

August 1, 1996

MEMORANDUM TO: William D. Travers, Director
Spent Fuel Project Office, NMSS

FROM: Marissa G. Bailey, Project Manager
Spent Fuel Licensing Section
Spent Fuel Project Office, NMSS

SUBJECT: MEETING BETWEEN PAJERITO SCIENTIFIC CORPORATION,
BNFL INSTRUMENTS LTD., AND THE U.S. NUCLEAR
REGULATORY COMMISSION STAFF

On June 4, 1996, a meeting was held between representatives of Pajerito Scientific Corporation (Pajerito), BNFL Instruments LTD. (BNFL), and the U.S. Nuclear Regulatory Commission staff. Representatives from the U.S. Department of Energy (DOE) and Entergy Operations (Entergy) also attended the meeting. The purpose of the meeting was to discuss BNFL's fuel monitor design. The fuel monitor is designed to measure the burnup and cool-time of spent fuel to establish burnup credit. Attachment 1 is a list of attendees. Attachment 2 is the meeting agenda. The meeting was noticed on May 21, 1996.

At the meeting, Pajerito and BNFL gave presentations on the burnup measurement and calibration techniques, the results of spent fuel burnup measurements taken at Arkansas Nuclear One, and future measurement methods. During the presentations, Pajerito and BNFL stated that the fuel monitor can provide measurements of burnup and cool-time, but not initial enrichment. Reactor records will be relied upon to determine the spent fuel's initial enrichment, which is consistent with the fresh-fuel-assumption approach for verifying initial enrichment.

The presentations were followed by a discussion period. During the discussion, it was stated that DOE is developing specifications for acceptable burnup meters. These specifications will be included in the revised topical report for actinide-only burnup credit. Pajerito and BNFL clarified that they had no relationship with DOE, other than an informal exchange of information that is available to all. A DOE representative further stated that DOE's specifications are independent of the BNFL fuel monitor, and that DOE views the fuel monitor as an example of a meter that could work.

An Entergy representative stated that Entergy is considering using the fuel monitor to measure over 280 assemblies for potential transport of the MSB (a sealed fuel canister used in the VSC-24 dry storage cask) with burnup credit. An NRC representative stated that the NRC could not assist Entergy in its decision to proceed with the measurements. The NRC representative stated, however, that the NRC is not likely to approve burnup credit without stipulating that burnup of the spent fuel be measured with a quality controlled meter.

Attachments: 1. Attendee List
2. Meeting Agenda

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DATE	08/01/96		7/31/96		8/1/96		1/96		1/96	

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ATTENDANCE LIST

Meeting between Pajerito Scientific Corporation, BNFL Instruments LTD,
and the U.S. Nuclear Regulatory Commission Staff

May 31, 1996

<u>Name</u>	<u>Affiliation</u>
Marissa Bailey	NRC/NMSS/SFPO
Allen Howe	NRC/NMSS/SFPO
Bernie White	NRC/NMSS/SFPO
Donald E. Carlson	NRC/NMSS/SFPO
Charles Haughney	NRC/NMSS/SFPO
Andrew Chesterman	BNFL Instruments
Michael Waters	NRC/NMSS/SFPO
Elaine Keegan	NRC/NMSS/SFPO
Joseph Wachter	Pajerito Scientific
Dale Lancaster	TRW
Jeff Priore	Entergy/ANO
Frank Philpott	Entergy/ANO
David Boyer	BNFL Instruments LTD
Paul Read	BNFL Instruments LTD
Gordon Gundersen	NRC/RES
Ronald I. Ewing	Sandia National Laboratory
Bill Lake	DOE
Dennis Damon	NRC/NMSS/FCSS
Archer Haskins	Pajerito Scientific
Eric Leeds	NRC/NMSS/SFPO
Fritz Sturz	NRC/NMSS/SFPO

AGENDA

Meeting, June 4, 1996

Pajarito Scientific Corporation (a BNFL company) & BNFL Instruments, Ltd.

and the

U. S. Nuclear Regulatory Commission, Headquarters, Rockville, MD

Presentation & Discussion of the Proposed "Fuel Monitor" for the Measurement of Burn-Up Credit in U.S. Utility Spent Fuel Assemblies

To Support the Storage and Transport of Nuclear Spent Fuel Packages

9:00 A.M. Introduction

Archer A. Haskins

9:10 A.M. Presentation of the Fuel Monitor

Dr. Andrew S. Chesterman

- (1) Techniques of Burn-Up Measurement
- (2) Calibration & Measurement of Spent Fuel
- (3) Arkansas Nuclear One Demonstration Review
- (4) Future Measurement Methods

10:15 A.M. Break

10:30 A.M. Comment & Discussion Period

12:00 Adjourn

TO: Marissa Bailey
U.S. Nuclear Regulatory Commission

FROM: Archer A. Haskins

DATE: June 3, 1996

SUBJECT: Attendees for the June 4, 1996 Meeting at the NRC

As discussed, the following is a list of expected attendees to the Pajarito Scientific Corporation / BNFL Instruments, Ltd. meeting with the NRC:

1. Archer A. Haskins, Vice President Business Development, Pajarito Scientific Corporation.
2. Dr. Joseph R. Wachter, Director of Research, Pajarito Scientific Corporation.
3. Dr. Paul M. Read, Director Commercial Sales, BNFL Instruments, Ltd
4. Dr. Andrew S. Chesterman, Technical Manager, Fuel & Fission Products, BNFL Instruments, Ltd.
5. Dr. John K. Sidney, Project Manager, Fuel & Fission Products, BNFL Instruments, Ltd.
6. Mr. Robert J. Priore, Reactor Engineering, Entergy, Inc.
7. Mr. Frank Philpott, Reactor Engineering Superintendent, Entergy, Inc.

Additional attendees from the USDOE, TRW Corporation, E.R. Johnson Associates and Fluor Daniel Yucca Mountain may be present. Space should be provided for up to twelve (12) people in total.

If you have any questions or comments concerning the Agenda or attendees, please contact me at 804-384-0113 or Fax 804-384-3780.