9202813

ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

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FROM: DAVIS, Jay C.: LAWRENCE LIVERMORE NATIONAL LABORATORY

SEP 23

TO: DR. D.A. BROMLEY

DATE OF CORRESPONDENCE: 09/03/92

SUBJECT: HE IS WRITING REGARDING THEIR CURRENT AMS STATUS AND THE PROPOSED FOLLOW ON TO THEIR LAB AT UC IRVINE.

****

DIRECTORATE ASSIGNED: Physical Sciences

STAFF ASSIGNED:

ACTION REQUIRED: IF NECESSARY

STAFF ACTION:

****

SENDER'S DUE DATE:

OSTP DUE DATE: 09/30/92

STAFF DUE DATE

DATE COMPLETED:

DATE COMPLETED/DEPT: 9/28/92

****

COPIES TO: D. Allan Bromley

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WHITE HOUSE TRACKING #:

CONTACT PERSON:

PHONE: EXT:

REMARKS:

OSTP RECEIVED: 09/21/92 DEPT RECEIVED:

FILE: P-PHYSICAL SCIENCES

CENTRAL FILES: Fed. Labs

Lawrence Livermore National Laboratory

September 3, 1992

Professor Allan Bromley
Presidential Science Advisor
Executive Office of the President
Office of Science & Technology Policy
Old Executive Office Bldg., R-360
17th & Pennsylvania Avenue, NW
Washington, DC 20506

Dear Allan:

I thought I'd pass along to you two numbers that, in different ways, may startle and then amuse you. The first has to do with our current AMS status, the second with the proposed follow-on to our lab at UC Irvine.

When we started the AMS effort at Livermore, I promised that we could probably build a machine that would have the equivalent capacity of 5,000-10,000 samples per year, a factor of two or four improvement over most dedicated facilities. At the time, even my own crew gave me a little guff about that public statement. We now find that on the one day a week devoted to biomedical AMS measurements of ^{14}C, we are running at an equivalent rate of 50,000/samples per year. We do these measurements to 1% precision (and about that accuracy) primarily to give the experimenter a chance to think between sample changes occurring at 60 second intervals. When the new automated back is installed on the ion source, I expect to see another doubling of throughput. We have sustained this rate for several months with the experimental program of Vogel and Turteltaub, so it's no fluke. Such results obviously change the calculus of the business. We don't quite know where we will reveal this fact yet, as we're still digesting the implications, but I thought you'd enjoy knowing in advance.

Discussions at Irvine about a geoscience clone of our facility, carried forward by Ralph Cicerone and Sherry Rowland, have reached the point that we've begun the cartoon design and single figure costing of the project. What will amuse you is the promise by the local grad dean to expel the particle physics group from 4000 square feet of heavy lab space to provide a home for the spectrometer. I know it's unseemly for a low energy nuclear physicist to gloat about the prospect of installing a 30-year old EN tandem in space belonging to the High Energy branch of the Church, but I figured that you could appreciate it better than anyone I know and grant forgiveness, if not absolution, for such thoughts. It's all the greater pleasure for me because I'll use the old Texas machine that Bernie Kinsey was installing

when I was an undergraduate. I wasn't hired for one of the installation jobs back in '62, so it looks like both the machine and I will get a second chance. Plan on being a speaker at the dedication; I'll bend your arm for that favor.

Enjoyed the visit with you. If your schedule ever allows casual visits, come out and see what our lab looks like now. The past five years have made a big difference. We continue to find the multi-disciplinary aspects of this business rewarding. Yet another patent disclosure is in the works, this time on using PIXE and possibly XRF techniques to replace ^{32}P in postlabeling of DNA adducts.

Best wishes,

Jay C. Davis
Director
Center for Accelerator
Mass Spectrometry

JCD:nms

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506

September 28, 1992

Dear Jay,

In response to the news about your AMS facility, Allan and I have only one comment: nice work!

I regret that I didn't have a chance on my recent whirlwind visit with the ICF folks at LLNL to see you. Maybe next time. Allan and I look forward to your comparable success at Irvine.

Best regards,

Karl A. Erb
Associate Director
for Physical Sciences and Engineering

cc: D.A. Bromley

Dr. Jay C. Davis
Director
Center for Accelerator Mass Spectrometry
Lawrence Livermore National Laboratory
P.O. Box 808
Livermore, CA 94550

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TYPE: Information DOCUMENT NUMBER: 9202761
ORIGINATOR: 03 STATUS DIRECTORATE STATUS I C
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FROM: VanDevender, Pace: SANDIA NATIONAL LAB

TO: KARL ERB

DATE OF
CORRESPONDENCE: 09/01/92

SUBJECT: Enclosing copy of viewgraph you requested as well as a brochure of their radiation facilities, and poster.

****
DIRECTORATE ASSIGNED: STAFF ASSIGNED:

ACTION REQUIRED: Attached response letter STAFF ACTION:

****
SENDER'S DUE DATE:
OSTP DUE DATE: STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT: 11/20/92

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COPIES TO:

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WHITE HOUSE TRACKING #: CONTACT PERSON:
PHONE: EXT:

REMARKS:
Dr. Erb requested

OSTP RECEIVED: DEPT RECEIVED: 09/17/92
FILE: FL

CENTRAL FILES:

Sandia National Laboratories
Albuquerque, New Mexico 87185
September 1, 1992

Pace VanDevender
Pulsed Power Sciences Center

SEP 17 1992

Dr. Karl Erb
Associate Director for
Physical Sciences Engineering
White House Office of Science
and Technology Policy (OSTP)
Executive Office of the President
Washington, DC 20500

Dear Karl,

I thoroughly enjoyed giving you and Doug Beeson a tour of the Particle Beam Fusion Accelerator II (PBFA II) at Sandia National Laboratories on August 20, 1992. It is always a pleasure to brief competent and interested people and I particularly enjoyed this encounter.

You had asked for a copy of one of my viewgraphs showing the various domains of interest in Inertial Confinement Fusion plotted as temperature versus the specific power deposition from the German work by Bock, et al. The requested viewgraph is attached. As you can see, we are already many orders of magnitude higher specific power deposition than the heavy ion fusion community and hope to establish a database for intense ion beam interaction with matter for both heavy and light ion fusion. We are encouraged in this endeavor by the personnel at Lawrence/Berkeley Laboratory under the direction of Roger Bangerter and have attempted to keep Anne Davies, Bill Dove, and Dave Crandall appraised of our progress and our intent at the DOE Office of Energy Research.

You had also indicated an interest in the brochure of our radiation sources. I do not know if you received one in Area V, but enclosed one just in case. Finally, you had referred to the arcs-and-sparks poster which was created prior to the Congressional prohibition against using public funds for such purposes. The arcs-and-sparks picture in Bob Civiak's office is, therefore, the last of its breed. Nevertheless, the workers on PBFA II pooled their money to commission a reproduction of that in the form of a poster. There were a few left over, although a small portion of the white border suffered water damage in the lower right-hand corner. I am afraid that it is the best I can offer under the constraints on the use of public funds. I hope you will take pleasure in the beauty of arcs-and-sparks. I hope the aesthetics portend beautiful technical results in our upcoming review.

I will be contacting you and Doug Beeson to schedule some time to brief you on the classified aspects of our Inertial Confinement Fusion Target designs when I come to Washington, D. C. in October 1992 as we discussed during your Sandia visit. Until then, I will be happy to assist you any way I can. Please feel free to call me at (505) 845-7446. Thank you again for your interest and for your good wishes.

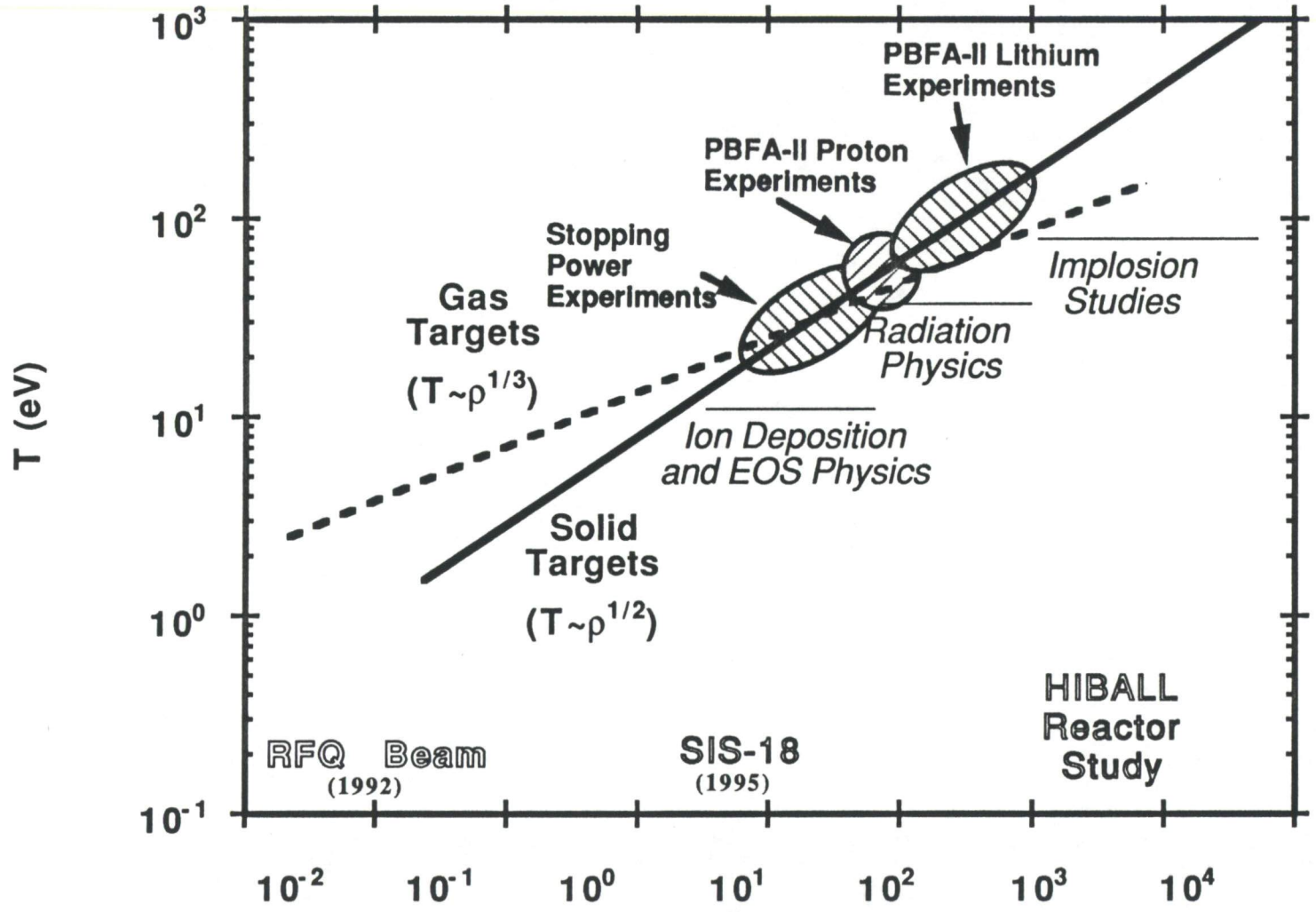
Sincerely,

Pace VanDevender

Enclosures

Copy to: (w/attachments)
Dr. J. Douglas Beeson
Office of Science and Technology Policy
Executive Office of the President
Wshington, DC 20500

PBFA II is generating important target data for both the Light and Heavy Ion Programs



Ref: Bock; Arnold+Meyer-ter-Vehn

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506

November 20, 1992

Dear Pace,

Many thanks for the very informative and interesting briefings you provided to Doug and me--both here in Washington and previously, at Sandia. I was delighted to learn about your progress with PBFA II, and I also appreciated your educating me on target physics issues and on sensible future directions for ICF.

Although I probably won't be in a position to act on my growing understanding of the possibilities for ICF, I'm confident that Doug will provide continuity from the present into the new Administration in the White House.

I wish you every success with your projects in the future. Thank you for arcs and sparks--it serves as a happy reminder of Sandia and PBFA II.

Sincerely,

Karl

Karl A. Erb
Associate Director
for Physical Sciences and Engineering

Mr. Pace VanDevender
Pulsed Power Sciences Center
Sandia National Laboratories
Albuquerque, NM 87185

MAY 1 1992

"Document Control"

TYPE: INFORMATION DOCUMENT NUMBER: 9201509
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS
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FROM: STEIN, RICHARD: POLYMER RESEARCH INSTITUTE

TO: DR. D.A. BROMLEY

DATE OF CORRESPONDENCE: 04/21/92

SUBJECT: ENCLOSED LETTER TO ADMIRAL WATKINS EXPRESSING CONCERN ABOUT THE PROBABLE SHUT-DOWN OF THE LANSCE NEUTRON FACILITY AT LOS ALAMOS NATIONAL LABORATORY.

****

DIRECTORATE ASSIGNED: STAFF ASSIGNED:

Karl Erb want to draft reply Please for my signature

ACTION REQUIRED: STAFF ACTION:

****

SENDER'S DUE DATE:

OSTP DUE DATE: STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

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COPIES TO: PHYSICAL SCIENCES
D. Allan Bromley

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WHITE HOUSE TRACKING #: CONTACT PERSON:
PHONE: EXT:

REMARKS:

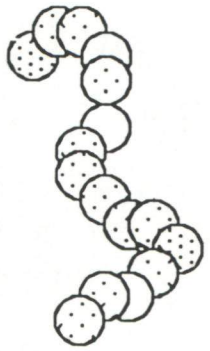
OSTP RECEIVED: 04/28/92 DEPT RECEIVED:
FILE: PHYSICAL SCIENCES

CENTRAL FILES: FL.

1507

POLYMER RESEARCH INSTITUTE

LEDERLE GRADUATE RESEARCH CENTER 701
UNIVERSITY OF MASSACHUSETTS
Amherst, MA 01003
Tel: (413) 545-0433



Answerphone: (413) 545-3109
AT&T Electronic Mail: !rsstein
BITNET: STEIN@UMAECS

TELEX: 150 241 435
answerback:rsstein
FAX: (413) 545-0082

Tuesday, April 21, 1992

Dr. D. Allan Bromley
Office of Science and Technology Assessment
Executive Office Building
Washington, DC

Dear Dr. Bromley:

I am enclosing a copy of my letter to Admiral Watkins expressing my concern about the probable shut-down of the LANSCE neutron scattering facility at Los Alamos National Laboratory.

I had previously written to you anout other matters dealing with neutron scattering; the proposed Advanced Neutron Source and the delay in the start-up of HFIR at Oak Ridge National Laboratory. The neutron scattering community is indebted to you for your efforts in accelerating the decision in getting the start-up approved.

I again call on you because of my concern in keeping the United States competitive in a very important field. This is of particular importance because of the Presidential initiative in the area of materials.

Thank you for any efforts that may be possible to assist.

With best regards,

Sincerely yours,

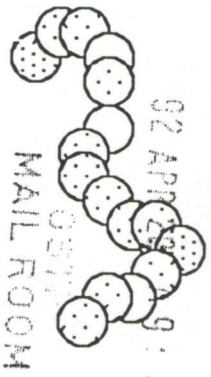
Richard S. Stein

1509

POLYMER RESEARCH INSTITUTE

LEDERLE GRADUATE RESEARCH CENTER 701
UNIVERSITY OF MASSACHUSETTS
Amherst, MA 01003

Tel: (413) 545-0433



RECEIVED

Answerphone: (413) 545-3109 *TELEX:* 150 241 435
AT&T Electronic Mail: !rsstein answerback: rsstein
BITNET: STEIN@UMAECS *FAX:* (413) 545-0082

Tuesday, April 21, 1992

Admiral James D. Watkins
Office of the Secretary
S-1, tA-257/FORS
Department of Energy
Washington, DC 20585

Dear Admiral Watkins:

I had written you last year in connection with my request for support for the Advanced Neutron Source. I am writing again, this time with regard to the proposal to shut down the LANSCE facility at the Los Alamos National Laboratory.

As a member of the former Seitz-Eastman Committee of the National Research Council on "Major Facilities for Materials Research" and as a member of the polymeric materials community who uses neutron scattering extensively, I have concern for the future on this field in the United States. As a member of the National Academies of Sciences and of Engineering, I am chairing a Committee of the National Research Council carrying out a year-long study of the status of polymer science and engineering in the U.S. entitled *Polymer Science and Engineering, The Shifting Research Frontier* . We held a Workshop in Washington last month in which a major concern was that the U.S. remain competitive by providing its scientists with state-of-the-art equipment.

We can be proud that the United States has remained competitive in neutron scattering, despite minimal support. I was a member of the original National Science Foundation committee recommending the Oak Ridge National Laboratory as the site of the NSF small-angle neutron scattering facility. It was gratifying and a tribute to the devoted efforts of several DOE persons that so much good science resulted from a rather small investment. This did much to allow U.S. science to "stay in the act" and to produce a generation of students trained in the skill.

It was evident to the Seitz-Eastman committee that more was needed. They recommended installation of the cold source and guide hall at the National Institute of Standards and Technology and the guide hall at Los Alamos National Laboratory. These installations will do much to keep the field alive.

However, neutron scattering in the United States is again at a critical stage. We had been without a major reactor facility for three years. Existing DOE reactors are aging and were not designed to be optimal for scattering studies. The Seitz-Eastman Committee recommended the need for *both* steady-state and pulsed sources. The NIST facility should help much during the next decade, and it is hoped that the ANS will provide for the more long-range. The Committee had the difficult choice regarding its recommendation for a pulsed source. At the time, the economics dictated favoring the LANL facility, because of the availability of LAMF. It was realized that this availability related to the defense effort, so that problems could arise in the future. Apparently this has now happened.

It would seem that the only viable possibilities for pulsed sources are those at Los Alamos and Argonne National Laboratories. While the Committee had uncertainties whether scientific support at LANSCE would adequately develop, they have risen admirably to the occasion and have provided the community with a very useful facility, despite problems related to inadequate maintenance and upgrading as a result of an inadequate budget.

My colleagues had urged my to contact Dr. W. Happer, which I did. He assured me that "he was convinced" and it would be in order to write to you.

As an active member of the polymer community, I very much appreciate the need for this experimental tool. I consult for major corporations like Exxon and DuPont who find the technique invaluable for maintaining a competitive position in research on advanced polymeric materials. This concern is demonstrated by Exxon's funding of a small-angle neutron scattering apparatus at NIST and IBM funding a neutron reflectivity apparatus at Argonne National Laboratory. It should be pointed out that LANSCE provides perhaps the highest flux neutron reflectivity apparatus in the world which has performed very well.

Polymers is one of the few fields in which the U.S. leads its competitors and in which the balance of trade is positive. However, our position is eroding, with a decrease in basic research funding (in real dollars) in the U.S. facing an increase in the competing countries. Many of us cringe at the activities of laboratories such as the new Max Planck Institute for Polymer Research in Mainz, Germany whose support exceeds that of the Polymers Program of the Division of Materials Research of NSF which is the major funder of U.S. academic efforts.

Perhaps the time has come for another Seitz-Eastman type appraisal of the neutron [and synchrotron (?)] scattering situation. However, such a study would take at least a year or two, so an interim plan will probably be necessary to prevent LANSCE from "going down the drain".

I urge you to support these measures which I regard essential to the scientific and industrial health of the United States.

With best regards,

Sincerely yours,

Richard S. Stein
Director, Polymer Research
Institute and Goessmann
Professor of Chemistry

cc: D. Allan Bromley
D. Happer

THE WHITE HOUSE

WASHINGTON

May 8, 1992

Dear Dr. Stein:

Thank you for your letter concerning the importance of the LANSCE neutron scattering facility at Los Alamos National Laboratory and for your comments about neutron scattering, in general. I agree that materials science research requires state-of-the-art neutron scattering facilities. With the possibility that the DOE nuclear physics program's support for LAMPF operations may be phased out, continued use of LANSCE will depend on whether other research activities justify the Department of Energy's continued support of LAMPF, and the neutrons it produces for LANSCE. I know that Will Happer is giving serious consideration to these issues.

Sincerely yours,

D. Allan Bromley
The Assistant to the President
for
Science and Technology

Dr. Richard S. Stein
Polymer Research Institute
Lederle Graduate Research Center 701
University of Massachusetts
Amherst, MA 01003

OFFICE OF SCIENCE AND TECHNOLOGY POLICY

STAFFING SHEET

SUBJECT: LTR TO RICHARD STEIN

ORIGINATOR: K. ERB **PHONE:** 5130

DATE ORIGINATED: 5/12/92 **DATE DUE:** ASAP **CORR TRACKING NO:** 920509

EXTERNAL COORDINATION:

	COMMENTS	DATE
DIRECTOR	No urgency DAB Threshold review JSK 5/13/92	
GENERAL COUNSEL		
EXEC. ASST.		

ACTION REQUESTED:

COORDINATION		COMMENTS	DATE
Henderson, D. A.	Concur: Non Concur: ✓		
Erb, K.	Concur: Non Concur:	KE 5/12	
Ratchford, J. T.	Concur: Non Concur:		
Wong, E.	Concur: Non Concur:		
	Concur: Non Concur:		
	Concur: Non Concur:		
	Concur: Non Concur:		
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