Public Hearing Transcript – Comment Number H-9
Brookhaven – Evening Session

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A P P E A R A N C E S

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SITE PLAN MEETING

SPALLATION NEUTRON SOURCE

Brookhaven National Laboratory

January 21, 1999

6:00 p.m.

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MR. HAAS: Good evening. Welcome to the public review meeting concerning the Draft Environmental Impact Statement for the Spallation Neutron Source. For those needing translator services, those services are available. We have reserved seats in the meeting for those needing those services. Anyone wishing to identify the need I ask to step forward. We don't appear to have any takers.

My name is John Haas. I am an associate professor and head of the Department of Speech Communication in the University of Tennessee and I have been contacted to moderate today's meetings. The goal is to solicit comments on the Draft Environmental Impact Statement for the Spallation Neutron Source.

In addition to providing public comments to today's meeting, there are other ways of providing comments. These other mechanisms include; via the phone there is a 1-800 number, that number is 1-800-927-9964; by fax, (423) 576-4542; through electronic mail, NSNSEIS@ornl.gov, and also there is a web page with the address of tis.eh.doe.gov/nepa/, and

information concerning the Draft Environment Impact Statement can be obtained from there as well. Copies of the Draft is available at all of the sites and at the Brookhaven National Laboratory area.

There are three separate sites where draft copies can be obtained. That includes the Brookhaven National Laboratory research facility in building 477A on Brookhaven Avenue; at the Longwood Public Library in Middle Island and at the Mastic/Shirley Community Library in Shirley.

For those wishing to make public comment here tonight, we ask that each speaker make his or her comments in five minutes, and providing that the opportunity presents itself, you will have the opportunity to provide additional comment beyond that. We do ask that speakers take the opportunity to sign up, and when they are making their presentation, if they would identify themselves so we have their name on the record.

With us tonight we also have two individuals to discuss the Spallation Neutron

Source; Mr. Jeff Hoy, who is the program manager for the Spallation Neutron Source, Office of Basic Energy Sciences at DOE headquarters, will discuss with us the purpose and need for the Spallation Neutron Source; and Mr. David Wilfert, who is wearing two hats, he's the deputy project manager for the Spallation Neutron Source as well as the Environmental Impact Statement document manager. He will be discussing with us today about Environmental Impact Statement process.

Let me turn the meeting over now to Mr. Jeff Hoy.

MR. HOY: Thank you, John, and thank you for coming out on a cold rainy night to be with us here.

As John mentioned, I represent the Office of Science of DOS headquarters in Germantown, Maryland. I just want to take a few minutes to give you some background behind the Department of Science programs support of the facilities, such as the SNS.

One of the department's primary missions is to support advancement of the frontiers of science on behalf of the United

States. We are one of the top five federal agencies that fund both basic and applied research. We are the number one federal agency that funds RD facilities.

As you might expect, our research is aimed at insuring that we have affordable and clean supplies of energy to use in the present day and in the future. We also aim our research at understanding the impacts on the population and the environment generating and using this energy. Thirdly, we do a lot of basic research and understanding the basic nature of matter and energy, and we have a system of national laboratories that host a number of extraordinary tools and facilities the scientists use for advancing our knowledge.

We are very proud of the quality of the research that has been done under the sponsorship of the department. We have funded seventy-one Nobel prises over the years, and over 450 RND 100 awards. This is more than anyone, any one single entity in the United States, and more than twice as many as any federal agency.

Within the Office of Science

I represent the Office of Basic Energy Sciences. It is actually charged by federal law with responsibility for planning, constructing and operating scientific user facilities around the country, and we do this as a public service. Part of our mission is to foster community of scientists and researchers from a variety of institutions, both in academia at national laboratories such as Brookhaven, and private industrial laboratories.

The research, as you see along the bottom, spans a very wide range of scientific disciplines. To give you a bird's eye view of the major facilities that we support, including the proposed Spallation Neutron Source, we will support eighteen scientific user facilities. These are used by some 6,000 researchers annually. We support 1,400 research projects from roughly 200 institutions. Among these research facilities are five, including the proposed SNS high-flux neutron sources.

Just to say a few brief words about neutron science, DOE was responsible for the genesis of this discipline back in the

1940s and has helped foster its growth. We operate most of the neutron sources in the United States. Not all of them.

As you might know, the neutron is a subatomic particle that is used as a probe to explore the inner structure and dynamics of a variety of materials. This type of basic research has lead to a number of applications that we encounter in our everyday lives. Applications that involve things such as light-weight strong materials, advanced super conducting materials for magnets, semi-conductors for the electronics industry and so forth. Also, medical advances have been made with the help of neutron research.

So, the department, in making sure that users have an adequate set of facilities to conduct neutron research in the future, the department has charged scientific advisory committees to give us advice on what the next generation of neutron sources should look like, and they have given us a series of reports, recommendations dated from 1984 that have lead to the SNS conceptual design.

So, without any further

adieu, I will turn the floor over to my colleague, David Wilfert who will tell you more about the Environmental Impact Statement, the process that was used to develop it and also about the project, itself.

MR. WILFERT: Again, I am David Wilfert and I do wear two hats, but that is a strategic choice, not a random event.

By being both the department project manager for the Spallation Neutron Source and the NEPA document manager, the EIS document, for example, I can provide a series of continuity of the evolution of the design, the technology of the machine and how that machine is expected to be, in terms of its influence on the environment, as well as being in charge of the evolution of the document, itself, to be sure that information is properly utilized, and should the impacts on the environment allow for mitigation actions, and so forth, as we get through the Environmental Impact Statement and the NEPA process, I am in a key management position to insure that those commitments from mitigations get carried on into the ultimate design of the facility. That was not

a random act.

The process, the National Environmental Policy Act process, began back in 1995 when the director of the Office of Energy Research now called the Office of Science made the determination that for this project we would prepare Environmental Impact Statements. We then went to the process of preparing the conceptual design in May of 1997, which formed the technical evaluation of the facility on the environment, and immediately following that we came out with the formal notice of intent that we would be preparing that document, and followed by a public scoping period of the scope of the document.

What we have analysed over a period of over a year and actually developed the document out for review in comment, and that's the period we are in right now, with the comment period going through February the 8th, where we are soliciting input from the public of; do you understand the analysis, is there something we missed trying to get that input from the public; and what this is for, is for the purpose of supporting the creation of a final Environmental

Impact Statement targeting from April of this year, and this document will serve as a decision tool for the secretary of energy who will be the decision authority on this project, who will be making and issuing a record of decision targeting for May of this year.

Now, that decision, what is that? What's it about? It addresses first the proposed action to construct and operate a state-of-the-art short pulsed neutron research facility. It's accelerator based. It would have an initial power level of one megawatt of proton, high-energy proton power on the target, but having a capability to upgrade as high as four megawatts of power on target.

The alternates we evaluated-- and this is getting into what that decision is all about that the secretary would be making -- first was on the facility location, the proposed action. The preferred alternate for the facility is to locate it in Oak Ridge, Tennessee. NEPA requires the evaluation of alternates, and we are evaluating Argonne National Laboratories, Illinois; Brookhaven National Laboratories here in

New York and Los Alamos, New Mexico as other sites for the facility to determine whether or not there are any environmental variations of the placement of the facility.

Another of the potential alternates is no action. Don't build it. So, the decision the secretary will be making is whether or not to build and where would it be built, and that's what would be documented in that record of decision.

We also evaluated some technology alternates within the document, but the actual result was there is only one technology valuable that meets all of the criteria of the proposed action for the specific machine that we are trying to create.

The SNS, in its concept, is basically a linear accelerator that's about 550, 600 meters long that accelerates protons to a speed of velocity of eighty percent the speed of light to one billion electron volts. Then we collect those high energy protons in a storage ring.

After collecting a large

number, then in one micro-second we release all of those stored protons to a target. The target is liquid mercury, and through the process of spallation, basically striking a neutron rich nuclei of mercury, neutrons are splattered, boiled off instant, what spallation is, where the name comes from, those neutrons, they are born in the target are distributed out for the research community and charged out to research in the target state.

The overall facility design and construction is a collaborative effort among five laboratories; the department Lawrence Berkeley, who is responsible for the design and the creation of all the components for the ion source; the Los Alamos Laboratory is responsible for the design and development, procurement, delivery of materials for the accelerator. Brookhaven here is responsibly for the components associated with the storage ring. Oak Ridge is responsible for the target, and collaboration between Oak Ridge and Argonne Laboratory is responsible for the development of the particular instruments that would be used in the particular

facility.

On the reservation here at Brookhaven National Laboratories a site and study was done by defining a series of selection criteria; of availability of power, access to cooling water, footprints, attempts to avoid environmentally sensitive areas. And the location to be optimum for the location of this facility on the reservation of Brookhaven is just to the east and very slightly to the south of what would be the rick facility (phonetic spelling) that is just near completion.

In preparing the Draft Environmental Impact Statement, as I said earlier, we used the conceptual design report as a basis for the analysis performed. The design is in the process of continuing to mature and there are things that we learn to make this a better facility; not only technically, in terms of what the machine will be capable of doing, but also in terms of its impact on the environment; meaning as the design is evolving, it's becoming less impacted, but we use the conceptual design report as a fixed document.

We went through this site selection process where we identified four candidate locations, among thirty-four potential in the United States, and using a set of four selection criteria we narrow the four locations that we identified on the earlier slide, and then we did a specific value to specific locations on each of those four national laboratory reservations.

We then went about a process of collecting comparable information from each of the four locations. This is an awful lot of variability in the way data is compiled and collected in the process to get apples and apples information for comparing the laboratory alternates.

Next we went into the analysis process where we analyzed the information from the conceptual design report in terms of source, terms and the site data in terms of the receptors, the types of soils, air, all of the parameters that involve what the impacts would be and we adopted the philosophy and creation of this

document that we tried to be conservative, but realistic.

What I mean is, we try to also cover the -- be expected to be if we had to, we bump up the potential terms, but we didn't ordinarily raise things to the points of absurdity. We tried to create a document that is conservative in terms of its impact would it ever be built, but that it is realistically conservative.

What we found, in terms of the evaluation; first we kind of going in based on other accelerator facilities. They are relatively benign facilities from the standpoint of how does it impact the environment. There were three areas that the impacts are most notable, but again, they are consistent with other accelerator facilities, and are not terribly severe, but have to be assessed, and those are in the area of land use, and this facility would have 110 acres of whatever is there have to go away, and there would be things that will be going on around that activity that we may have some amount of disruption on research activities and whatever the lands usage

is is really the thing that has impact on the facility.

Secondarily the emissions and soil activations of both water and air emission even under normal activating conditions or possible accident scenarios for the facility.

And third being the waist in that each of the facilities has differing waist management handling and processing or treatment capabilities, and we have to evaluate how waist would be treated at each of the four locations that are potential candidates for this facility.

So that kind of summarizes the process we went through in creating this document. Right now we are soliciting comments so we could finalize, as a decision for the secretary, and we appreciate your attendance here, and I would like to make one correction. There are public reading rooms in the area at which the document can be viewed, but if you actually want a copy of the document, I ask that you make a request through the phone number, fax number, the E-mail address or making to me at Oak Ridge. Thank you.

MR. HAAS: We now move to the public comment phase of the meeting. Is there anyone present wishing to provide comment on the Draft Environmental Impact Statement for the Spallation Neutron Source; if so, would you please step forward?

(NO RESPONSE)

MR. HAAS: There being no one present wishing to make comment, we will recess the meeting in a moment.

Before I recess the meeting, let me again underscore the opportunity to provide comments in other forms. All of that information is available in the comment forms that are in the information desk at the entrance to the meeting hall, and all of those addresses and electronic mail addresses and numbers are available there.

In addition, during the recess, if you wish to speak with individuals who are involved with the project, Mr. Jeff Hoy and Mr. David Wilfert would be available to discuss the project; Mr. Dave Bean and Bill Flemming will be available to discuss the Environmental Impact Statement and the process of developing that and

Mr. Frank Karnegay will be available to discuss any technical questions concerning the Spallation Neutron Source.

There being no one present wishing to make comment, the meeting stands in recess.

(Whereupon, at 6:22 p.m. the meeting was recessed until 9:00 p.m.)

MR. HAAS: I call the meeting to order.

Let the record show that it is 9:00 p.m. Is there anyone present wishing to make comment on the Draft Environmental Impact Statement for the Spallation Neutron Source?

(NO RESPONSE)

MR. HAAS: There being no one present wishing to make comment, the meeting is adjourned.

(Time noted: 9:01 p.m.)

CERTIFICATION

I, JOANN BUNZE, reporter hereby certify that the foregoing transcript consisting of 20 pages is a complete, true and accurate transcript of the foregoing site plan meeting, held on January 21, 1999 at Brookhaven National Laboratories in the matter of the Spallation Neutron Source.

I further certify that this proceeding was recorded by me, and that the foregoing transcript has been prepared under my direction.

JOANN BUNZE