

From: <SargentsPigeon@aol.com>
To: <mxb6@nrc.gov>, <nrcprep@nrc.gov>
Date: Thu, Oct 27, 2005 9:58 AM
Subject: USEC DEIS Comments

Matthew Blevins
Nuclear Regulatory Commission

Dear Mr. Blevins,

Attached are the attachments to my comments on DEIS NUREG-1834.

I've had two problems. One is getting the file to transmit given the large file size. I've been trying to send most of the night but as I have a dial-up connection only, it's very difficult and keeps quitting. Please be understanding.

Second, I have two other imposing deadlines this week....the appeal of the ASLB ruling in the USEC case was due Monday and new contentions as per the ASLB ruling are due very shortly. I did call on Monday and received an extension but am afraid it will take another day to get my full comments in. Attached are the attachments only, not the text. If for some reason you cannot accept the text, I still wish the attachments submitted...they are self explanatory as they contain mainly letters from others pertaining to historic and cultural resource issues.

I will send the text ASAP.

You will note that the first item is a DEIS comment from Professor Robert Proctor at Stanford. Unfortunately, Dr. Proctor made the mistake on Monday of e-mailing his comment to me instead of to NRC, and I did not realize it until Tuesday, when he was already on a plane to Germany. Therefore please accept his testimony as timely. His e-mail address is included. Other contact info. can be provided if necessary.

Thanks for your consideration,

Geoffrey Sea
The Barnes Home
P.O. Box 161
Piketon, OH 45661
Tel: 740-289-2473
Cell: 740-835-1508
E-mail: SargentsPigeon@aol.com

09/08/05

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Subject: USEC DEIS Comments
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Recipients

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Files	Size	Date & Time
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TEXT.htm	4494	
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Index to Attachments submitted by Geoffrey Sea

(note: Exhibit designations refer to exhibits submitted to NRC as attachments to Geoffrey Sea's petition for intervention and subsequent filings)

1. DEIS Comment of Robert Proctor, PhD., Professor of History, Stanford University, 10/24/05
2. Map of Historic Sites in relation to American Centrifuge Project created by Petitioner Geoffrey Sea.
3. Exhibit B. Statement of Charles W. Beegle, former Professor of Education at the University of Virginia, widower of Jean Rittenour and owner of the historic Rittenour Home and Scioto Trail Farm that adjoins the DOE reservation in Piketon.
4. Exhibit E. Statement of Jerome C. Tinianow. Executive Director of Audubon Ohio and Vice President of the National Audubon Society.
5. Exhibit F. E-mail correspondence from Roger G. Kennedy, former director of the National Park Service and Director Emeritus of the National Museum of American History, author of *Hidden Cities: The Discovery and Loss of Ancient American Civilization*.
6. Exhibit H. Statement of John E. Hancock, Professor of Architecture and Associate Dean at the University of Cincinnati, Project Director of "EarthWorks: Virtual Explorations of the Ancient Ohio Valley"
7. Exhibit M. Letter from Linda A. Basye, Executive Director of the Pike County Convention and Visitors Bureau, 10/21/04
8. Exhibit N. Statement of Karen Kaniatobe, Tribal Historic Preservation Officer of the Absentee Shawnee Tribe of Oklahoma in Shawnee, Oklahoma.
9. Exhibit O. Plate XXIV from Ephraim Squier and Edwin Davis, *Ancient Monuments of the Mississippi Valley*, 1848.
10. Exhibit Q. Statement of Thomas F. King, preservation consultant, author of four books on federal preservation including *Federal Planning and Historic Places: the 106 Process*
11. Exhibit V. Statement of Thomas F. King, preservation

consultant, author of four books on federal preservation including *Federal Planning and Historic Places: the 106 Process*, dated March 30, 2005.

12. Exhibit W. Letter from Chief Hawk Pope, Shawnee Nation, United Remnant Band, undated, received March 29, 2005.

13. Declaration by John Hancock, Frank L. Cowan, and Cathryn Long Regarding August 5, 2005 Visit to GCEP Water Field

14. Photographs in order: 1. The Barnes Home close-up, 2. The Barnes Home landscape 3. Surviving remnant of the Barnes Works, 4. View of the Scioto River at the point where the creek of the Barnes Works joins it, which USEC and NRC say "is not a scenic river" 5. The kill-site of the Sargents Pigeon (remnants of the home where Press Clay Southworth lived in 1900)

15. Photograph of ACP Buildings across fence-line of Barnes Home property (previously provided.)

Comment on the Draft Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio

By Robert N. Proctor, PhD.

Submitted Oct. 24, 2005

I am Professor of the History of Science at Stanford University, and a tenured member of the faculty of the History Department at that University. I hold a doctoral degree in the History of Science from Harvard University and am the author of four books on the history of science, dozens of articles in peer-reviewed academic journals, including historical, scientific, and medical journals. I have won several prizes for my academic scholarship, including the Visel tear Prize from the American Public Health Association and the American Anthropological Association. I have held fellowships from the Guggenheim Foundation, the National Science Foundation, the National Institutes of Health, the Holocaust Memorial Museum in Washington, D.C., the Max Planck-Institute for the History of Science in Berlin, the National Library of Medicine, the Howard Foundation, the Hamburg Institute for Social Research in Germany, the National Center for Human Genome Research, the National Endowment for the Humanities, the Center for Advanced Study in the Behavioral Sciences at Stanford, the American Council of Learned Societies, the Andrew Mellon Foundation, the Woodrow Wilson Foundation (Charlotte W. Newcome Fellow), and the Shelby Cullom Davis Center for Historical Studies at Princeton University. I am also an elected Fellow of the American Academy of Arts and Sciences, the oldest scientific academy in the U.S., founded in 1780 by John Adams, John Hancock, and other American scholar-patriots.

I have visited the Piketon facility and am familiar with the historic and cultural value of the overall site, and the history of the uranium enrichment processes that have been operated there since the 1950s. I am also familiar with the work and writings of Mr. Geoffrey Sea, resident in the Barnes Home in Sargents, Ohio. I have reviewed the "Historic and Cultural Resources" section and the corresponding "impacts" and "alternatives" sections of the Draft Environmental Impact Statement for the facility.

I want to briefly note here my disappointment with the NRC assessment of the potential historical and cultural impacts of the proposed centrifuge facility. The report repeatedly states that the expected impacts to historical and cultural resources of the proposed facility are "small," "insignificant," negligible," etc., when in fact we can expect the impact to be very significant.

Historians in recent years have become increasingly aware of the importance of preserving the integrity of historic and prehistoric sites, this includes protection of such sites in their landscape settings from noise, visual insults, traffic, access obstacles, commercial development, intrusion from physical and electronic security, threats to the safety of visiting members of the public, "aesthetic" or psychological impacts that might discourage tourism, and many other factors, and these concerns have been reflected in strengthened federal legislation and regulation starting with the 1966 National Historic Preservation Act. Sites such as Gettysburg and other parks valued for their historical significance have resisted efforts to compromise such values, and here, in Piketon, we have an instance where there is a threat of significantly

compromising unique historical and cultural values by going ahead with construction, operation and eventual decommissioning of the centrifuge facility.

In his published writing, with a rather unique literary style, Geoffrey Sea exemplifies a certain model of history that sees historical persons and events as interwoven over long spans of time. The locale of what used to be called Sargents, Ohio, has become a model for his analysis, and an ideal one, for the various individual locations in close proximity in Sargents weave together in that seamless fabric we call history.

Historians will be troubled by the shallow and cavalier treatment offered by NRC Staff's assessment of the impact of this proposed plant on historical and cultural resources. The site of the last passenger pigeon slaying and the Barnes family experience and homestead, together with the important earthworks, and the recently-closed Gaseous Diffusion Plant could be part of an important public historical site with both educational and recreational value. The integrity of this site must be protected for future generations; indeed it is precisely the kind of site our preservation laws are designed to protect.

The Barnes Home is at the center of this matrix, for the Barnes family brought to world attention the enormous prehistoric earthwork complex to the west of the house, which became known as the Barnes Works. South of the home is the kill-site of the last known wild passenger pigeon, which was mounted in the home. North is the Sargent Home, which was occupied by a family that married into the Barnes clan and brought Abraham Lincoln in to view the earthworks. East of the home is the centrifuge plant, close to the excavated site of a burial mound that became a waste pit for the Department of Energy; and the X-326 building, which has historic value as America's only dedicated facility for the production of bomb-grade uranium.

It makes no sense to analyze these locations individually, as is done in the DEIS, neglecting some of them entirely, at each step blind to the historic panorama that links and surrounds. That's an approach that intends to be dismissive of discovered impacts, and dismiss them it does, cutting the historical matrix into little segregated insignificant bits.

For example, the earthwork discovered at the Well Field site is considered separately from discussion of the Scioto Township Works (Barnes Works), even though a glance at the map and a consideration of known Hopewell patterns of construction leads to a reasonable conclusion that these once were connected. (Eminent historian Roger Kennedy has in fact suggested that they were connected and that the Great Hopewell Road extended through the Barnes Works in his book, *Hidden Cities: The Discovery and Loss of Ancient North American Civilization*, Free Press, 1994.)

Too, there is no suggestion from the DEIS that the Barnes Home and the Barnes Works have any connection whatsoever, as absurd as this segregation is on its face. The DEIS enforces this segregation by using the term "Scioto Township Works" – though "Barnes Works" was the name used in the last extensive survey and description by Gerard Fowke in *The Archaeological History of Ohio*. The name "Barnes Works" is also least confusing since the historical name, "Seal Township Works," no longer corresponds to the township jurisdiction.

NRC apparently would not like to acknowledge that the building where bomb-grade uranium was produced and the extinction of the passenger pigeon might have any connection. But they are connected, and that connection served as the basis for Geoffrey Sea's long meditation on extinction and survival published in the *American Scholar*, "A Pigeon in Piketon." At the end of that piece, which was published before USEC chose Piketon as site for its centrifuge plant, Mr. Sea proposed that the X-326 building, now awaiting decommissioning, be

dedicated as a monument to the passenger pigeon.

This is a serious proposal for a number of reasons. First, there is no national memorial to the passenger pigeon, though the species was the most abundant vertebrate species on the continent and its passing is considered to be the exemplar of man-made extinction. The famous ecologist Aldo Leopold erected an extraordinary monument at the site of the last passenger pigeon kill in Wisconsin. A national monument rightfully should be located at or near the last kill site of all, in Sargents. Arguably it has not happened only because that location was not precisely known. But now Mr. Sea has found it, within a mile or two of X-326 and the Barnes Home, and that is of paramount importance to environmental history.

Second, there are no current plans for the X-326 building, which may not be easily demolished owing to the high degree of radioactive contamination inside. Entombment of the building might be the only technically viable and cost-effective solution, and if safe entombment can serve the larger purpose of a national monument, as a structure to spur reflection upon the folly and avarice of Man, so much the better. That is the essence of Mr. Sea's proposal, as was perhaps anticipated by Aldo Leopold when he wrote, in 1949, in *A Sand County Almanac*, of human superiority lying in our capacity to remember and mourn the passenger pigeon, "rather than...in Mr. Vannevar Bush's bombs."

Remembrance and memorial are at the vanguard of historical thinking and historical preservation at the moment. I have served as an advisor to the Holocaust Museum, which set the trend, and there is now an active program, sponsored in part by the Department of Energy, to memorialize the cold war and Manhattan Project sites around the nation. Mr. Sea's proposal should be analyzed in the context of this program.

Which obviously is inconsistent with licensing and completion of USEC's centrifuge plant. The USEC plant would sit in between the Barnes Home and the X-326 building, physically obstructing the possibility of connecting these locations as a memorial site and visitor attraction. How on earth can that be considered as minimal impact?

The potential for a historical landmark site that encompasses the kill-site of the Sargents Pigeon, the Barnes Works, the Sargent and Rittenour homes, and the X-326 building – with the Barnes Home at its center – is great. But only if there is no centrifuge plant at the middle of it, obstructing passage with security fences, scaring visitors away with the potential for catastrophic events and toxic releases, obviating the memorial message that we have learned our lesson to overcome folly and greed.

The building and operating of a uranium enrichment plant right over the fence-line from the Barnes Home will severely impact prospects for a public center to develop this as a place for education, tourism, and long term commemoration. Archaeologists here at Stanford and elsewhere are developing models for how this can be done at sites designated by UNESCO as being of historic significance.

Threats to this integrated set of sites from construction of the centrifuge plant are of several types, including (but not limited to): fences; roads; traffic; security surveillance (including security gates and closed access to some roads); restrictions on movement; diminishment of attractiveness to visitors; risk of terrorist attack (keeping people away); compromises from noise; diminishment of the aesthetics of the site, public worries (real or justified) to the dangers of uranium enrichment near such a site, just to name a few; vulnerability of buildings, land and people to catastrophic accidents, toxic emissions and potential damage from decontamination activities. The USEC report does not grapple with the potential impacts in

a way that is historically responsible.

There is no evidence from the DEIS that NRC actually studied these impacts on-site, only that lots of papers were shuffled to rule out impacts by fiat of definition. For example, did NRC staff visit the Barnes Home to see if the ACP site activities could be heard at night? (Mr. Sea reports they can.) Did NRC staff visit the Barnes Home at all, or the kill site of the Sargents Pigeon, or the Sargent Home? (Apparently not.) Did NRC consult any experts on the development of historic commemoration sites? (Apparently not.)

The DEIS contains another fundamental flaw in its approach to assessing impact in that it compares life with the centrifuge plant to life as it exists today. If this were a green-field site, that would be a proper approach, because, if the plant were not built, the green-field would continue on as is, as far as we know.

In this case, however, the massive Gaseous Diffusion Plant on the site has just shut down. The site is now maintained by DOE as a production site, with all the attendant apparatus of infrastructure and security, in anticipation of USEC's plant. Thus it is a tautology that the centrifuge plant will have little impact on a site already in preparation for a centrifuge plant.

But if the plant is not licensed and built, then the site will not be a DOE production site any longer. It would revert to cleanup, environmental restoration, and alternative use, as has occurred at other closed DOE production plants like Fernald and Rocky Flats. Site ownership would pass from DOE to the Department of Interior, and DOI would implement a mixed-use development plan for the site as it has done elsewhere. That near future must be the baseline for comparison in any impact assessment, under both NEPA and NHPA.

Substantial potential exists for the development of historical attractions, tourism, and sites of economically sustained commemoration at Sargents. It is not true, as NRC reports, that "the impacts to historic and cultural resources identified onsite and around the site's perimeter would be small" (p. 2-38). The combination of the three historic homes of the Barnes, Sargent and Rittenour families, the Scioto River history, unique geological features, the passenger pigeon history (centered on the Barnes home), and the long-standing Native American presence--including a number of significant prehistoric earthworks--make this a site of substantial historical importance. There is an integrity to these various historical and cultural aspects taken together that is not reflected in the DEIS; these sites have to be evaluated as a whole.

I have visited the Piketon site, and have some understanding of its history and integrity. I have consulted with Mr. Sea, and have confidence in his assessment of the potential historic value of this site, and the threats posed to it by the expansion of the USEC facility. Mr. Sea has lectured at Stanford University on his research into this topic, and there is strong interest here and elsewhere in the story he has to tell. I should say that I was surprised--astonished in fact--to find his name not even mentioned in the DEIS, despite the fact that he knows more about the cultural history of this area than anyone alive. Mr. Sea has done important work evaluating the history and significance of this site, and it is absolutely essential that he be consulted in any effort to assess the potential impact of the centrifuge construction.

In conclusion, this site must be considered as an integrated whole, and should not be looked at piecemeal. Our federal preservation laws require that sites under consideration be studied for potential impacts on historical and cultural value, and the draft EIS certainly does not do an adequate job in exploring that potential impact.

Robert N. Proctor
Professor of the History of Science
Stanford University

e-mail: rproctor@stanford.edu

Map of Historic Sites in relation to American Centrifuge Project created by Geoffrey Sea. This map shows the historic sites as they once existed in conjunction with the current and proposed buildings of the ACP. It is intentionally anachronistic to give a sense of respective locations and distances. This map has been updated on the basis of new information as of 10/24/05.

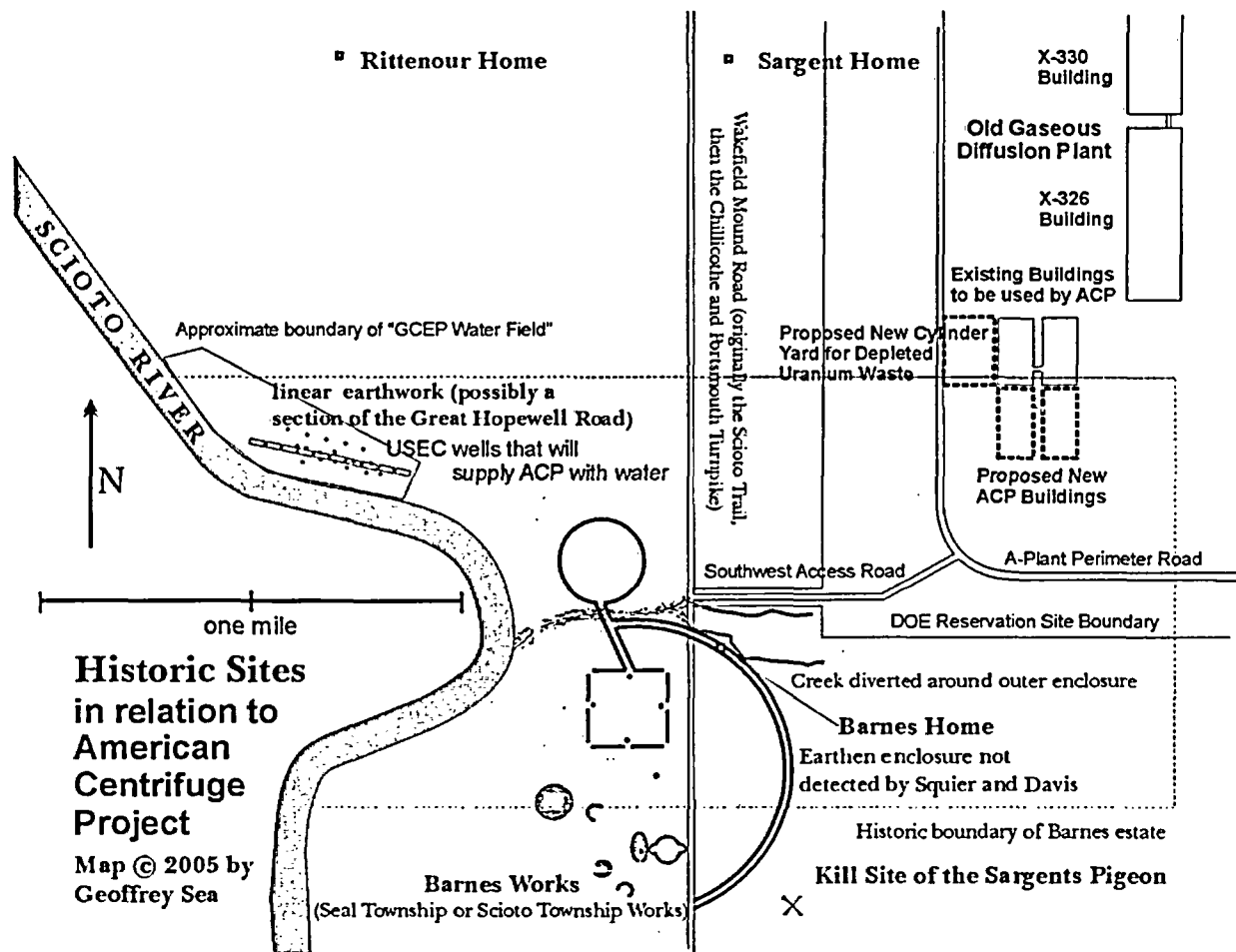


Exhibit B
[hand-written original transmitted via facsimile]

Brookhill Farm
2163 Scottsville Rd.
Charlottesville, VA 22902
27 February 2005

Nuclear Regulatory Commission

To Whom it may concern

Re: Piketon, Ohio Centrifuge Operation

As a neighboring landowner, I raise the following concerns about the expansions of the centrifuge operation at the Piketon, Ohio Plant.

1. I own the Scioto Trail Farm on State Route 23. Presently the farm is approximately 370 acres. The major portion is on the west side of State Route 23 and goes to the Scioto River.

2. The farm has been in my wife's family for generations. The Rittenours, Seargents, and Barnes were influential in the history of the Scioto Valley. From the oral history of the indian culture of the Scioto Valley, stories are told of the indian foot races along the lower portion of the farm. The historic nature of the property should qualify it for the National Historic Registry.

3. During 1966, the NHPA legislation was passed which mandated that government agencies had a moral and legal obligation to weigh the impact that projects have on historic surroundings. The government took 31.421 acres for a permanent easement in 1982. This was for a well field along the Scioto and for pipe lines and a road. Never was the NHPA legislation addressed.

4. At one time the farm was over five hundred acres. The DOE took a large portion of the farm during the early 1950s. There was a great projection on the financial benefits and jobs that would be gained with the nuclear energy project. The only thing that it did was ruin a once beautiful farming valley. There are few, if any, large landowner farmers remaining on their land. From my perspective, the plant has been a detriment and enlarging it will continue that degradation. In the process, it will destroy more Hopewell Indian relics and more of the early history of Ohio will be lost.

5. As an out of state land owner, I was not aware of the enlargement of the centrifuge plant. I would have objected earlier. This letter is written in support of Geoffrey Sea's intervention.

Sincerely,

Charles W. Beegle

Exhibit E. Statement of Jerome C. Tinianow, Executive Director of
Audubon Ohio and Vice President of the National Audubon Society

Audubon Ohio
692 North High Street, Suite 303
Columbus, OH 43215-1585
Tel: 614-224-3303
Fax: 614-224-3305
www. Audubon.org

February 24, 2005

Dear Friends,

I am the Executive Director of Audubon Ohio, a conservation and wildlife advocacy organization with over 14,000 members throughout the state, some of whom live in and around Pike County, Ohio. We currently have 18 past and present donors living in Piketon itself.

Audubon Ohio is the Ohio office of the National Audubon Society, a 100-year-old conservation organization with over 400,000 members nationwide. Our mission is to conserve and restore ecosystems, focusing on birds, other wildlife and their habitats, for the benefit of mankind and the Earth's biological diversity. Geoffrey Sea is one of our members.

In pursuit of our mission, Audubon Ohio and the National Audubon Society believe it is important to protect, preserve and commemorate sites that have a special place in the history of conservation and ecology. Two such sites are in Pike County, where the last passenger pigeon ever sighted in the wild was shot by Press Clay Southworth on March 22, 1900. Over the years, investigators have tried to locate the precise scene of the shooting, without success until Geoffrey Sea did find the former residence of the Southworths and the nearby Sargents Grain Mill along Wakefield Mound Road, approximately one mile south of the A-Plant southwest access road. An affiliated site is the Barnes Home at 1832 Wakefield Mound Road, where the bird was mounted and displayed between 1900 and 1915, when it was donated to the Ohio Historical Society. The specimen is now prominently displayed at the OHS Museum in Columbus.

The extinction of the passenger pigeon, once the most populous bird in the world, over the course of a single century, is generally regarded as the most important and most instructive of all extinctions made by man. That is one reason that preservation and commemoration of the Pike County sites are so crucial. The other reason is that this is the only place on earth where the slaying of the last-seen wild survivor of a species has been located. The sites should be preserved so that they can be properly marked and made available for public education. At the scene of the last passenger pigeon shooting in Wisconsin, the

great American ecologist Aldo Leopold erected a famous bronze statue. Pennsylvania also has its passenger pigeon memorial, erected by the Boy Scouts of America at Pigeon Hills. The proper place for a national memorial is in Pike County, Ohio, as proposed by Geoffrey Sea in his essay in *The American Scholar*.

John James Audubon himself was moved to conservation activism by his witness of pigeon hunts, and his description of them stands as one of the earliest and most compelling bits of ecological writing. Audubon described a raid on a nesting of passenger pigeons this way:

"The tyrant of the creation, man, interferes, disturbing the harmony of this peaceful scene. As the young birds grow up, their enemies, armed with axes, reach the spot, to seize and destroy all they can. The trees are felled, and made to fall in such a way that the cutting of one causes the overthrow of another, or shakes the neighbouring trees so much, that the young Pigeons, or squabs, as they are named, are violently hurried to the ground. In this manner also, immense quantities are destroyed." (John James Audubon, *Bird Biographies*, "The Passenger Pigeon.")

The proposed construction and operation of a uranium enrichment plant at the southwest corner of the Department of Energy reservation would impact these historic sites and potential future projects in a number of ways. The location of the new enrichment plant borders on the Barnes Home property, and some of the land was originally taken from the Barnes estate. Safety and environmental fears, along with the conspicuous security regime, if not crafted with sensitivity to the historic importance of the neighboring property, could certainly deter public visitation to and appreciation of the historic sites.

The National Historic Preservation Act provides mechanisms for averting and ameliorating such impact. Unfortunately, the Department of Energy has not complied with its obligation to implement the various provisions of the act, creating now a monumental challenge for how to bring the proposed project into accord with federal preservation law.

Audubon Ohio supports Geoffrey Sea's intervention in this case. There must be an advocate for preservation and ecological interests involved in the proceedings.

Sincerely,

Jerome C. Tinianow
Vice President and Ohio Executive Director

Exhibit F. Statement of Roger G. Kennedy, former director of the National Park Service and Director Emeritus of the National Museum of American History, author of *Hidden Cities: The Discovery and Loss of Ancient American Civilization*

Subject: Intervention support
Date: 2/24/2005 12:20:18 PM Eastern Standard Time
From: roger@rkennedy.net
To: GeoffreySeaNYC@aol.com

To the Commissioners, Secretary and Atomic Safety and Licensing Board of the US Nuclear Regulatory Commission and to Whom it May Concern.

I am traveling away from home and letterhead, lecturing at Stanford University and for a group of private foundations in San Francisco. However, I wish to use this electronic means to support the intervention of Geoffrey Sea in the USEC American Centrifuge Plant licensing action.

Mr. Sea is entirely correct as to the importance of the Barnes works to American history and to our living cultures. It is among the half-dozen most important pre-Columbian sites in the Ohio Valley, and when more work is done on it by competent archaeologists it may turn out to be among the half dozen most important in the United States. If the people of Louisiana can save Poverty Point, and the people of East St. Louis can save Cahokia, surely the more affluent people of Ohio can rally to protect their heritage from desecration. The balance is hardly even between a mere adjustment for convenience of an atomic energy plant which can go anywhere within a hundred mile radius, and a precious place with no equals, no counterparts, and no chance of replication. This generation would be disgraced if further damage were done to an inheritance from the ages. The Barnes site must be saved.

For that to happen, it might be well for the site ultimately to be placed in responsible public hands, such as the National Park Service or the Ohio State Park System, or within the jurisdiction of the United States Forest Service.

I would be happy to verify the authenticity of this commendation by responding to an email sent the sending address.

Roger G. Kennedy

Director Emeritus, National Museum of American History

Former Director, the United States National Park Service

Exhibit H. Statement of John E. Hancock, Professor of
Architecture and Associate Dean at the University of Cincinnati,
Project Director of "EarthWorks: Virtual Explorations of the
Ancient Ohio Valley"

University of Cincinnati
College of Design, Architecture, Art, and Planning
Office of the Dean
P.O. Box 210016
Cincinnati OH 45221-0016

Phone (513) 556-4933 / Fax (513) 556-3288
Web <http://www.daap.uc.edu>

February 21, 2005

To: The Commissioners, Secretary and Atomic Safety and Licensing
Board of
the US Nuclear Regulatory Commission, and Whomever it May
Concern

From: John E. Hancock, Professor of Architecture and
Associate Dean
Project Director "EarthWorks: Virtual Explorations of the
Ancient Ohio Valley"

Re: Support of the Intervention of Geoffrey Sea in the USEC
American Centrifuge Plant licensing action.

One of North America's richest prehistoric legacies lies
mostly buried or destroyed, and nearly invisible, beneath the
modern landscapes of southern Ohio. The first settlers in this
region stood in awe, amidst the largest concentration of
monumental earthen architecture in the world. These included
effigies like the Great Serpent Mound, and hilltop enclosures
like Fort Ancient; but the most spectacular were the many
embankments and enclosures formed into huge, perfect, geometric
figures. Two centuries of archaeological research have shown
that these were created by ancient Native cultures dating back as
far as about 2000 years.

Apart from three of these figures at Newark, Ohio (two
circles and an octagon), no others exist in complete, visible
form, though several survive in ways still useful to
archaeological research. The circle-and-square at Piketon, also
known as the Barnes Works or the Seal Earthworks, despite its
scant remains, is significant for several reasons:

- it is among the least known or investigated to date by
archaeologists;

- its double-figure shape links it to two of the most
culturally-revealing earthworks that have been investigated
(Newark and High Bank), suggesting similarly-precise astronomical
functions akin to those at Stonehenge;

- it is at the center of the thickest concentration of these works, between Portsmouth and Chillicothe, undoubtedly part of a culturally important series, and possibly linked by an extension of "The Great Hopewell Road";

- through its connections with the Barnes family it holds special significance in the history of the State of Ohio, its early links to Virginia, and the early importance of its earthworks in the birth of American archaeology and national identity;

- it may include as part of its design a heretofore unrecorded earthen circle, of a size unknown anywhere else in the world.

The preservation of this site has at least two major benefits:

- it will enable the continuing study of a unique asset from this ancient Ohio Valley culture, now beginning to make its way back into the public consciousness in our region and beyond.

- it will strengthen the resource base for the increasingly-lucrative cultural heritage tourism industry and its associated high-quality, non-intrusive economic development in southern Ohio.

The goal of our multimedia "EarthWorks Project" is make these hidden or vanished sites visible again, and offer them in new ways, to new audiences, in new electronic media such as museum exhibits, computer discs, and a Website. Three times funded in this work by the National Endowment for the Humanities, we have confirmed the national cultural and historical significance of this ancient culture and their spectacular architectural monuments. Numerous inquiries from Europe attest to the international significance of this unique Ohio heritage, and public awareness and interest here at home is also clearly increasing.

The opportunity to preserve a unique resource that sheds light on our predecessors in this valley should not be missed.

Yours sincerely,

John E. Hancock

Exhibit N. Statement of Karen Kaniatobe, Tribal Historic
Preservation Officer of the Absentee Shawnee Tribe of Oklahoma

Absentee Shawnee Tribe of Oklahoma
Cultural/Historic Preservation Department
2025 S. Gordon Cooper
Shawnee, Oklahoma 74801-9381
(405) 275-4030 Fax: 405-878-4533

February 24, 2005

RE: Support of Geoffrey Sea's intervention in the USEC
American Centrifuge Plant Licensing Action

To the Commissioners, Secretary and Atomic Safety and
Licensing Board of the US Nuclear Regulatory Commission and
to Whom it May Concern:

I am writing in support of the intervention of Geoffrey Sea
in the USEC American Centrifuge Plant licensing action. I am
the Tribal Historic Preservation Officer for the Absentee
Shawnee Tribe. Our interest in supporting Mr. Sea is based
on the fact that Ohio is part of our ancestral homelands.
Through historical research we have identified a number of
village sites in the Ohio Valley. In fact, quite a few are
located along the Scioto River. Furthermore, if you look at
a map, you will notice that the names of towns, cities and
counties reflect the Shawnee's historical presence within
the state of Ohio.

We are part of the Algonquian family of Native American
peoples, and the Algonquian tribes of the Ohio/Great Lakes
region are collectively believed to be descended from the
culture called Ft Ancient. In turn the Ft Ancient are
considered descendants of the Hopewell culture. The people
of the Hopewell Culture built the many astounding geometric
earthworks, including those called the Barnes Works in
Scioto Township.

All of the historic and prehistoric sites in the region of
Scioto Township have great meaning and significance. The
Barnes Works, being one of the largest and most beautiful
prehistoric architectural works in North America, is a site
that has already suffered desecration and destruction--but
what remains can be saved.

Many more historic sites may exist in the area, remaining to
be found for lack of extensive survey. Surveys to find such
sites should be conducted as part of any 106 review for the
ACP.

The American Centrifuge Project may impact all these sites

in many ways that have not been studied or considered. Physical destruction caused by new buildings is only one concern. We also need to consider potential destruction of earthworks along the river caused by additional water pumping, the impacts of herbicides used to defoliate a security zone around the DOE site perimeter, the impacts of keeping the area under national-security restriction, rather than opening the area to study and tourism, and the aesthetic impacts of marring a sacred area with security fences, more roads, and shipments of radioactive fuel and waste.

Our tribe has not been contacted by DOE about the American Centrifuge Project for consultation. We first learned about the American Centrifuge Project from Geoffrey Sea. Please note that we count on being included as a consulting party in future 106 and 110 reviews at the Piketon site.

We understand that the NRC has initiated a section 106 review as part of its licensing process. That is good. However this is an important test for preservation law. If a major federal nuclear project involving two different federal agencies can proceed without any consideration of one of the largest sacred sites in North America next door, then it means that the provisions of the National Historic Preservation Act have become meaningless.

Many alternatives to the proposed action deserve full study and consideration. USEC's environmental report mentions the possible alternatives of moving ACP to the north side of the Piketon site or moving it from Piketon to Paducah, Kentucky. Since the current site at the southwest corner of the DOE reservation involves many potential impacts, those alternatives among others need careful review.

Respectfully,

Karen Kaniatobe
Tribal Historic Preservation Officer

Exhibit O. The Seal Township Works, later called the Barnes Works or Scioto Township Works. Plate XXIV from Ephraim Squier and Edwin Davis, *Ancient Monuments of the Mississippi Valley*, 1848. (Note that the more accurate measurements given by Cyrus Thomas and Gerard Fowke half a century later are substantially different, making the areas of circle and square between 10% and 15% larger.)

ANCIENT WORK,
SEAL TOWNSHIP,
PIKE COUNTY, OHIO.

E. G. Squier & E. H. Davis Surveyors, 1846

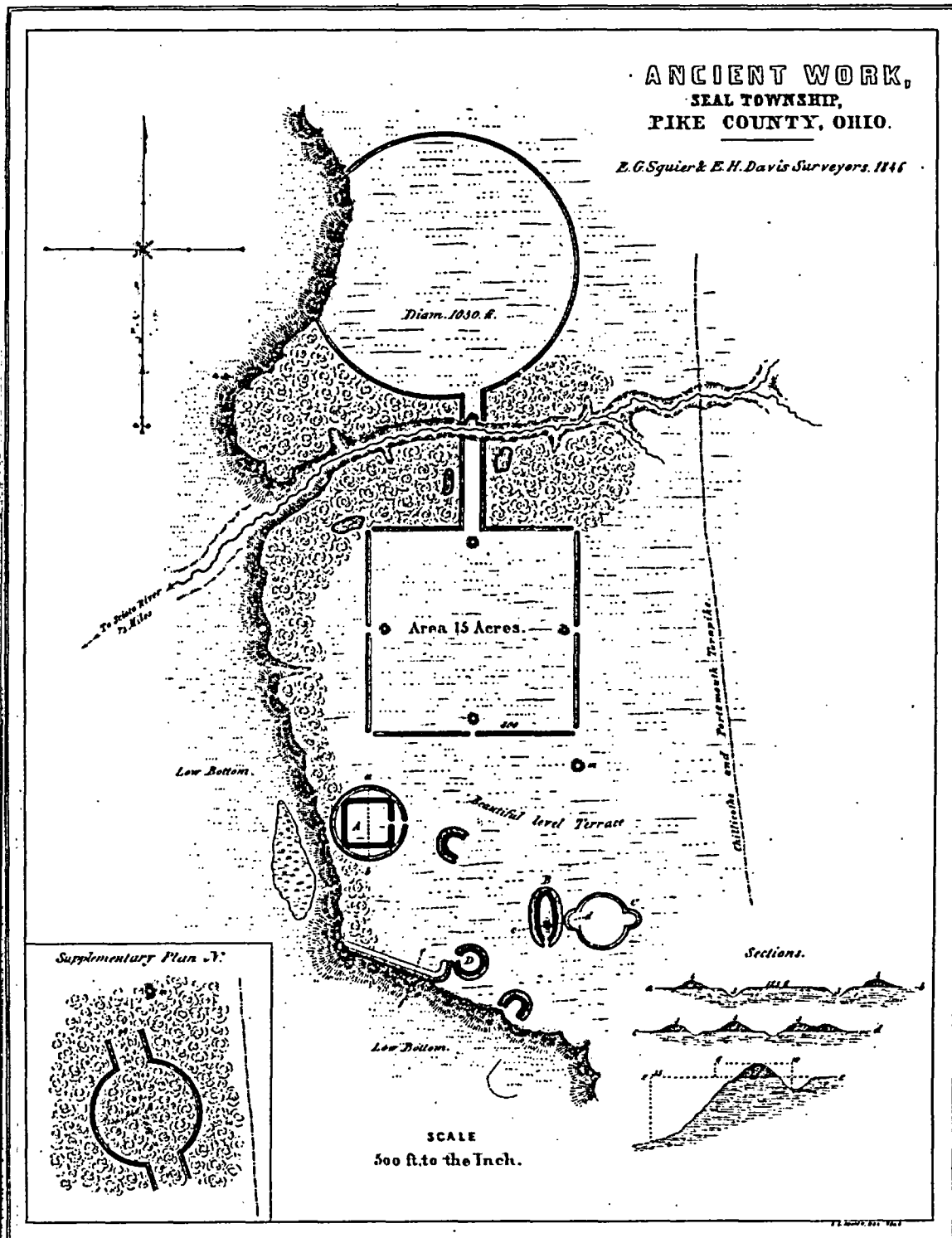


Exhibit Q. Thomas F. King, preservation consultant, author of four books on federal preservation including *Federal Planning and Historic Places: the 106 Process*

Thomas F. King, PhD.

P.O. Box 14515 Silver Spring MD 20911, USA

Telephone (240) 475-0595 Facsimile (240) 465-1179 E-mail tfking106@aol.com

Cultural Resource Impact Assessment and Negotiation, Writing, Training

February 24, 2005

To: The Commissioners, Secretary and Atomic Safety and Licensing Board of
the US Nuclear Regulatory Commission, and Whom it May Concern.

I am writing in support of the intervention of Geoffrey Sea in the USEC American Centrifuge Plant licensing action. As a professional practitioner of archaeology and historic preservation in the United States, I am deeply concerned about the potential impacts of the proposed action on historic properties, and about the adequacy of NRC's and the Department of Energy's (DOE's) compliance with Section 106 and 110 of the National Historic Preservation Act and other federal environmental and cultural resource legal requirements.

A copy of my professional resume is attached. I hold a PhD in Anthropology from the University of California, Riverside, and have been practicing in historic preservation and environmental impact review for almost forty years, both within and outside the Federal government. I have some twenty years experience as a government official with the Advisory Council on Historic Preservation, the National Park Service, and the General Services Administration, and am currently self-employed as a consultant, writer, mediator, and trainer in historic preservation, tribal consultation, and environmental review. I am the author of four textbooks and numerous journal articles on these subjects, as well as a number of federal regulations and guidelines. My particular specialty lies in working with Section 106 of the National Historic Preservation Act, which requires Federal agencies to take into account the effects of their actions on places included in and eligible for the National Register of Historic Places.

It is because of my concern for the proper application of Section 106 and related authorities, and for the proper management of historic places, that I support Mr. Sea's intervention. Mr. Sea has, I believe, uncovered significant problems with NRC's and DOE's compliance with the historic preservation and environmental

laws, and identified significant potential impacts on places eligible for inclusion in the National Register. His intervention should be given your very close attention.

Respectfully,

Thomas F. King

EXHIBIT V

Thomas F. King, PhD

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Cultural Resource Impact Assessment and Negotiation, Writing, Training

March 29, 2005

Geoffrey Sea
340 Haven Ave., Apt. 3C
New York NY 10033

Dear Geoffrey:

You've asked me for my observations on how the Nuclear Regulatory Commission (NRC) staff's positions on the scope of its responsibilities in the USEC matter, and on the tests that you must meet in order to intervene, relate to the purposes and requirements of the National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA). I provide these observations based on some 40 years of professional practice under both statutes, including participation in the development of amendments to the latter and federal regulations and guidelines implementing both.

Both NEPA and NHPA were enacted in order to protect the public interest in the human environment in general (in the case of NEPA) and historic resources in particular (NHPA). It follows that the interested public - made up of people like yourself - has a large role to play in implementation of these laws, and this is reflected in the regulations that agencies must follow in complying with them. Both the NEPA regulations (40 CFR 1500-1508) and the Section 106 NHPA regulations (36 CFR 800) provide for participation in review by interested parties and the general public. The Section 106 regulations are particularly directive in this regard, providing both for general public involvement and participation and for identifying particular "consulting parties" whose interests in the undertaking under review, or its effects, entitle them to ongoing active involvement in the negotiation of ways to resolve adverse effects on historic properties.

It appears that the NRC staff has a much, much more restrictive notion of public involvement than that underlying either NEPA or NHPA. I suspect that this reflects the fact that the staff's policies and procedures for environmental review spring from a different intellectual tradition than do those underlying laws like NEPA and NHPA. A thought-provoking

(though rather turgid) recent book that explores this sort of dichotomy is *Citizens, Experts, and the Environment: The Politics of Local Knowledge*, by Frank Fischer (Durham, Duke University Press, 2000). Fischer discusses the world-view that is common among environmental engineers and others involved in the sort of environmental review that is driven by the toxic, hazardous, and radiological substances laws, in which environmental impact analysis is construed to be a matter of rigorous, generally quantitative, scientific analysis. It is a matter for scientific experts to concern themselves with, and is viewed as far too complicated for ordinary citizens to understand. In this world-view, public involvement is a troublesome requirement imposed by the political system, which should be kept to a minimum so the experts can get on with their work. Fischer documents that this sort of thinking is widespread in the environmental specialist community from which agencies like NRC draw their staffs, and from which their personnel derive their intellectual direction. He also documents how thoroughly wrongheaded it is, but that's another matter. My point is simply that the NRC staff's thinking on how people like you should be involved and issues like yours should be considered in its decision making has much more to do with the philosophical biases of its members than it does with any actual legal requirements.

The NRC staff seeks to limit your access to its decision making process in a variety of ways - for example by insisting that to be recognized as having "presumptive standing" you not only be "injured," but be a resident of the surrounding vicinity, and at the same time insisting that your "injury" must be of a particular kind. Let's look at the last of these first.

The staff asserts that "(i)n Commission proceedings, the injury must fall within the zone of interests sought to be protected by the AEA or the National Environmental Policy Act ("NEPA")." It is not clear to me why only these two laws are pertinent and not, for instance, NHPA, but for the moment let's assume the staff is correct; your "injury" must relate to the "zone of interests sought to be protected" by the AEA and NEPA. I claim no expertise in the AEA, but I do know about NEPA, and it appears to me manifestly obvious that your "injury" falls well within the sphere of NEPA's "protected interests."

NEPA directs agencies to consider the impacts of their actions on "the quality of the human environment." At 40 CFR 1508.27(b) the NEPA regulations of the Council on Environmental Quality (CEQ) list a range of factors to be considered in judging the significance of impacts on the quality of that environment. It is a long and varied list, and it repeatedly refers to "cultural" and "historic"

resources. It surely follows that "interests" in such resources are "protected" to the extent NEPA affords protection to anything. Thus your interests in protecting the historic character of the area subject to effect by NRC's permit action are entirely within NEPA's "sphere of protection."

Why does the NRC staff not understand this? I suspect that - based on the intellectual tradition from which they come - the staff's experts honestly believe that the quality of the human environment is not affected by anything that fails to irradiate someone to a hazardous degree. It follows from that line of reasoning that your interests in the historic character of the area are irrelevant to the potential for environmental impacts.

It also follows, of course, that only actual residents of the vicinity can be "injured," because only residents are likely to suffer a high enough dosage of something emanating from the proposed facility to affect their health and safety. Therefore, it is logical within the staff's likely framework of assumptions, that only nearby residents should be recognized as having presumptive standing. But NEPA isn't about only health and safety. The great bulk of NEPA cases that have been litigated have been brought by parties whose injuries involved damage to places and things they enjoyed and thought important - forests, mountains, animals, bodies of water, beautiful vistas, wilderness, fish, sacred sites, historic places, archaeological sites. Courts routinely grant standing to plaintiffs under NEPA on such grounds; can the staff be seriously proposing that the Commission adhere to a more exclusive standard?

It is also difficult to understand why, if an "injury" within NEPA's "zone of protected interests" is a legitimate topic for NRC consideration, an "injury" within NHPA's "zone" is not equally legitimate. Both laws were enacted by Congress; both apply to all federal agencies; both impose rather similar requirements. To the best of my knowledge, NRC has never been granted an exemption from NHPA's requirements. Your interests clearly fall within NHPA's "zone," since they concern historic properties and effects on them. Under the Section 106 regulations, your interests entitle you to consult about the significance of such properties and how to resolve adverse effects on them. Why does the NRC staff think the Commission can or should deprive you of this entitlement?

Here again, I suspect that the culprit is the world-view of NRC's staff experts. If one believes that environmental impacts are limited to things that scientific experts can quantify, and ordinary citizens have nothing useful to contribute to the discussion, then it follows that all NRC need do to address impacts on historic properties under NHPA

is to have expert surveys done and consult with the State's designated expert, the State Historic Preservation Officer. If further follows that the Commission's staff can and should keep the results of its expert studies secret, as it has in this case, and simply present the public with its conclusions.

Within this framework of assumptions, the fact that the Section 106 regulations call repeatedly for participation by interested parties and the public is irrelevant; such requirements are mere politico-regulatory hoops to be gotten through with as little effort as possible.

But this interpretation of NHPA's requirements is inconsistent not only with the letter of the regulations but with routine practice in Section 106 review and with the record of case law. Courts have generally been quite liberal in recognizing the standing of interested parties in Section 106 litigation, and certainly have never imposed anything like a residency requirement. In the recent *Bonnichsen et.al. v. US* (Civil No. 96-1481JE, District of Oregon), for example, the court found that a group of physical anthropologists, none of whom lived in the vicinity of the discovery, not only were sufficiently "injured" by the Corps of Engineers' treatment of a human skeleton found on the bank of the Columbia River to give them standing to sue, but that the Corps had violated the NHPA by failing to consult them under Section 106. Here again, NRC's staff seems to be establishing for the Commission a more exclusive standard than that imposed by courts of law; I have to wonder about the basis for this.

In summary then, what I think we see in the NRC staff's conclusions about your intervention is the expression of a world-view that is common among experts in toxic, hazardous, and radiological impact analysis, that may be sensible in some contexts but thoroughly warps the process of review under NEPA and NHPA. To narrowly limit the range of interests in the public with whom one will engage in environmental impact analysis, and then to insist that these interests themselves demonstrate the existence of impacts ("injuries"), stands the process of environmental review on its head. It is the responsibility of the Commission and its staff to ascertain what impacts its permit action may have on the quality of the human environment under NEPA, and on historic properties under Section 106; it is not your responsibility to do so for them.

I realize that the NRC staff would doubtless argue that all the above factors might give you "regular" standing but not "presumptive" standing - you might have standing, but it would not be automatic unless you actually lived adjacent to the facility. But this distinction still reflects the assumption that one cannot be really "injured" unless one is likely to be subjected to irradiation. Setting aside the question of whether, as a near-term prospective resident, you are not

likely to be subjected in the future to this kind of "injury," it seems to me that NHPA (among other laws) provides the basis for other standards for awarding "presumptive standing" that are as good as nearby residency; one merely needs to recognize that exposure to radiation is not the only way one can be "injured" by a project like USEC's. Surely the owner of a National Register or Register-eligible property that is subject to potential effect by the project, who appreciates the historic qualities of the property, must be presumed to be subject to injury by the project. Similarly, I would suggest, someone whose cultural identity is tied up in a property that might or might not be eligible for the National Register, or who has research interests in such a property, or who traditionally uses or enjoys such a property, must be presumed to be subject to injury, and hence should be recognized as having presumptive standing. People in all these categories and others are routinely included as consulting parties under the Section 106 regulations; why should the Commission, acting in the public interest, not do the same?

Although the NRC staff does not comment on it, I have to believe that its beliefs about the environmental review process are in line with those of USEC, which in its response to your petition summarily rejected the earlier letter I provided you. USEC wrote:

"(4) Finally, Petitioner cites a letter from Dr. Thomas F. King (Exhibit Q), which makes no reference to any specific aspect of the ACP application and therefor (sic) does not provide meaningful support for the contention."

My letter, of course, was intended simply to advise NRC that, in my fairly well-informed professional opinion, you had a point in your allegations, which I thought (and think) it appropriate for the Commission to consider further in its decision making. Under NHPA and NEPA it is not my job, or yours, to go out and conduct the studies necessary to identify and address the impacts of NRC's permit actions; it is NRC's job to do so, or to cause the applicant to do so, with our advice and assistance. You have provided substantive information indicating that NRC needs to take a further look at the historic preservation implications of its permit decision; I was advising NRC that I thought you had a good point, that I didn't think you were an eccentric who could safely be ignored. But because I did not refer to a "specific aspect" of the application, in the eyes of USEC my opinion - like yours - can be rejected out of hand. And of course, as you know, it was impossible for me (or anyone else trying to figure out how USEC had considered impacts on historic places) to address "a specific aspect of the ACP application" because neither the application nor the accompanying Environmental Report refer to the requirements of NHPA or to the National Register of Historic Places. The absence of specific evidence

in my statement merely reflects the absence of specifics in USEC's application. To judge from the available record, at least (such as it is), USEC has not thoroughly identified historic properties subject to possible effect by its actions - to say nothing of other kinds of cultural resources that ought to be considered under NEPA. This creates a flawed record for use by NRC in making its permit decision. I trust the Commission will understand this, and appreciate your efforts to provide it with a broader and more complete basis for its deliberations.

Good luck in your continuing efforts.

Sincerely,

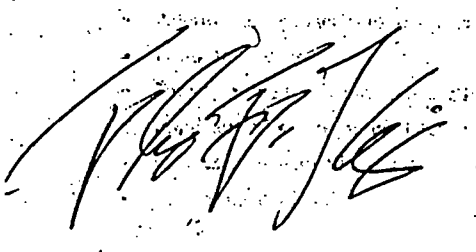
A handwritten signature in black ink, appearing to be "V. G. F. J. E.", written in a cursive, stylized script.

EXHIBIT W

(original handwritten on letterhead)

SHAWNEE NATION, UNITED REMNANT BAND

TUKEMAS/HAWK POPE-PRINCIPLE CHIEF

ZANE SHAWNEE CAVERNS AND SOUTHWIND PARK
SHAWNEE-WOODLAND NATIVE AMERICAN MUSEUM
2911 ELMO PLACE, MIDDLETOWN, OHIO 45042

Nuclear Regulatory Commission and whomever it may concern,

Dear Sirs,

We were only recently informed of plans to further develop the nuclear project in Pike County, Ohio. I represent the Shawnee Nation, United Remnant Band. The U.R.B is recognized as a descendant group/Tribe of the historic Shawnee Nation in Ohio-SUB. AM. H.S.R.8-1980. Our people do have historic and cultural ties to the site in Pike County, near the Scioto river. We do consider the earth works and the other ceremonial and cultural features there to be sacred. We do, therefore object to the proposed project, for reasons of the project's incompatible and inappropriate use of the land. Any destruction of features on the site, further poisoning of the ground, or limits to access to the site would be very disturbing and considered by us, wrong.

We are regularly informed of sites for proposed transmission towers and pipe lines. We were not told of this project, similarly. In the future we want to be a consulting source. We await your response.

Chief Hawk Pope

P.S. We were informed by Jeffrey Sea, and we do support his intervention in this matter. In the Shawnee language Scioto means "Hair in the Water" as the river passes through so many burial sites and is so prone to flooding. Again, this place is sacred to Shawnee People.

Thank you for your time and consideration.

Chief Hawk Pope

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

ATOMIC SAFETY AND LICENSING BOARD

**Before the Administrative Law Judges:
Lawrence G. McDade, Chairman
Paul B. Abramson
Richard E. Wardwell**

In the Matter of)	Filed August 15, 2005
)	
)	
USEC Inc.)	Docket No. 70-7004
(American Centrifuge Plant))	
)	
)	

**Declaration by John Hancock, Frank L. Cowan, and Cathryn Long Regarding
August 5, 2005 Visit to GCEP Water Field**

Under penalty of perjury, we the undersigned do jointly declare as follows:

Statement of Qualifications

1. My name is John Hancock. I am Professor of Architecture and Project Director of the "EarthWorks Project" being produced by the Center for the Electronic Reconstruction of Historical and Archaeological Sites (CERHAS) at the University of Cincinnati. I am an expert in ancient architectural history and in particular the forms, and the problems of visualization, of these earthen structures. A copy of my curriculum vitae is attached.

2. My name is Frank L. Cowan. I am a consulting archaeologist with the company of F. Cowan & Associates. I am a leading expert in the study and excavation of Hopewell earthwork sites with twenty-five years experience in Hopewell archaeology, including nine years of Hopewell research in Ohio. A copy of my curriculum vitae is attached.

3. My name is Cathryn Long. I am a writer and researcher with the Center for the Electronic Reconstruction of Historical and Archaeological Sites (CERHAS) at the University of Cincinnati. My expertise derives from eight years interviewing experts on the Hopewell culture for CERHAS. A copy of my curriculum vitae is attached.

Purpose of Declaration

5. The purpose of this declaration is to describe the results of our August 5, 2005, visit to a site near to but not contiguous with the Piketon atomic reservation known as the GCEP Water Field or the X-6609 Raw Water Wells. We went to the GCEP Water Field to examine and evaluate the potential historical significance of earthworks reported to be on the site. As discussed below, we identified a human-made earthwork on the site, whose origin is unknown but which appears to pre-date the U.S. Department of Energy ("DOE") water system which is also visible on the site. We believe that further investigation is warranted in order to determine the origin of the earthworks with confidence. (JH, FLC, CL)

Description of Site Visit

6. The GCEP Water Field lies on the east bank of the Scioto River, due west of the main atomic reservation at Piketon. The Water Field is owned by the DOE and leased to USEC. It is our understanding that the DOE installed a water supply system on the Water Fields site in the early 1980s to supply a future centrifuge enrichment plant. The acronym GCEP stands for Gas Centrifuge Enrichment Plant, a project that later became known as ACP or American Centrifuge Plant. (JH, FLC, CL)

7. Though maps of the GCEP Water Field were requested, they were not provided, and we were not allowed to bring cameras or take pictures. Therefore, we are not able to provide a map or pictorial evidence of our observations and conclusions. Therefore, our observations and conclusions are described solely in narrative form. (JH, FLC, CL)

8. We were dropped off by a USEC van at the northern end of the Water Fields site, and walked towards the southern end, with well-heads evident all along the way. The site extends along the Scioto River, with a forested strip adjoining the river bank, and a cleared strip with a road adjoining that. We observed a DOE water supply system in the area, consisting of DOE well heads which appear as either single pipes coming vertically out of the ground, or groups of four larger pipes arranged in a cross-shape. Most of the well heads line the west side of the road, but many extend into the forested area at irregular intervals. (JH, FLC, CL)

9. The forested strip along the river contains a series of natural levee embankments that parallel the river. However, as we moved south about a half mile, the embankment closest to the road straightened out and became level on top. The further south we moved, the straighter and more level it became, with perfectly uniform width at the level top. The structure continues south as far as we could see. Because our escorts gave us no maps or clues about the site boundaries, and because we ran short of time, we could not investigate the southern terminus of the structure. (JH, FLC, CL)

10. From the top of this structure, looking in either direction, the structure was dead straight and regularly formed with a consistent width to the level upper surface, unlike

the natural levee formations closer to the river and possible remnants of this structure as it presently appears further north. Given the linearity, we all are of the opinion that this is an artificial structure. We cannot say if other earthworks might lie on parts of the site we could not get to. (JH, FLC, CL)

11. Though the structure is man-made, it is impossible to say upon partial visual inspection what this structure is, how old it is (though it is not very recent), or who built it. However, it is within the realm of possibility that the structure is an Indian earthwork of the Middle Woodland period (about 300 B.C. to A.D. 500). The Ohio Hopewell culture of that period built large scale geometric earthworks, including long straight earthen walls; and their constructions once lined the valley of the Scioto River. (JH, FLC, CL)

12. The southern end of the structure we observed at the GCEP Water Field is very close (within a quarter of a mile) of the northern end of the great Hopewell circle-square complex known as the Barnes Works (also called the Seal Township Works or Scioto Township Works). The Barnes Works is listed on the National Register of Historic Places and is one of the large earthworks along the Scioto recorded in 1848 by E.G. Squier and E.H. Davis (*Ancient Monuments of the Mississippi Valley*, Smithsonian). (JH, FLC, CL)

13. It is also possible that the structure is a 19th or 20th century construction, although we are not aware of any major structures that were built in the area during this time. It is unlikely to be a modern levee because there has been no development in this area worthy of such elaborate protection. It is unlikely to be a remnant of the Erie Canal system, because the canal went along the west side of the Scioto River and this structure lies along the east side. It is unlikely to be part of an early pioneer road or railroad because those were built on dry ground to the east, not in the flood zone. (JH, FLC)

14. We believe it is highly unlikely that this structure could have been made by DOE or USEC, because there are trees on either side of it. Neither USEC nor DOE has identified this structure as related to the water field, and it appears unrelated as the structure is most evident at the south end of the site, while the pipes leading to the pump house and road extend from the north end of the site. In addition, it appears that as the structure proceeds north, it actually crosses the well field, which would negate its usefulness as a protective levee. There is also a report from a former land-owner, Charles Beegle, that earthworks at the site predated DOE's acquisition of the land, and that his deceased wife's family, the Rittenauer family, recognized these earthworks as ancient. This letter from Charles Beegle is attached as Exhibit A. (JH, FLC)

15. A research protocol is needed to determine the identity and age of this structure. That protocol should begin with access to all previous reports of cultural resource investigations conducted at the Water Field property prior to the development of the Water Field, investigations that would have been required by Section 106 of the National Historic Preservation Act. Access will also be needed to the maps and survey

records for the Water Field Site in possession of the DOE and USEC. This should be accompanied by historical research to determine if any known engineering work took place in that area prior to the DOE land purchase, and if the structure was noted on any older survey maps or in any archeological works. If the historical research draws a blank, a cross-sectional excavation of the structure and/or a series of soil cores through the structure would reveal much about its age and identity. (JH, FLC, CL)

16. If the structure is determined to have historic significance, an evaluation should be made of the visual and physical impact of the American Centrifuge Project on that structure. DOE well-heads, by the dozen, line both sides of the structure and some are in the midst of it. Whether pumping of water from beneath the structure damages the structure is a question that should be evaluated by hydrology experts. Further surveys of the entire Water Field Site, with maps, cameras, survey equipment, and unrestricted time are also warranted. (JH, FLC, CL)

17. The GCEP Water Field site lies close enough to the Barnes Works to warrant a close examination of its historic significance. Any prehistoric earthworks that may be identified at that location deserve the utmost attention and protection. Therefore, we urge a program of research at that site as rapidly as possible, in compliance with federal preservation law. (JH, FLC, CL)

____[signed]_____

John Hancock

____[signed]_____

Frank L. Cowan

____[signed]_____

Cathryn Long

August 11, 2005