meninick, YN Cultural Resources
Rex Buck Wanapam
Lenora Selatsee Wanapam
Lester Umtuch Wanapam
Julie Longenecker CTUIR
Vera Sonneck Nez Perce
Keith Kline DOE-RL
Greg Hughs USFWS
Annabelle Rodriguez DOE-RL
Darby Stapp PNNL

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Appendix B

Biological Resource Review

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Appendix B
Biological Resource Review

Pacific Northwest
National Laboratory
Operated by Battelle for the
U.S. Department of Energy

19 April 2006

Ms. Regan Weeks
Pacific Northwest National Laboratory
P. O. Box 999, MSIN T4-55
Richland, WA 99352

Dear Ms. Weeks

BIOLOGICAL REVIEW OF THE DOE PACIFIC NORTHWEST SITE OFFICE (PNSO)
HORN RAPIDS TRIANGLE, ECR #2003-300-013D.

Project Description:

- PNSO is considering construction of a new PNNL research facility in a portion of the Horn Rapids Triangle which is bounded by Stevens Drive, Horn Rapids Road, and George Washington Way and consists of about 40 ha (100 ac). That facility, referred to as the Physical Sciences Facility (PSF), would house many of the research capabilities currently located in the Hanford 300 Area; the facilities for which are scheduled for decommissioning, demolition, and site restoration. The proposed location for the PSF is the southern half of the Horn Rapids Triangle. Site development would include installation of water, sewer, electrical, and communications services, clearing and grading for the structures and parking areas, and construction of the new facility. It is anticipated that construction activities would commence in fall 2007 and would take about two years to complete.

Prior Ecological Evaluations for this Project:

- PNNL conducted a field survey of the proposed project site in the spring of each year from 2003 to 2006. The results of these field surveys are summarized in letter reports #2003-300-013A (2003), #2003-300-013B (2004), #2003-300-013C (2005), and this letter report. This letter report summarizes all pertinent aspects of the 2006 field survey and the three former letter reports.

902 Battelle Boulevard • P.O. Box 999 • Richland, WA 99352

Telephone (509) 376-2554 □ E-mail: michael.sackschewsky@pnl.gov □ FAX: (509) 372-3515

Survey Objectives:

- Determine the occurrence in the project area of plant and animal species protected under the Endangered Species Act (ESA), candidates for such protection, and species listed as threatened, endangered, candidate, sensitive, or monitor by the state of Washington, and species protected under the Migratory Bird Treaty Act (MBTA).

- Evaluate and quantify the potential impacts of disturbance on priority habitats and protected plant and animal species identified in the survey.

Survey Methods:

- Pedestrian and visual reconnaissance of the proposed project site was performed by J. M. Becker on 13 April 2006. Pedestrian and visual reconnaissance of the proposed project site was performed in 2003 by M.R. Sackschewsky on 10 April; in 2004 by M.R. Sackschewsky and J.M. Becker on 25 June; and in 2005 by J.M. Becker and M.R. Sackschewsky on 21 April. The percent cover of dominant vegetation was visually estimated.

- Priority habitats and species of concern are documented in: Washington Department of Fish and Wildlife (2006a, 2006b), and Washington State Department of Natural Resources (2006). Lists of animal and plant species considered Endangered, Threatened, Proposed, or Candidate by the U.S. Fish and Wildlife Service are maintained at 50 CFR 17.11 and 50 CFR 17.12; the list of birds protected under the MBTA is maintained at 50 CFR 10.13.

Survey Results:

Vegetation

- The area south of the abandoned irrigation canal (which cuts diagonally through the middle of the site) is dominated by cheatgrass (*Bromus tectorum*), Sandberg's bluegrass (*Poa sandbergii*) and Russian thistle (*Salsola kali*). Over most of this area shrubs are relatively sparse, but sagebrush (*Artemisia tridentata*), gray rabbitbrush (*Chrysothamnus nauseosus*), bitterbrush (*Purshia tridentata*) and snow buckwheat (*Eriogonum niveum*) each contribute approximately one percent cover. Larger native bunchgrasses, especially Indian ricegrass (*Oryzopsis hymenoides*), sand dropseed (*Sporobolus cryptandrus*) and

needle-and-thread grass (*Stipa comata*) provide a total of 2 to 3 percent cover. Approximately 38 plant species were observed south of the irrigation canal.

- The area north of the irrigation canal is a mature stand of shrub steppe dominated by big sagebrush, cheatgrass, and Sandberg's bluegrass. Bitterbrush is noticeable in the northern part of the stand, and the total shrub cover is over 20 percent. Overall, the larger native bunchgrasses are less prevalent north of the canal than they are south of the canal. Approximately 41 plant species were observed on the north side of the canal.

- All plant species observed in the proposed project area from 2003 to 2006 are listed in Attachment A.

Wildlife

- No migratory bird species were observed nesting on the proposed project site from 2003 to 2006. However, detection of nests of the bird species that could potentially nest on the site would require a much more intense field survey effort than that which was undertaken. For project planning and construction scheduling purposes, it was sufficient to identify avian species on and in the vicinity of the project site and determine whether or not they would be likely to nest there based on habitat affinities. The results of these determinations follow.

- Western meadowlarks (*Sturnella neglecta*) and California quail (*Callipepla californica*) (this species is not protected under the MBTA), both ground-nesting species, were observed on the site and may be nesting there. Long-billed curlews (*Numenius americanus*) (a Washington State monitor species and a ground-nesting species) were observed and heard calling west of Stevens Drive, and were thus not nesting on the project site, but could potentially nest there.

- The sage sparrow (*Amphispiza belli*) (a Washington State candidate and sagebrush obligate species) is a shrub-nesting species and was not observed or heard calling in the project area in any of the surveys from 2003 to 2006, but could potentially nest on the project site. The lark sparrow (*Chondestes grammacus*) is also a shrub-nesting species; it was observed in 2004 and could potentially nest on the project site, although it was not detected in the 2006 survey.

- White-crowned sparrows (*Zonotrichia leucophrys*), magpies (*Pica pica = P. hudsonia*), and European starlings (*Sturnus vulgaris*) were observed in the 2006 survey, but are not expected to nest in the habitat that occurs on the project site. Surveys in earlier years

detected mourning doves (*Zenaida macroura*) and ring-necked pheasants (*Phasianus colchicus*); however, these also are not expected to nest in this habitat.

- One burrowing owl (*Athene cunicularia*) (Federal species of concern and Washington State candidate species) was observed in February 2006 (referenced in ecological compliance review letter report #2006-600-010B) at a burrow in the extreme north end of the proposed project site, about 60 meters south of the intersection of Stevens Drive and George Washington Way. However, during this survey no owls were observed and the burrow appeared to have since been filled in by soil excavated by pocket gophers (*Thomomys talpoides*).

- Mammals observed, or their sign, included the northern pocket gopher, mule deer (*Odocoileus hemionus*), and coyote (*Canis latrans*). Signs of black-tailed jackrabbit (*Lepus californicus*) were not observed, but the species would be expected primarily in the area of the project site that is north of the canal, based on the prevalence of shrub steppe habitat. Badger (*Taxidea taxus*) excavations were observed throughout the project site, but none appeared to be active (i.e., currently in use).

- All bird and mammal species observed in the proposed project area from 2003 to 2006 are listed in Attachment A.

Considerations and Recommendations:

- No plant or animal species protected under the ESA, candidates for such protection, or species listed by the Washington state government as threatened or endangered were observed in the vicinity of the proposed project area.

- Development of the entire area north of Horn Rapids Road would result in the loss of approximately 64 acres (26 ha) of mature sagebrush steppe, primarily in the area north of the irrigation canal. If development is confined to the area south of the irrigation canal, the disturbance of mature shrub steppe would be minimal.

- In order to avoid potential impacts to any ground- or shrub-nesting migratory birds that may be nesting on the project site, project activities should not be undertaken during the nesting season, March 1 through July 31.

Ms. Regan Weeks
2003-300-013D
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If you have any questions regarding this ecological review please contact me at 509-376-2554.

Sincerely,

J. M. Becker for M. R. Sackschewsky

Michael R. Sackschewsky
Compliance Assessment Manager
Ecological Monitoring and Compliance Project

LB:jmb

cc: Dan Edwards, PNNL J2-25
Kathleen Rhoads K3-54
Iral Nelson K3-54

REFERENCES

Washington Department of Fish and Wildlife. 2006a. Species of Special Concern in Washington. WDFW web site http://wdfw.wa.gov/wlm/diversty/soc/soc.htm

Washington Department of Fish and Wildlife. 2006b. Priority Habitats and Species List. WDFW web site. http://wdfw.wa.gov/hab/phshabs.htm

Washington Department of Natural Resources. 2006. Washington Natural Heritage Information System Plant Ranks. http://www.dnr.wa.gov/nhp/refdesk/lists/plantrnk.html

Ms. Regan Weeks
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Attachment A

Plant, bird, and mammal species observed in the proposed project area from 2003 to 2006.

Common Name	Latin Name
Plants	
alfalfa	*Medicago sativa*
annual mountain dandelion	*Agoseris heterophylla*
asparagus	*Asparagus officinalis*
bastard toadflax	*Comandra umbellata*
big sagebrush	*Artemisia tridentata*
bigseed desertparsley	*Lomatium macrocarpum*
bitterbrush	*Purshia tridentata*
bluebunch wheatgrass	*Agropyron spicatum*
bottlebrush grass	*Sitanion hystrix*
buckwheat milkvetch	*Astragalus caricinus*
bulbous bluegrass	*Poa bulbosa*
bur ragweed	*Ambrosia acanthicarpa*
Carey's balsamroot	*Balsamorhiza careyana*
cheatgrass	*Bromus tectorum*
Columbia cutleaf	*Hymenopappus filiolius*
common groundsel	*Senecio vulgarus*
crested wheatgrass	*Agropyron cristatum*
devil's lettuce	*Amsinckia tessellata*
Douglas' clusterlily	*Brodiaea douglasii*
dune scurfpea	*Psoralea lanceolata*
Fendler's cryptantha	*Cryptantha fendleri*
fiddleneck	*Amsinckia lycopsoides*
gray rabbitbrush	*Chrysothamnus nauseosus*
green rabbitbrush	*Chrysothamnus viscidiflorus*
hoary aster	*Machaeranthera canescens*
horseweed	*Conyza canadensis*
Howell's clusterlily	*Brodiaea howellii*
Indian ricegrass	*Oryzopsis hymenoides*
Indian wheat	*Plantago patigonica*
jagged chickweed	*Holosteum umbellatum*
Jim Hill's tumblemustard	*Sisymbrium altissimum*
kochia	*Kochia scoparia*
longleaf phlox	*Phlox longifolia*
matted cryptantha	*Cryptantha circumsciss*
meadow deathcamas	*Zigadenus venenosus*
Munro's globemallow	*Sphaeralcea munroana*
needle-and-thread grass	*Stipa comata*
pale evening primrose	*Oenothera pallida*

Ms. Regan Weeks
2003-300-013D
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pink microsteris	*Microsteris gracilis*
prickly lettuce	*Lactuca serriola*
Russian thistle	*Salsola kali*
sand dropseed	*Sporobolus cryptandrus*
Sandberg's bluegrass	*Poa sandbergii*
shy gilia	*Gilia sinuata*
skeletonweed	*Chondrilla juncea*
slender hawksbeard	*Crepis atrabarba*
slender sixweeks	*Festuca octoflora*
snow buckwheat	*Eriogonum niveum*
spring whitlowgrass	*Draba verna*
starvation pricklypear	*Opuntia polyacantha*
stiff wirelettuce	*Stephanomeria panicula*
storksbill	*Erodium cicutarium*
tall willowherb	*Epilobium paniculatum*
thickspike wheatgrass	*Agropyron dasytachyum*
tumble knapweed	*Centaurea diffusa*
Turkestan knapweed	*Centaurea repens*
Birds	
black-billed magpie	*Pica pica*
burrowing owl	*Athene cunicularia*
California quail	*Callipepla californica*
European starling	*Sturnus vulgaris*
lark sparrow	*Chondestes grammacus*
mourning dove	*Zenaida macroura*
ring-necked pheasant	*Phasianus colchicus*
western meadowlark	*Sturnella neglecta*
white-crowned sparrow	*Zonotrichia leucophrys*
Mammals	
badger	*Taxidea taxus*
coyote	*Canis latrans*
mule deer	*Odocoileus hemionus*
northern pocket gopher	*Thomomys talpoides*

Appendix C

Air Emissions and Concentration Calculations

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Appendix C
Air Emissions and Concentration Calculations

This appendix describes how the estimated emissions and ambient air concentrations described in Section 5.1.2, Air Quality, were calculated. It also contains the estimated PSF inventory of chemicals that are regulated as toxic air pollutants by the State of Washington, and describes how the concentrations provided in Table C.3 and Table 5.2 were estimated.

Estimated Releases and Concentrations of Criteria Pollutants

The criteria pollutant annual emission rates in Table 5.1 were calculated based on the assumption that the PSF annual average boiler and generator fuel consumption per gross square foot would be similar to or less than that recorded over the last 5 years at the Environmental Molecular Sciences Laboratory (EMSL), and therefore the PSF emissions per gross square foot would also be similar to, or less than, those calculated for EMSL.

Table C.1 contains the EMSL emission factors and calculated emissions for the recorded 5-year average fuel usage for the EMSL boilers burning natural gas, the boilers burning backup 0.05 wt% sulfur diesel fuel, and the emergency electrical generator burning 0.05 wt% sulfur diesel fuel. The Total EMSL Emissions were then multiplied by 1.7, the ratio of the PSF to EMSL building gross square footage, to estimate the annual average Total PSF Emissions from boiler and generator operations.

Example calculations follow:

Boiler Natural Gas Fuel Emissions:

0.12 lb NOx/MBTU x 1020BTU/scf x 98scf/therms x 162964therms/yr x 1MBTU/10^6BTU x 1ton/2000lb = 0.98 tons per year (tpy)

Boiler Diesel Fuel Emissions:

0.146lb NOx/MBTU x 19300 BTU/lb diesel x 7lb/gal diesel x 70 gal/yr diesel x 1MBTU/10^6 x 1ton/2000lb = 6.9×10^{-4} tpy.

Generator Diesel Fuel Emissions:

18.62 lb NOx/hr x 1hr/58.4 gal diesel x 66 gal/yr x 1ton/2000lb = 0.011 tpy

Table C.1. PSF Criteria Pollutant Annual Emission Estimates

	EMSL Boiler Emissions				EMSL Generator Emissions		EMSL Emissions	PSF Emissions
	Gas Emission Factors	**Gas Emissions**	**Diesel Fuel Emission Factors**	**Diesel Fuel Emissions**	**Generator Emission Factors**	**Generator Emissions**	**Total EMSL Emissions**	**Total PSF Emissions**
	lb/MBtu	tpy	lb/MBtu	tpy	lb/hr	tpy	tpy	tpy
NO_x	0.12	0.98	0.146	7.0E-04	18.62	0.011	0.99	1.7
SO_2	0.001	0.0081	0.0518	2.5E-04	0.41	0.00023	0.0086	0.015
CO	0.15	1.2	0.036	1.7E-04	22.2	0.013	1.2	2.1
PM	0.01	0.081	0.015	7.2E-05	1.04	5.9E-04	0.082	0.14
PM-10	NA		0.00825	3.9E-05	0.85	4.8E-04	5.2E-04	8.8E-04
VOC	0.016	0.13	0.004	1.9E-05	2.61	1.5E-03	0.13	0.57**
Lead	4.90E-07	4.0E-06	NA		NA		4.0E-06	1.0E-05*
	Average Gas Use, Therms	162964	Average Diesel Use, gal/yr	70	Average Diesel Use, gal/yr	66		

NA: no emission factor available
*Includes 0.34 x 10^{-5} tpy from laboratories.
**Includes 0.35 tpy from laboratories.

The annual average emissions of criteria pollutants from the operation of the PSF chemical laboratories and support facilities were calculated based on the estimated usage of criteria pollutants in the 300 Area laboratory and support spaces expected to be moved from existing buildings into the PSF. The estimated usage was based on the most recent 5 years of data contained in the PNNL Chemical Management System database. To estimate the emissions it was assumed that 100% of the gases, 10% of the volatile liquids, 0.1% of the liquids and dispersible solids, and 0.0001% of other solids, would be emitted in the process of being used. It was assumed that no emission controls would be in place, although High Efficiency Particulate Air (HEPA) filtration would be applied to many laboratory exhausts. The resulting emissions were all less than 4% of the emissions from the boilers and generators with the exception of volatile organic compounds and lead which were 160% and 50%, respectively. Therefore, the laboratory emissions for VOCs and lead were added in Table 5.1, and the emissions for lead were incorporated into the model results in Table 5.2.

The maximum expected short-term PSF emission rates were estimated by calculating the emission rates for two EMSL boilers burning natural gas at capacity, the boilers burning backup diesel fuel at capacity, and two generators burning diesel at capacity (shown in Table C.2). The highest emission rate per hour was identified for each pollutant, assuming the generators were operating at the same time the boilers were operating on either fuel. These rates were then scaled up based on the ratio of the PSF to EMSL building square footages (a factor of 1.7) and used as the emission rates for calculating the maximum short-term air concentrations.

Table C.2. PSF Criteria Pollutant Short-Term Emission Estimates

	EMSL							PSF
	Boilers on Diesel		Boilers on Gas		Diesel Generators		Highest Combined	Total Rates
	Rate	Emission	Rate	Emissions	Rate per generator	Emissions, Both Generators	lb/hr	lb/hr
	lb/MBtu	lb/hour	lb/MBtu	lb/hr	lb/hr	lb/hour		
NO_x	0.146	1.46	0.12	1.2	18.62	37	39	66
SO_2	0.0518	0.518	0.0010	0.010	0.41	0.82	1.3	2.3
CO	0.036	0.36	0.15	1.5	22.2	44	46	78.0
PM	0.015	0.15	0.010	0.10	1.04	2.1	2.2	3.8
PM-10	0.00825	0.0825			0.85	1.7	1.8	3.0
Lead	NA		4.90E-07	4.9E-06	NA		4.9E-06	9.1E-06*
	Max Heat Input Rate MBTU/hr	10			Fuel Use, gal/hr	58.4		

NA: no emission factor available.
*Includes 0.78 x 10^{-6} lb/hr from laboratories.

The annual and short-term emission rates in Table C.2 were used with the EPA Industrial Source Complex (ISC) model to estimate the ambient air concentrations shown in Tables 5.2 and C.3 for the nearest residence. Results for the site boundary and agricultural areas were also calculated and were also well below the NAAQS. EPA guidance was used for preparing a meteorological data file, with special parameters for the deposition computation. Hourly meteorological data collected over 5 years was used based on a combination of data from a wind station located about 2 miles north of the PSF site and meteorological surface observations for the Hanford Meteorological Station (HMS) located about 22 miles northwest of the PSF site. Data for the calendar years 1990 to 1994 were selected as the most recent 5-year period with continuous hourly local surface observations at HMS.

Table C.3. Estimated Maximum Concentrations of Criteria Pollutants and Relation to National Ambient Air Quality Standards

Criteria Pollutant	Standard, µg/m^3	Averaging Times	Concentration in µg/m^3	Percent of Standard
Carbon Monoxide	10000	8-hour	397	4
	40000	1-hour	1207	3
Lead	1.5	Quarterly	0.000003	0.0002
Nitrogen Dioxide	100	Annual	0.06	0.06
Particulate Matter (<10 µm)	50	Annual	0.00003	0.0001
	150	24-hour	5.8	4
Particulate Matter (<2.5 µm)[(a)]	15	Annual	0.00003	0.0002
	65	24-hour	5.8	9
Sulfur Oxides	78	Annual	0.0005	0.001
	364	24-hour	4.4	1.2

(a) Assumes release is same as for <10 µm.

Estimated Releases and Concentrations of Washington State Toxic Air Pollutants

The releases and ambient air concentrations of chemicals regulated as toxic air pollutants by the Washington State Department of Ecology were estimated, and the twenty chemicals that were the highest percent of the State Acceptable Source Impact Level are shown in Tables C.4 and 5.8, respectively.

The emissions were estimated from the quantities presented in Table C 4, which are the combined current (June 2006) inventories, plus the combined amounts used over the prior 5 years, for the buildings whose activities are planned to be moved into the PSF. These quantities were obtained from the PNL Chemical Management System database. It was assumed that these quantities would be used in a year, or in 1 month, which is expected to bound the annual and daily PSF usage.

Table C.4. Twenty PSF Chemicals Whose Emissions Would Yield the Highest Percentages of the Washington Acceptable Source Impact Concentrations.

Chemical	Annual Inventory plus usage, kg
Hydrogen Chloride	37
Chlorodifluoromethane	3281
Diborane	0.70
Polyaromatic Hydrocarbons	4.3
Chloroform	124
Phosphine	0.86
Nitrogen Trifluoride	64
Ammonia	58
Acrylic Acid	1.1
Methylene Chloride	842
Boron Trifluoride	2.7
1,2-Epoxybutane	40
Toluene	698
Vinyl Chloride	0.68
Trichloroethylene	304
Chromium	35
Nitric Acid	16
Carbon Tetrachloride	27
Hexafluoroacetone	0.20
Ethylene Oxide	0.34

To estimate the emissions it was assumed that 100% of the gases, 10% of the volatile liquids, 0.1% of the other liquids, and 0.0001% of other solids would be emitted in the process of being used. It was assumed that no emission controls would be in place, although HEPA filtration would be applied to many laboratory exhausts. The EPA ISC dispersion model was used to calculate annual average and 24-hour average air concentrations for a typical laboratory configuration and site boundary distance.

Estimated Emissions of Criteria Pollutants from Construction Equipment

Table C.5 lists the major types, number, sizes, and operating hours for construction equipment expected to be required during construction of the PSF.

Table C.5. Construction Equipment Characteristics

Major Construction Sources	Number in Use	Size, Horsepower	Total Engine hours/yr	CO, tpy	Total Organic Carbon, tpy	SOx, tpy	NOx, tpy	PM-10, tpy
Portable Lighting Units	3	50 -100	900	0.30	0.11	0.09	1.40	0.10
Portable Generators	1	50 -100	2000	0.67	0.25	0.21	3.10	0.22
Backhoe/loader	1	50 -100	2000	0.67	0.25	0.21	3.10	0.22
Fork lift	2	50 -100	4000	1.34	0.49	0.41	6.20	0.44
Asphalt Paver	1	100-175	80	0.05	0.02	0.01	0.22	0.02
Asphalt Roller	1	100-175	80	0.05	0.02	0.01	0.22	0.02
Vibratory Compactor	1	100-175	200	0.12	0.04	0.04	0.54	0.04
Concrete Pumper	1	100-175	100	0.06	0.02	0.02	0.27	0.02
Water Tanker	1	100-175	320	0.19	0.07	0.06	0.87	0.06
Excavator	1	100-175	200	0.12	0.04	0.04	0.54	0.04
Bulldozer	1	175-300	80	0.08	0.03	0.02	0.37	0.03
Motor Grader	1	175-300	200	0.20	0.07	0.06	0.93	0.07
Wheel Loader	1	175-300	80	0.08	0.03	0.02	0.37	0.03
Crane – 35 ton	1	175-300	2000	2.00	0.74	0.62	9.30	0.66
Concrete Truck	1	175-300	100	0.10	0.04	0.03	0.47	0.03
Scraper	2	300-600	160	0.32	0.12	0.10	1.49	0.11
Dump Truck	2	300-600	400	0.80	0.30	0.25	3.72	0.26
Crane – 50 ton	1	300-600	480	0.96	0.36	0.30	4.46	0.32
			Total	8.1	3.0	2.5	38	2.7
EPA AP-42 Emissions Factors, lb/hp-hr.				6.68E-03	2.47E-03	2.05E-03	3.10E-02	2.20E-03
tpy = tons per year.								

The anticipated annual emissions of criteria pollutants were estimated using the EPA AP-42 emission factors for small diesel engines shown in the bottom row of the table. Emissions were calculated using the horsepower at the high end of the typical range for each equipment type as shown in the following example calculation. Therefore it is expected that the actual emissions would be less than shown in the table.

Portable Lighting Units (50-100HP) CO emissions:

6.68×10^{-3} lb of CO/hp-hr x 100HP x 900 hours x 1ton/2000lbs = 0.30 ton/year

Appendix D

Comments on the Draft PSF EA and DOE Responses

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Appendix D
Comments on the Draft PSF EA and DOE Responses

The *Draft Environmental Assessment for Construction and Operation of a Physical Sciences Facility at the Pacific Northwest National Laboratory, Richland, Washington* (PSF EA) was distributed for review and comment on November 13, 2006, and the formal comment period extended through December 13, 2006. The following section lists comments received by the U.S. Department of Energy (DOE) Pacific Northwest Site Office (PNSO) on the draft PSF EA and responses to those comments. Comments were received from the following:

- Jill Douglas Sanchez, Pasco, WA (November 16, 2006)
- Valerie Goodwin, West Richland, WA (December 10, 2006)
- Shirley Olinger and Matt McCormick, Richland, WA (December 11, 2006)
- State of Oregon, Department of Energy, Salem, OR (December 12, 2006)
- Nez Perce Tribe, Hanford Cultural Resources, Lapwai, ID (December 13, 2006)
- Confederated Tribes of the Umatilla Indian Reservation, Department of Science and Engineering, Pendleton, OR (January 5, 2007)

Comments on Draft PSF EA and DOE Responses

Jill Douglas Sanchez, Pasco, WA

Comments received: November 16, 2006

Comment:
I am opposed to locating the Physical Science Facility near the Hanford High School. There is absolutely no reason why it should go next to a school where there are 400 plus students. There are many other ideal locations rather than putting our kids at risk being near a nuclear radiological facility.

Valerie Goodwin, West Richland, WA

Comments received: December 10, 2006

Comment:
As the parent of a Hanford High School student, I am concerned by the news of the new radiological/nuclear research facility being proposed by PNNL and the US Dept. of Energy.

I believe the location chosen on the north side of the current Battelle campus is far too close to both the city limits of the city of Richland and to our young people attending classes at the high school and the Washington State University campuses. It is inconceivable that anyone in this community would deliberately site a nuclear/radiological facility so close to the public and our children. Other land on the already tainted Hanford site area would seem to be a far better choice than possibly contaminating currently unspoiled soil. I understand that the current 200 Area, 300 Area and 400 Area on the Hanford site could easily be considered as much safer alternatives.

Please do not continue to add unnecessarily to the cold war legacy of waste - there appears to be plenty of opportunity to pursue alternatives to the currently selected location. Please keep these "nuclear facilities" out in our existing nuclear areas and a *safe distance* from our young people.

Shirley Olinger and Matt McCormick, Richland, WA

Comments received: December 11, 2006

Comment:
Overall we support Lab activities (including the construction of the subject new facility), and the expansion of the Lab to; improve science and improve our country's research and development to address national issues, and to support economic growth in the Tri City area.

The preferred or proposed action should locate the proposed facility as far from residential areas and schools as practicable. With the whole Hanford Site available, a location far removed from the public is more than reasonable. It is a simple matter of common sense and overall good public policy to locate the proposed facility further away from the public than what is proposed in the EA. Example of such an area

is the 400 area of the Hanford Site. This location would be convenient for scientist to access (less than 10 miles from PNNL) but would provide a much better buffer between the facility and the public if an accident occurred that caused the release of a hazardous material.

The EA does not provide decision makers an analysis of alternative locations of the proposed facility. We believe the EA should better inform the decision makers on alternant (sic) locations of the new facility that would reduce the risk to the public and the environment as compared to the proposed location. The alternative would use the same funding strategy as the proposed action in the EA, but locate the facility in an area farther removed from residential areas and schools (e.g. the 400 area or the 200 area of the Hanford).

DOE Response to comments from Jill Douglas Sanchez, Valerie Goodwin, Shirley Olinger and Matt McCormick:

PNSO thanks you for your review and comments on the PSF EA. The analyses in Section 5.1.12 of the EA evaluate potential health effects on workers and members of the public. The analyses indicate that the proposed facilities pose minimal risk from either normal operations or possible accidents, even if all operations were relocated to the proposed PNNL site. Radiological doses to a hypothetical maximally exposed individual member of the public from routine operations were estimated to be less than 0.2 mrem/year, and collective doses to the population within 80 km (50 mi) were estimated to be less than 0.3 person-rem per year. The new facilities would be approximately 1 mile south of existing operations in the 300 Area, and would be more than 1 mile from WSU-TC and Hanford High School. The distance from the proposed PSF to those locations is approximately the same as the distance from existing 300 Area facilities to the nearest members of the public across the Columbia River, and the risks associated with normal operation of the new facility are expected to be similar to, or lower than, the 0.2 mrem/year associated with current operations in the 300 Area.

Impacts from a potential but extremely unlikely accident at the PSF would be no more than 1 rem to an individual at the site boundary because of limitations on facility inventories of radioactive materials and controlled public access within 400 m of the facility. The potential lifetime dose to an individual at a residential location (WillowPointe development, about 0.8 mi from the proposed facilities), could amount to 0.4 rem (400 mrem). The lifetime radiological dose that might be received by an individual in the vicinity of Hanford High School would be about 200 mrem. Section 5.1.12 has been revised to include the additional information. For perspective, 300 mrem represents the average annual dose received by a resident in this area from background radiation due to naturally occurring radionuclides in air and soil. Based on extensive studies by national and international organizations over the last 60 years, lifetime radiological doses at those levels would not be expected to result in any demonstrable physical effects.

PNSO evaluated alternative locations for the proposed facility, both on and off the Hanford Site, including existing facilities in the Hanford 200 and 400 Areas. The environmental impacts of those alternatives are discussed qualitatively in Section 3.2 of the EA, relative to the impacts presented in Section 5 of the EA for the proposed action. As a result of the alternatives analysis (PNNL 2005), which is also summarized and cited in Section 3.2 of the EA, it was concluded that use of existing facilities, or construction of new facilities in alternate locations, was not reasonable because of cost or operational considerations. Therefore, a more detailed analysis of their environmental impacts did not appear to be required or warranted.

State of Oregon, Department of Energy, Salem OR

Comments received: December 12, 2006

Comment 1:
Section 4.7 of the EA states that DOE is "working with EPA and the Washington State Department of Ecology to remove the portion of the PNNL site located north of Horn Rapids Road from the National Priorities List (NPL)." This statement needs to be made more clear regarding what land is at issue – the existing "PNNL site," the "buffer area," or both. We also have a more fundamental concern with the proposed deletion from the NPL, specifically concerning the timing. Recent communication to Oregon from the U.S. Environmental Protection Agency (e-mail from Larry Gadbois, August 21, 2006) states in part that "EPA has been very clear with DOE that NPL deletion is too far into the future for DOE to spend its time strategizing on how it will do this." Section 4.7 notes that the site does not appear to require any cleanup associated with existing records of decision (RODs) for the 300-FF-2 or 300-FF-5 operating units. While this is true, it bears noting that the cited documents are interim action RODs that did not consider the full suite of contaminants in the 300 Area. Cleanup action could be required (though probably unlikely) under final RODs that will be prepared in the future. It is also important to note that groundwater underlying the PNNL site and most of the buffer area is contaminated with nitrate at concentrations above drinking water standards, and that the area lies down-gradient of an evolving uranium plume northeast of the Horn Rapids Landfill.

DOE Response:
PNSO thanks the Oregon Department of Energy for its review and comments on the PSF EA. The EA provides general information about a proposal to remove the PSF construction site from the National Priorities List. Completion of that action would not be required in order for PNSO to proceed with construction of the proposed facility. It is partly because NPL deletion of the entire 300 Area is far distant in the future that this partial deletion action is being considered. If the buffer area is reassigned to PNSO in the future, it is likely that a partial deletion under the NPL would be pursued for that parcel also, as the buffer area has also been determined to require no further remedial action at this time. Should partial deletion of the proposed construction site and buffer area be completed, that action would not preclude the requirement for cleanup if future conditions warrant (40 CFR 300.425(e)(3)).

As suggested in the comment, Section 4.7 provides information about the extent of contamination at the construction site, including the status of the CERCLA interim Records of Decision, and the fact that groundwater at the site is contaminated with nitrate at concentrations above drinking water standards as well as other contaminants. The text in Section 4.7 of the EA has been revised to clarify these points.

Comment 2:
Perhaps the most critical shortcoming of the EA is its failure to consider continued use of existing buildings in the 300 Area. The "no action alternative" described in Sections 3.3 and 5.2 is unrealistic as it assumes that structures in the 300 Area will be demolished and not replaced. A September 18, 2006 story in the Tri-Cities Herald attributed comments to Megan Barnett of DOE that DOE was reconsidering demolition of all buildings, and might keep as many as four buildings in the 300 Area for use by PNNL. If DOE follows through on this alternative, the need for new space at the PSF would be significantly reduced, perhaps eliminated. Failure to consider all legitimate alternatives (and in this case, perhaps the most likely scenario for the site, at least in the short term) does not lead to informed decision-making. Given the comments from DOE regarding the future of 300 Area buildings, any assessment that fails to fully consider this alternative must be viewed as incomplete.

DOE Response:
PNSO is currently considering continued use of four serviceable facilities in the southern part of the 300 Area for some ongoing PNNL activities, over a period of up to 20 years. Implementing the phased approach as described in the EA would reduce the size of the initial phase PSF to about 70-75% of the full facility, but it would not completely eliminate the need for additional space to accommodate activities relocated from other 300 Area facilities in the near term.

Although impacts of continuing operations at existing 300 Area facilities are not within the scope of the EA, they are discussed in Sections 4 and 5.1 of the document, in addition to those evaluated for the No-Action Alternative in Section 5.2. In most cases, those impacts are presented on the basis of annual operations, which are not expected to change substantially whether the facilities continue to operate for a few additional years, or for up to 20 years. Impacts from existing facility operations were also used to estimate the bounding impacts presented in Section 5 for operating the PSF with all phases implemented, because activities at the new facility would be similar to those currently being carried out in the 300 Area. Therefore, the EA provides sufficient information for DOE to understand the environmental impacts of ongoing and future operations, and to determine whether the proposed action represents a major federal action that could have significant environmental impacts.

Comment 3:
The description of nearby land uses in Section 4.1 omits any mention of the extensive office complex east of the existing PNNL facilities, between George Washington Way and the Columbia River, and north of the WSU campus.

DOE Response:
Section 4.1 of the EA has been revised to include the businesses south of Horn Rapids Road, between George Washington Way and the Columbia River. Impacts to members of the public in the vicinity of the PSF are addressed in Section 5.

Comment 4:
Section 5.1.1 implicitly cites the Hanford Comprehensive Land Use Plan in stating that development of the PNNL site "would be consistent with the intent of the Industrial designation for the land." However, that proposed land use is not consistent with recent land use plan amendments for the City of Richland which call for mixed land use in the 300 Area.

DOE Response:
The reference to the Hanford Comprehensive Land-Use Plan EIS was intended to note that construction of the PSF would be consistent with the DOE Record of Decision (ROD) for the EIS. Under the City of Richland Comprehensive Plan Land Use Designation, as amended December 2005 (City of Richland 2005a), future land use for the PSF construction site was designated as "Business/Research Park," which would be compatible with the proposed action and the Industrial designation in the DOE ROD.

The City of Richland Comprehensive Land Use Plan designated the buffer area as a mix of "Business/Research Park," "Commercial," and "Low Density Residential." Those uses would not be entirely consistent with the DOE ROD, which designated parts of the buffer area as Preservation to protect Tribal cultural and historic sites located within that property. However, DOE intends to maintain ownership and use of the property as described in the EA for the foreseeable future, including the protective designation for Tribal sites within the buffer area. As part of the proposed action, PNSO does

not plan to develop the buffer area, other than possible extension of fencing. Therefore, as long as the area remains vacant, no incompatibility issues with existing local land-use plans are anticipated.

Comment 5:
The EA presumes that storm water will be routed to the soil or to groundwater via injection wells, apparently without treatment. Oil and grease, metals, fertilizer and pesticide residues, etc. typically occur in surface runoff from developed areas. The EA needs to explain how storm water release to the soil would not degrade groundwater on the site.

DOE Response:
If required, the storm water management system would be registered with the Washington State Department of Ecology, and would incorporate Best Management Practices as specified by Ecology for commercial facilities of comparable configuration. Section 5.1.3 of the EA has been revised to include this information. With an average annual precipitation of about 16 cm (6.5 in) there is little potential for degradation of groundwater from storm runoff.

Comment 6:
Section 4.6 and 5.1.6 address a number of habitat issues and acknowledge that construction will result in significant loss (26 hectares) of mature sagebrush-steppe habitat, noted as a priority habitat by the State of Washington. This loss raises several concerns:

Comment 6a. Alternative site development plans were not considered that might have reduced habitat loss. Development of the site as described in the EA seems to be incompatible with the goals of Hanford's Biological Resources Management Plan and Biological Resources Mitigation Strategy (BRMIS). Those plans explicitly call for preventing habitat loss through avoidance and minimization.

Comment 6b. BRMIS also calls for ensuring no net loss of habitat through mitigation. The mitigation strategy calls for mitigation of sagebrush habitat (at a 3:1 ratio) if habitat loss exceeds 0.5 hectares. The EA makes no mention of mitigation and does not identify a potential site that might be used for mitigation.

DOE Response:
The initial phase of PSF construction would be sited near the Horn Rapids Road, where the habitat has been previously disturbed. Much of the higher quality habitat at the north and west ends of the PNNL Site is expected to remain undisturbed, and any necessary disturbance to that habitat would be minimized to the extent practicable.

The Hanford Biological Resources Management Plan (BRMaP) and Biological Resources Mitigation Strategy (BRMiS) apply to operations on the Hanford Site managed by the DOE Richland Operations Office. Although application of those documents to PNSO activities is not mandatory, they were used as guidance and policy documents in planning construction operations. Various types of protective measures described in the BRMiS would be employed during construction of the PSF where practical for the smaller PNNL Site. For example, habitat removal at the PNNL Site will occur at a time when the bird nesting activities will not be disturbed. Following completion of each phase of the PSF on the PNNL Site, landscaping will include hardy, drought-tolerant native plants suitable to the region.

Comment 6c. Section 4.6 acknowledges failure to assess the presence or use of the site for nesting by sage sparrows (a state candidate species) or loggerhead shrikes (a federal species of concern and a state candidate species). The EA is incomplete without a more careful assessment of habitat losses and impacts for the alternatives.

DOE Response:
The proposed PSF construction site was extensively surveyed by biologists each year during the active bird nesting season for the past 4 years. During those surveys, every attempt was made to identify the presence of nesting bird species. Although DOE cannot definitively say that active nests were not missed during those surveys, they were performed by experienced professional biologists familiar with the site, and they were designed to be sufficient to detect the presence of protected species, if not every individual nesting bird.

Comment 6d. DOE's stated plan to minimize habitat loss is to avoid site destruction during the nesting season. Deferring habitat loss for one growing season does not prevent habitat loss. This approach does nothing to minimize long-term loss.

DOE Response:
Restricting construction to avoid the bird nesting season, as discussed in Section 5.1.6 of the EA, limits direct impacts to nesting birds, including species that are federal species of concern, Washington State candidate species, or that are protected under the Migratory Bird Treaty Act. That restriction was not intended primarily to mitigate habitat loss. However, disturbance of higher quality habitat within the PNNL Site would be minimized to the extent practicable.

Comment 7:
In comments responding to PNSO's October 12 letter to EPA about site transfer, and in discussions with James Rispoli, staff from the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) have identified a number of concerns regarding transfer and development of the PNNL and buffer sites related to cultural resources and management of the lands. Those concerns do not appear to be adequately addressed in the draft EA.

DOE Response:
Comments received from the CTUIR are addressed elsewhere in this appendix. Reassignment of the proposed PSF construction site from the DOE Office of Environmental Management Hanford Site to the DOE Office of Science PNNL Site was completed in 2004. Reassignment of the buffer area is currently in progress. Neither Council on Environmental Quality (CEQ) nor DOE NEPA procedures require a documented NEPA review for property reassignments within DOE where proposed use of the property would not change. Management of culturally significant sites within the buffer area, including provision for Tribal access, is not expected to change as a result of the pending DOE action, other than that coordination would occur through PNSO rather than through the DOE Richland Operations Office. Construction of the PSF as described in the EA would take place outside the buffer area, and would not result in environmental impacts to previously identified Tribal cultural and historic sites.

Nez Perce Tribe, Hanford Cultural Resources, Lapwai, ID

Comments received: December 13, 2006 (draft), December 18, 2006 (final)

Comment: Summary, Purpose and Need
"Long term federal agency mission needs … DOE needs … replacement laboratory/infrastructure for PNL research and development"

- What are these needs?
- Where are they stated?
- What is the scientific mission expressed in this section?

DOE Response:
PNSO thanks the Nez Perce for their review and comments on the PSF EA. Additional information regarding the types of replacement facilities needed and research activities to be performed within those facilities can be found in the main text of the EA (Sections 2 and 3.1, description of the Physical Sciences Facility), as well as in the DOE-PNSO (2005) Mission Needs Validation Report cited in the EA (reference in EA Section 8). Both the EA and supporting reference documents are available at the DOE Richland Public Reading Room, WSU-Tri-Cities, or by request from the PNSO document manager at the address listed in the EA.

Comment: Summary, Affected Environment
"Cultural and historic resources have been identified within some portions of the proposed construction site and buffer zone and appropriate measures for their management have been established."

- This is not true, only a NHPA section 106 review has been done for the area where they will be constructing the new facility not for the area that they have determined to be the buffer area. No appropriate measures have been made with the Tribe to address these concerns.

DOE Response:
Portions of the buffer area were surveyed for cultural resources in conjunction with a previous DOE NEPA review (Environmental Assessment for the Environmental and Molecular Sciences Laboratory at the Hanford Site, Richland, Washington, DOE/EA-0429). PNSO has not initiated an additional NHPA Section 106 review (36 CFR Part 800, Subpart B) for the PNNL buffer area, because there is no proposal to change the existing land use (including current provisions for tribal access). PNSO would follow the applicable cultural resource review and consultation procedures to comply with NHPA Section 106 if any changes to existing land use are proposed in the future.

Comment: Summary, Affected Environment
"Investigations of potential hazardous materials at the site did not identify any contaminants present in surface soil or ground water that would require remedial action"

- Contamination of any new area is not in the best interest of the Nez Perce Tribal Hanford Cultural Resources (HCR)

DOE Response:
The cited text from the EA refers to potential existing contamination at the construction site that may have resulted from past activities in the vicinity. PNSO would construct the PSF to minimize release of contaminants to the environment, and would take appropriate measures during facility operation to prevent release of additional contaminants in the vicinity of the PSF. In Section 3 of the EA, information is provided about water runoff and spill management requirements, and pollution prevention and waste minimization measures that are expected to be implemented at the new facility to reduce the possibility of a release. The impacts of potential accidental releases and waste management activities are addressed in Section 5.

Comment: Summary, Environmental Consequences
"Routine radiological, chemical and other operational effluents are not expected to result in human impacts… Because the impacts from facility operations are projected to be small in all cases, there would be no opportunity for disproportionate and adverse impacts on minority or low-income populations, nor would cumulative impact with other ongoing operations in the region be expected."

- Cumulative effects can not be dismissed because lack of a scoping process. (*refer back to the definition of cumulative impact "40 CFR 1508.7" that is cited in this document*)
- This may be an issue for environmental justice, because every environmental consequence is significant at some scale of time or place and vice-versa, hence cumulative effect.

DOE Response:
PNSO recognizes that any new development within the region could contribute to the loss of natural resources. As noted in Section 5.1.1, construction could disturb up to 32 ha (82 ac) near the southern end of the proposed construction site, much of which has been previously disturbed and which is separated from nearby habitat by major roads. Compared to 586 square miles (152,000 ha) of similar habitat within the adjacent Hanford Site (of which over 90% has remained relatively undisturbed), construction of the PSF was not considered to constitute a significant cumulative impact.

Cumulative impacts were addressed in the EA, consistent with regulatory requirements in 40 CFR 1508.7 and the Council on Environmental Quality's (CEQ) guidance. The CEQ regulations regarding cumulative impacts are intended to identify cases where impacts from several individually minor actions could together result in a significant cumulative impact, which is not the case for the proposed action discussed in the EA. CEQ further advises that

> *"The continuing challenge of cumulative effects analyses is to focus on important cumulative issues, recognizing that a better decision, rather than a perfect cumulative effects analysis, is the goal of NEPA and environmental impact assessment professionals."*

In no case would impacts from the proposed action, when combined with those from other actions taking place concurrently or in the reasonably foreseeable future, be expected to result in significant cumulative effects.

Environmental justice concerns would arise where there was potential for high and disproportionate impacts to members of minority and low income groups. Because impacts resulting from activities proposed in the PSF EA were small in all cases, there would be no opportunity for both high and disproportionate adverse impacts on minority and low income populations.

Comment: Section 3.1
"In addition, DOE-RL is in the process of reassigning property to the north and east of the current PNNL site to DOE-SC. That area would serve as a restricted access buffer … No construction is currently planned … other than installation and maintenance of fencing at the boundary…"

- Any form of effect to the EMSL cemetery (including establishing a fence line), which is eligible for inclusion to the National Register of Historic Places, has to go thru a NHPA section 106 *(36 CFR 800)* to address any potential effects to that site.
    - What type of fence?
    - Is this fence replacing the old one, or will the old fence be incorporated into the fence installation plan?
- It is **not** in the best interests of HCR to have that area established as a buffer area. Establishing it as a buffer area is still an action for utilization and could result in an effect thru a direct, indirect or cumulative.
- Agency Officials should ensure that preparation of an EA and FONSI includes appropriate scoping, identification of historic properties, assessment of effects upon them and consultation leading to the results of any adverse effects. *(36 CFR 800.8 (a) (3))*

DOE Response:
Reassignment of the identified DOE property to PNSO would not change the current use of the property; therefore, this action is not subject to requirements in 36 CFR 800. The property is part of the DOE Hanford Site and has served as a buffer to provide separation between operations in the 300 Area and the Site boundary since the 1940s. As proposed in the EA, the property would continue to serve the same purpose as a buffer between PSF operations and the PNNL Site boundary.

Areas of the property containing Tribal historic and cultural resources were fenced previously to protect the site and to restrict trespass by unauthorized persons. Under current plans, PNSO would continue to maintain the existing fence. The type and extent of additional fencing that may be required in the future depends on safety and security requirements associated with operation of the PSF. If new fencing is installed, PNSO would comply with applicable cultural resource review and consultation procedures and regulations. There are no other plans for development of the buffer area.

Potential impacts on historic and cultural resources were considered by DOE during the internal scoping process for the PSF EA. Public scoping is only required for an environmental impact statement under CEQ and DOE regulations (40 CFR 1501.6-1501.7 and 10 CFR 1021.310, respectively). Known cultural and historic resources potentially affected by the proposed action are described in Section 4.5 of the EA, and potential impacts on those resources are addressed in Section 5.5.

Consultation under 36 CFR 800 was initiated with a cultural resources review of the proposed construction site (Appendix A), and the results of the review were provided to the Nez Perce Tribe via letter dated December 16, 2004. The Nez Perce Tribe was formally notified of PNSO's intent to prepare an EA through a letter dated March 23, 2006, and a copy of the draft EA was provided for comment on November 13, 2006. PNSO concludes that it has met regulatory responsibilities for Tribal notification and review of environmental assessments as specified in 10 CFR 1021.301 (c) and (d).

Comment: Section 3.1
"The property north of the Horn Rapids road is located in Benton County, and it is being considered for annexation to the City of Richland as part of the city's urban growth area.

This is not in the best interest of the HCR; this presumes that DOE may in the future allow privatization from the City of Richland of that area.

DOE Response:
The concern is noted. However, DOE is required by NEPA to evaluate proposed actions for compatibility with land use plans established by local governing agencies. DOE intends to maintain ownership and use of the property as described in the PSF EA for the foreseeable future, including provisions for Tribal access and protection of known cultural sites within the buffer area.

Comment: Section 3.2
Because these alternatives are not evaluated in detail it could sway the decision making process. These alternatives should be expressed in thorough detail to understand the impacts and risk concerns.

DOE Response:
The EA provides sufficient information for PNSO to understand the environmental impacts of operating the PSF, and to determine whether the proposed action represents a major federal action that could have significant environmental impacts.

Because the activities would be similar wherever they are located, the impacts as described in the EA are expected to adequately represent those from alternatives to the proposed action. The environmental impacts of alternatives to the proposed action are discussed qualitatively in Section 3.2 of the EA, relative to the impacts presented in Section 5 of the EA for the proposed action. As a result of a previous cost and feasibility screening (which is also summarized and cited in Section 3.2 of the EA), PNSO concluded that use of existing facilities, or construction of new facilities in alternate locations, was not reasonable because of cost or operational considerations. Therefore, a more detailed analysis of the environmental impacts of those alternatives did not appear to be required or warranted.

Comment: Section 4.5
"In 1994, excavation in the eastern portion of the buffer area identified a site of cultural significance to regional tribes. As a result of this cultural resource, DOE committed to protect the area from future disturbances and established a perimeter fence around the area. In addition, two pre-historic sites are located in the eastern portion of the buffer area near the shore of the Columbia River. These sites are listed in the State of Washington Heritage Register…"

- This site is also eligible for inclusion in the National Register of Historic Places and has a Smithsonian Trinomial number.
- The idea of this area being included for use as a buffer area is not acceptable. It should remain a restricted non-use area protected from any type of development or disturbance. Designating it as a buffer area is an action for utilization although it is expressed within this document that this area will not be utilized.
- What exactly did DOE commit to, is this documented?
- Where is the boundary area defined?

DOE Response:
The property to the north and east of the proposed PSF construction site is part of the DOE Hanford Site and has served as a buffer to provide separation between operations in the 300 Area and the Site boundary since the 1940s. As proposed in the PSF EA, the property would continue to serve the same purpose as a buffer between PSF operations and the PNNL Site boundary. Current plans do not include development of the buffer area, other than possibly installing additional protective fencing.

The potential historic and cultural significance of Tribal sites within the buffer area has been recognized by DOE. In the Record of Decision for the 1999 Hanford Comprehensive Land-Use Plan EIS, DOE designated land use for the site of cultural significance as Preservation. That designation protects unique resources and requires active management practices to preserve existing resources. When the buffer area is reassigned from the Hanford Site to the DOE Office of Science, PNSO intends to abide by the protective designation for Tribal cultural sites within the property. If PNSO proposes future development within parts of the buffer area other than the protected sites, it would comply with applicable procedures and regulatory requirements for consultation and protection of historic and cultural resources. The boundaries of the proposed construction site and buffer area are shown in Figure 3.1 and further defined in Sections 3.1 and 5.1.1 of the EA.

Comment: Section 5.1.1
"An additional adjacent area of up to 12 ha (32 ac) would likely be disturbed during construction for access roads and construction materials laydown."

- Where would this area be located, and has it gone thru a review process. If not perhaps one has to be done. Inclusion of this projected area piggybacking with this EA is a violation of federal regulation and could be anticipated as anticipatory demolition as defined in 36 CFR 110 (k).

DOE Response:
The "adjacent area" refers to property immediately adjacent to the planned PSF structures and is within the proposed construction site referred to in the EA. A cultural resources review has been performed for the site, and appropriate measures have been established with the responsible agencies for management of known resources, or for disposition of potential historic and cultural resources that may be discovered within the site during construction (Appendix A).

Comment: Section 5.1.1
"Even though the federal government is not subject to local planning authority, the activities within the proposed site for construction and operation of the PSF would be consistent with adjacent land uses planned by the City of Richland and Benton County…"

- This may become a concern in the near future.

DOE Response:
The concern is noted. However, DOE is required by NEPA to evaluate proposed actions for compatibility with land use plans established by local governing agencies. DOE intends to maintain ownership and use of the property as described in the PSF EA for the foreseeable future.

Comment: Section 5.1.5
"*No other resources of possible cultural or historical interest were found"*

- This does not include the area east of the proposed facility.
- Most reviews that are done to address cultural resources involve a surface survey only. These types of surveys do not discredit that there will not be any type of cultural resource found or effected. It just states none where found at that time.

DOE Response:
The statement cited refers to the PSF construction site, which has undergone a cultural resources review (Appendix A). The cultural resources review specifies procedures to be used where excavation could potentially disturb sites of cultural or historic interest. Any previously unidentified resources discovered during construction would be managed in accordance with those procedures and applicable regulatory requirements.

There are no plans to develop the buffer area east of the PSF construction site as part of the proposed action. PNSO would continue to maintain the existing fence surrounding a previously identified area of cultural importance to the Tribes. Therefore, no additional surveys for cultural or historic resources within the buffer area are planned or required. If the existing fence is extended in the future, PNSO would comply with applicable procedures and regulations for consultation and cultural resource protection.

Comment: Section 5.1.5
"The fenced area within the eastern portion of the buffer area is of cultural significance to regional Tribes and aside from maintenance of fencing, the area would remain undisturbed. The opportunities for Tribal access to that area would remain unchanged."

- There currently is no document that states PNSO or other future land managers will keep this land undisturbed.
- Again the buffer area is not defined.

DOE Response:
Management of cultural sites within the buffer area was addressed in the 1999 Hanford Comprehensive Land-Use Plan EIS. In the Record of Decision for that document, DOE designated land use for the site of cultural significance as Preservation. That designation protects unique resources and requires active management practices to preserve existing resources.

The boundaries of the proposed construction site and buffer area are shown in Figure 3.1 and further defined in Sections 3.1 and 5.1.1 of the EA.

Comment: Section 5.1.5
"As a protective measure for unknown cultural resources, archeologists would monitor excavations as appropriate, and site construction workers would be instructed to watch for artifacts. If artifacts of potential significance were found, work would stop, and the designated archeologist monitor would be notified."

- These 3 comments are included within this section; however they are not stated within the MOA of 2005 between the DOE and SHPO regarding adverse effect to the Richland Irrigation Canal. The order that they follow the stipulation of the MOA is misleading and should be clarified.
- The Nez Perce Tribe was not party to that MOA.

DOE Response:
The statements are correct. However, the cited text in Section 5.1.5 of the EA refers to procedures established as part of the cultural resources review for the proposed PSF construction site. Those procedures are intended to protect previously unidentified materials that may be discovered during construction. The text of the EA has been revised to clarify.

The 2005 MOA was an agreement between DOE and the SHPO regarding management of the Richland Irrigation Canal; it was not intended to address any other existing or potential sites of cultural and historic interest. The cultural resource review and the MOA are reproduced in Appendix A of the EA. Consultation under 36 CFR 800 was initiated when the results of that review were provided to the SHPO and the Tribes, including the Nez Perce Tribe, via letters dated December 16, 2004.

Comment: Section 5.1.15
"*Based in the results of analyses presented in the previous sections, impacts in <u>most</u> resource areas were projected to be minimal*"

- Please refer to your quote from 40 CFR 1508.7, which defines cumulative impact.

  "the impact on the environment from the incremental impact of the action when added to other past, present, and reasonably future actions regardless of what agency (federal of non-federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant action taking place over a period of time."
- What about the other areas not mentioned, are they impacted?

DOE Response:
Text in the EA was revised to clarify that impacts in all resource areas were found to be minimal. Consistent with the "sliding scale" approach recommended by CEQ and DOE, cumulative impacts are only discussed for those resource areas that are potentially of more concern, or where a small, but hypothetical, effect could be estimated. In no case would impacts from the proposed action, combined with those from other actions taking place concurrently or in the reasonably foreseeable future, be expected to result in a significant cumulative effect.

Comment: Section 7.0
Nez Perce Tribe was not formally consulted on this Environmental Assessment. (attach copy of NPT ERWM Consultation Process)

DOE Response:
Consultation under 36 CFR 800 was initiated with a cultural resources review for the proposed PSF construction site (Appendix A), which was provided to the Nez Perce Tribe via letter dated December 16, 2004. The Nez Perce Tribe was formally notified of PNSO's intent to prepare an EA through a letter dated March 23, 2006. As additional project information was developed, PNSO participated in regularly scheduled Cultural Issues meetings to provide information about the proposal and to solicit comments

and suggestions. On November 13, 2006, a copy of the draft EA was provided to the Nez Perce Tribe, and comments were solicited via those direct mailings to Tribal contacts as well as through local media. PNSO concluded that it met regulatory responsibilities for Tribal notification and review of environmental assessments as specified in 10 CFR 1021.301 (c) and (d).

Comment: Section 8.0
(Add reference to) DOE Native American Indian Policy

DOE Response:
Section 6 of the EA was revised to cite the DOE American Indian and Alaska Native Tribal Government Policy, and it was added to the reference list in Section 8.

Comment: Appendix A
- This review was conducted only on the parcel of land that would host the PSF. The other areas east of this site are not included in this review. An additional Cultural Resource Review needs to be conducted to address concerns with cultural property effects. "36 CFR 800"

- The Nez Perce Tribe is not a party to the MOA between U.S. DOE and the Washington SHPO regarding the adverse effects to the Richland Irrigation Canal. (Site H3-21) –signed 6/22/05

DOE Response:
Portions of the buffer area were surveyed for cultural resources in conjunction with a previous DOE NEPA review (Environmental Assessment for the Environmental and Molecular Sciences Laboratory at the Hanford Site, Richland, Washington, DOE/EA-0429). Other than maintenance of the existing fence surrounding a Tribal cultural site, DOE plans no disturbance or change to the existing land use within the buffer area. Therefore, it was concluded that additional cultural resources review is not required. If future activities are proposed that would potentially disturb cultural resources or change land use within the PNNL buffer area (including extension of the existing fence), DOE would comply with applicable regulations and requirements for consultation and protection of cultural resources.

The statement regarding the 2005 MOA is correct. However, the MOA was an agreement between DOE and the SHPO regarding management of the Richland Irrigation Canal; it was not intended to address any other sites of cultural and historic interest. Consultation under 36 CFR 800 was initiated when the cultural resource review for the proposed PSF construction site was provided to the SHPO and the Tribes, including the Nez Perce Tribe, via letters dated December 16, 2004 (Appendix A).

Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Department of Science and Engineering, Pendleton, OR

Comments received: January 5, 2007 (Letter dated December 26, 2006)

Because the letter was received after the close of the comment period for the EA, the comments are summarized in this appendix, and the following responses are provided to address major issues raised in the letter. The letter also discussed administrative and legal issues not directly related to NEPA requirements; only issues affecting the EA are addressed in this appendix.

Issue: "The serious natural resource and regulatory issues raised in the EA took more than 30 days to review, and have resulted in a lengthened time to compile our comments. … While we do not think that an entire EIS is required, these issues are too serious to simply be addressed by an EA with a short comment period. For example, we believe that another alternative or alternatives should be required that for example preserves the northern 2/3 of the triangle (which is prime old growth sage habitat), or uses previously disturbed areas by building part of the new facility behind the EMSL building (close to Stevens Bypass), and using the existing 300 Area and buildings for the radiological operations."

DOE Response:
PNSO thanks the CTUIR for their review and comments, and agrees that the impacts as presented in the final PSF EA do not warrant preparation of an EIS. The draft EA was distributed via letter on November 13, 2006, and the comment period extended through December 13, 2006. The 30-day period provided for comments exceeded the regulatory minimum of 14 days. At the request of the CTUIR, PNSO allowed additional time for them to survey the proposed construction site and submit comments after the close of the formal comment period.

PNSO did consider alternatives to the proposed action, which are discussed in Section 3.2 of the EA. As a result of a previous cost and feasibility screening (which is summarized and cited in Section 3.2), it was concluded that use of existing facilities, or construction of new facilities in alternate locations, was not reasonable because of cost or operational considerations. Therefore, a more detailed analysis of the environmental impacts of those alternatives did not appear to be required or warranted.

As part of the phased approach to constructing the PSF, PNSO is currently considering use of four serviceable facilities in the southern part of the 300 Area for some ongoing PNNL activities, over a period of up to 20 years. Implementing the phased approach as described in the EA would reduce the size of the initial phase PSF to about 70-75% of the full facility, but it would not completely eliminate the need for additional space to accommodate activities relocated from other 300 Area facilities in the near term.

The initial phase of new construction for the PSF would be sited near Horn Rapids Road, where the habitat has been previously disturbed. Much of the higher quality habitat at the north and west ends of the PNNL Site is expected to remain undisturbed, and any necessary disturbance to that habitat would be minimized to the extent practicable.

Issue: Relationship of the proposed action under the National Environmental Policy Act (NEPA) to requirements under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA) was not acknowledged in the EA review process. The proposed PSF construction site and buffer area are within a CERCLA operable unit that contains groundwater contamination. The property should not be reassigned to PNSO until it is better characterized for contamination. "We [the CTUIR] do not agree with a blanket dismissal of groundwater with the phrase 'did not identify any contaminants present in surface soil or groundwater that would require remedial action.' We have not seen data proving that this is a true statement."

DOE Response:
The proposed PSF construction site and the buffer area were previously evaluated for both surface and groundwater contaminants as part of the CERCLA process for the 300-FF-5 and 300-FF-2 operable units, and the results are documented in the interim records of decision (RODs) for those units (EPA 1996, 2001).

Nitrate in the groundwater underlying much of north Richland originates from offsite activities and was not identified as a contaminant of concern for the 300-FF-5 operable unit. The selected remedy in the 300-FF-5 interim ROD includes requirements for monitoring groundwater concentrations of uranium, tritium, and cis-1,2-dichloroethene, and requires that DOE maintain institutional controls to restrict groundwater use and minimize potential impacts on public health or safety (EPA 1996).

The portion of the PNNL Site located north of Horn Rapids Road is also a small part of the Hanford 300-FF-2 surface operable unit. Two waste sites located within this unit have been investigated as part of the CERCLA process. A CERCLA interim ROD (EPA 2001) concluded that there was no significant regulated waste at either waste site, and no further remedial action was required.

The EA provides general information about a proposal to remove the PSF construction site from the National Priorities List. Completion of that action would not be required in order for PNSO to proceed with construction of the proposed PSF. Section 4.7 provides information about the extent of contamination at the construction site, including the status of the CERCLA interim Records of Decision, and the fact that groundwater at the site is contaminated with nitrate at concentrations above drinking water standards as well as low levels of other contaminants. The text in Section 4.7 of the EA has been revised to clarify these points. Should partial deletion of the proposed construction site and buffer area be completed, that action would not preclude the requirement for cleanup if future conditions warrant (40 CFR 300.425(e)(3)). The Tribes would have additional opportunities for input when the site is proposed for partial deletion, or as part of the comment process during future CERCLA Five-Year Reviews.

Issue: "This section [5.1.3] is quite vague regarding stormwater and the apparently large footprint of trenches, drains, and catch basins that could be needed. There is no mention of storm water requirements or the non-point source contamination that could result."

DOE Response:
Section 3.1 of the EA provides general information about water runoff and spill management requirements, and pollution prevention and waste minimization measures that are expected to be implemented at the new facility to reduce the possibility of groundwater contamination. If required, the storm water management system would be registered with the Washington State Department of Ecology, and would incorporate Best Management Practices as specified by Ecology for commercial facilities of comparable configuration. Section 5.1.3 of the EA has been revised to include this information. With an average annual precipitation of about 16 cm (6.5 in) there is little potential for degradation of groundwater from storm runoff.

Issue: The proposed PSF construction site and buffer area contain natural resources that are valued by the CTUIR and which would be disturbed if the proposed action is implemented. The EA focuses on resources that are subject to regulatory restrictions (threatened and endangered species or critical habitat) and undervalues other resources that exist on the site. "We [the CTUIR] have not been apprised of any natural resource surveys. In fact, the biological surveys were superficial and incorrect... No ecological survey has been undertaken in the buffer area that seems to be part of this EA."

DOE Response:
The proposed PSF construction site was extensively surveyed by biologists each year for the past 4 years, and the results of those surveys are summarized and cited in the EA. The surveys were performed by experienced professional biologists familiar with the site, and they identified all plants and

animals observed within the area. The most recent review is included in Appendix B, and the other reviews cited in the EA are available at the WSU-TC DOE Public Reading Room, or from the PNSO document manager at the address listed in the EA.

DOE is required to identify threatened or endangered species where they may exist in the region of influence for a proposed action, but that does not imply that impacts on other resources are not noted or considered. Restricting construction to avoid the bird nesting season, as discussed in Section 5.1.6 of the EA, would limit direct impacts to all nesting birds, including species that are federal species of concern, Washington State candidate species, or that are protected under the Migratory Bird Treaty Act. That restriction was not primarily intended to mitigate habitat loss. However, PNSO will minimize disturbance of the higher quality habitat in the northern and western portion of the construction site to the extent practicable.

There are no plans to develop the buffer area east of the PSF construction site as part of the proposed action. Therefore, no additional surveys for biological resources within the buffer area are required or planned. If DOE proposes activities that would disturb the buffer area in the future, it would comply with applicable requirements for consultation and natural resource protection.

Issue: DOE should mitigate construction damage to natural resources according to provisions of the Hanford BRMaP and BRMiS. "The entire 'triangle' must be mitigated even if the square footage of the tangible footprint is somewhat less than this. The ecological footprint is even bigger than the 'triangle' since it effectively breaks the only corridor to the river for many miles."

DOE Response:
The Hanford Biological Resources Management Plan (BRMaP) and Biological Resources Mitigation Strategy (BRMiS) apply to operations on the Hanford Site managed by the DOE Richland Operations Office. Although application of those documents to PNSO activities is not mandatory, they were used as guidance and policy documents in planning construction operations. Various types of protective measures described in the BRMiS would be employed during construction of the PSF where practical for the smaller PNNL Site. For example, habitat removal at the PNNL Site will occur at a time when the bird nesting activities will not be disturbed. Following completion of each phase of the PSF on the PNNL Site, landscaping will include hardy, drought-tolerant native plants suitable to the region.

There is a corridor immediately north of the proposed construction site that is expected to remain undisturbed, and that would provide a route for movement of wildlife (Figure 3.1). If additional fencing is installed in the future, it would not encompass the entire corridor, and therefore would not present a barrier to wildlife movement.

Issue: Reassignment of the proposed buffer area to PNSO should not take place unless requirements for protection of natural resources are implemented and implications for boundaries and oversight are understood. The reassignment "must come with a covenant to preserve the entire rest of the area between George Washington Way and the current surface fence of the 300 Area. It must also come with funding for intensive restoration to be conducted by CTUIR and/or the NRTC [Natural Resources Trustee Council] (not by PNNL)."

DOE Response:
The boundaries of the proposed construction site and buffer area are shown in Figure 3.1 and further defined in Sections 3.1 and 5.1.1 of the EA. Reassignment of the proposed PSF construction site from the DOE Office of Environmental Management to the DOE Office of Science was completed in 2004. Reassignment of the buffer area is currently in progress. Neither Council on Environmental Quality (CEQ) nor DOE NEPA procedures require a documented NEPA review for property reassignments within DOE where proposed use of the property would not change. Use of DOE property within the buffer area, including provisions for Tribal access to culturally significant areas, would not change as a result of activities proposed in the EA. The property is part of the DOE Hanford Site and has served as a buffer to provide separation between operations in the 300 Area and the Site boundary since the 1940s. As proposed in the EA, the property would continue to serve the same purpose as a buffer between PSF operations and the PNNL Site boundary.

Issue: "We absolutely and strenuously object to labeling this parcel as being designated as Business-Research Park and Richland Urban Growth areas. … The importance of natural and cultural resources in this parcel are so great that it is incomprehensible how DOE could make this assertion…"

DOE Response:
The discussion in Section 4.1 of the EA referred to land use designations by the City of Richland, rather than by DOE:

> *"Under the City of Richland Comprehensive Plan Land Use Designation, as amended December 2005 (City of Richland 2005a), future land use for the PSF construction site is designated as "Business/Research Park," and the buffer area is designated as a mix of "Business/Research Park," "Commercial," and "Low Density Residential."*

The concern is noted. However, DOE is required by NEPA to evaluate proposed actions for compatibility with land use plans established by local governing agencies. PNSO intends to maintain ownership and use of the property as described in the EA for the foreseeable future. If DOE proposes to change its use of the area, it would comply with applicable requirements for consultation and protection of natural and cultural resources.

The potential historic and cultural significance of Tribal sites within the buffer area has been recognized by DOE. In the Record of Decision for the 1999 Hanford Comprehensive Land-Use Plan EIS, DOE designated land use for the site of cultural significance as Preservation. That designation protects unique resources and requires active management practices to preserve existing resources. When the buffer area is reassigned from the Hanford Site to the DOE Office of Science, PNSO intends to abide by the protective designation for this site. Section 4.1 has been revised to correct the apparent inconsistency and to clarify that culturally significant sites in the buffer area fall within the designated Preservation area.

Issue: "This section [5.1.10] includes the first mention of 36 acres of landscaping irrigation. … No mention of xeriscaping is made, or the preservation of habitat between buildings."

DOE Response: *Landscaping would use plants suitable to the Mid-Columbia region. The plant selection would include hardy, drought-tolerant plants for ease of maintenance and to minimize the need for pesticide and herbicide applications.*

Issue: Disturbance of natural resources within the PSF construction site and the buffer area would have "adverse and disproportionate impacts on minority populations (us) because our Trust resources would be irreparably lost. … No other demographic or socioeconomic group suffers this loss."

DOE Response:
Environmental justice concerns would arise where there was potential for high and disproportionate impacts to members of minority and low income groups. PNSO recognizes that individuals may place differing values on various resources. However, because impacts resulting from activities proposed in the EA were small in all cases, there would be no opportunity for both high and disproportionate adverse impacts on minority and low income populations.

Issue: Disturbance of natural resources within the PSF construction site constitutes a significant cumulative impact on these resources within the region.

DOE Response:
PNSO recognizes that any new development within the region could contribute to the loss of natural resources. As noted in the EA, Section 5.1.1, construction could disturb up to 32 ha (82 ac) near the southern end of the proposed construction site, much of which has been previously disturbed and which is separated from nearby habitat by major roads. Compared to 586 square miles (152,000 ha) of similar habitat within the adjacent Hanford Site (of which over 90% has remained relatively undisturbed), construction of the PSF was not considered to constitute a significant cumulative impact.

Cumulative impacts were addressed in the EA, consistent with regulatory requirements in 40 CFR 1508.7 and the Council on Environmental Quality's (CEQ) guidance. The CEQ regulations regarding cumulative impacts are intended to identify cases where impacts from several individually minor actions could together result in a significant cumulative impact, which is not the case for the proposed action discussed in the EA. CEQ further advises that:

> *"The continuing challenge of cumulative effects analyses is to focus on important cumulative issues, recognizing that a better decision, rather than a perfect cumulative effects analysis, is the goal of NEPA and environmental impact assessment professionals."*

Consistent with the "sliding scale" approach recommended by CEQ and DOE, cumulative impacts are only discussed for those resource areas that are potentially of more concern, or where a small, but hypothetical, effect could be estimated. In no case would impacts from the proposed action, combined with those from other actions taking place concurrently or in the reasonably foreseeable future, be expected to result in a significant cumulative effect.

Issue: Neither the CTUIR nor the NRTC were consulted regarding the proposed action.

DOE Response:
Consultation under 36 CFR 800 was initiated with a cultural resources review of the proposed construction site (Appendix A), and the results of the review were provided to the CTUIR via letter dated December 16, 2004. The CTUIR was formally notified of PNSO's intent to prepare an EA through a letter dated March 23, 2006. As project information was developed, PNSO participated in regularly scheduled Cultural Issues meetings to provide information about the proposal and to solicit comments and suggestions. Plans for development of the PNNL laboratories have also been provided regularly to local news media. On November 13, 2006, a copy of the draft EA was provided to the CTUIR, and comments were solicited via those direct mailings to Tribal contacts as well as through local media. PNSO concludes that it met regulatory responsibilities for Tribal notification and review of environmental assessments as specified in 10 CFR 1021.301 (c) and (d).