

Preliminary Version- Pending Commission Approval

**Minutes of the Rhode Island Atomic Energy Commission Meeting,
30 January, 2007**

Dr. Mecca called the meeting of the Rhode Island Atomic Energy Commission to order. Present were Commissioners: Dr. Stephen Mecca, Dr. Andrew Kadak, , and Dr. Alfred Allen and staff Dr. Terry Tehan, Hank Bicehouse , Jeff Davis and Mike Middleton. Dr. Gromet and Dr. Nassersharif arrived shortly after the meeting was called to order.

1. Minutes of the 6 November, 2006 RIAEC Meeting.

Dr. Kadak made a motion to accept the amended minutes (copy attached). Dr. Allen seconded the motion. The minutes of the meeting were reviewed. A Motion to accept minutes passed unanimously. See Enclosure 1

2. Reactor Operator Qualification Progress Report. Mike Middleton made a report on qualification status. Both exams are scheduled for next spring. See Enclosure 2

3. Operating Budget/ Capital Budget/grants. Dr. Tehan presented a written report on the budget. A discussion was held on use of funds. The Commission reinforced the need to ensure the state funds were adequate for normal operation and maintenance activities and that the federal funds were not being used to cover such items. A ten year graph will be developed showing historical funding. See enclosure 3

4. NRC Inspection/ NRSC Meeting Minutes- New inspection date is April 23 It has been moved back 2 weeks. See Enclosure 2

5. Emergency Plan Update. A discussion was held on schedule slippage and the revised plan to update the plan. It was agreed that the marked up draft will be available for the NRC inspector in April.

6. July Emergency Drill- Jeff Davis submitted a written report for the last meeting. The new emergency plan should be used for the next drill.

7. Mike Middleton discussed new training initiatives which include using Doug Cullen to develop a commercial NAA capability. Mike is working with Canberra to develop a software program to support this project.

8. Facility Utilization Initiatives

a .Dr. Leith gave a short presentation on his cancer research projects

b. Dr. Tehan discussed RIEDC support

c. Mike Middleton discussed ungoing projects.

d. Jeff Davis discussed the directed mailing project (see enclosure 4)

9. Old Business

a. The next meeting of the RIAEC will be at 8:30, Thursday 5 April, 2005 at the R.I. Nuclear Science Center.

10. New Business

- a. An executive session was held**
- b. Dr.Gromet made a motion and Dr.Allen seconded a motion to adjourn which passed unanimously. The meeting adjourned.**

Enclosure 1- approved minutes

**Minutes of the Rhode Island Atomic Energy Commission Meeting,
6 November, 2006**

Dr. Mecca called the meeting of the Rhode Island Atomic Energy Commission to order at 8:00 AM. Present were Commissioners: Dr. Stephen Mecca, Dr. Andrew Kadak, , and Dr. Bahram Nassersharif and staff Dr. Terry Tehan, Hank Bicehouse , Jeff Davis and Mike Middleton. Dr. Gromet arrived at 8:09 AM.

1. Minutes of the 12 July 2006 RIAEC Meeting.

Dr. Kadak made a motion to accept the amended minutes (copy attached). Dr. Nassersharif seconded the motion. The minutes of the meeting were reviewed. A Motion to accept minutes passed unanimously.

2. Reactor Operator Qualification Progress Report. Mike Middleton made a report on qualification status. Both exams are scheduled for next spring. The Commission was assured that there were adequate licenses for operation for the current operating schedule. Should an increase in reactor use occur, the number of licensed operators may be insufficient.

3. Operating Budget/ Capital Budget/grants. Dr. Tehan presented a written report on the budget. A discussion was held on use of funds. The Commission reinforced the need to ensure the state funds were adequate for normal operation and maintenance activities and that

the federal funds were not being used to cover such items since they are restricted to capital improvements.

4. Mike Middleton submitted a written report on the recent NRC inspection and NRSC meeting. (copies attached). A discussion was held concerning the gasket replacement and other maintenance.

5. Search for new NRSC member with nuclear engineering experience. Linus Kelly was recommended by the NRSC for appointment to the NRSC based on his nuclear engineering education and experience. Dr. Gromet moved to approve the appointment. Dr. Kadak seconded it. The motion passed unanimously.

6. Jeff Davis submitted a written report on the July Emergency Drill (copy attached). A discussion was held on the drill and emergency plan. RINSC committed to completing revisions to the emergency plan by the end of the year.

7. Mike Middleton discussed new training initiatives. It was suggested that Mike contact MIT and Lowell university reactor operators since they have formal training programs and curricula that might be useful for training RI reactor operators.

8. Facility Utilization. Dr. Tehan reported on the progress of Dr. Otts' filter project and the RIEDC Grant. He also discussed Dr. Leith's new

initiatives. Mike Middleton reported on neutron scattering and other research upgrades. The general suggestion by the Commission is that these researchers link with local university students to conduct and carry on this type of research in the future.

9. Old Business

An extensive discussion took place on ways to increase reactor utilization:

M. Middleton discussed the requirement to report reactor utilization to the state of RI each year and last year's number was around 30%.

A recommendation was made to create a draft of a short article on NAA to be submitted to Bahram Nassersharif at URI. The article will be published in the URI Engineering Magazine. M. Middleton, H. Bicehouse and Jeff Davis will draft this article.

A recommendation was made to modify the article on NAA and submit to Stephen Mecca at PC. This article will be published in the Spectrum at PC. M. Middleton, H. Bicehouse and Jeff Davis will modify the URI article for use at PC.

T. Tehan discussed the marginal impact that the mass mailing of an introductory letter and brochure had on increasing utilization of the

reactor and that RINSC is already working with RI Economic Development Corporation (RIEDC) to find possible collaborations with RI industry.

T. Tehan discussed the work he is doing with Dr. Leith in the area of Cancer Research. He stated that Dr. Leith is collaborating with Paul Willard of Brown University and Dr. Vittenberger of URI in applying for the RIEDC STAC grant, and their efforts to collaborate with the Albany Medical Center and companies associated with the Albany Medical Center on a collaborative effort toward producing a new radio-nuclide based product.

Jeff Davis submitted a comprehensive document on the possible uses of NAA. The document was well received. Jeff Davis will contact recipients of the directed mailing letter and brochure sent to researchers through New England as a follow-up and present the contents of this document.

Stephen Mecca suggested that invitations for visits and briefings be sent to targeted commercial industries and university faculty to RINSC in Rhode Island and Connecticut.. Stephen Mecca suggested the possibility of having RIEDC be asked to support RINSC's effort to increase reactor utilization.

Andrew Kadak suggested that consideration should also be given to increase the educational role of the RINSC. Items that should be

reviewed are taking some of the unused lab space and converting it into a classroom for lectures. In addition, distance learning capabilities should be explored with lectures and demonstrations given at the RINSC and televised over the internet to class rooms state wide

M. Middleton described RINSC's present support of two at URI for projects at RINSC. One student's project is to recalibrate the refurbished goniometer. The other student's project is to complete phase one of a computer automation of the reactor control system.

Stephen Mecca suggested extending exploratory "grants" to university faculty for projects at RINSC. T. Tehan stated that RINSC could supply some money to faculty based on the completion of projects that benefit RINSC and help to increase reactor utilization.

M. Middleton stated that in addition to exploratory grants, RINSC would be able to support projects through the purchase of needed equipment. RINSC purchased a Digital Spectrum Analyzer and used Reactor Sharing funds for staff assistance in support of the UNH atmospheric sampling project.

The meeting schedule was discussed and it was decided that the next meeting would be at 8:300 A.M. on jan 30 , 2007 at the R.I. Nuclear Science Center.

10. New Business

11. Adjournment

Dr.Gromet made a motion and Dr. Nassersharif seconded a motion to adjourn which passed unanimously. The meeting adjourned at 10:15 AM.

Enclosure 2-

From: Michael Middleton [mmiddleton@gso.uri.edu]

Sent: Monday, January 22, 2007 9:49 AM

To: Alfred RDECOM Allen (PKI); Andrew Kadak; L_Gromet@brown.edu;

Stephen Mecca; Dean@Egr. Uri. Edu

Cc: Terry Tehan

Subject: Training and Facility repair update

Two members are preparing for their license exams, B. MacGregor and M.

Damato.

Their exam dates have been set, April 9th and 10th.

We are presently using the study material recommended by UMass Lowell. The

DOE Fundamentals Handbook, Nuclear Physics and Reactor Theory.

At present

we are half way through this manual.

On April 9th and 10th, Kevin Witt will come to administer the exam and than

stay the rest of the week for our semi annual facility inspection.

The second part of training involves startups, shutdowns and system checkouts. These have not been started, but the two are very up on performing startups and shutdowns.

Facility maintenance:

Presented last meeting was the facilities need to change out the flow gaskets. The project was delayed, in order to gather more information and

to support the needs of UNH for an additional project in December.

The following items have been accomplished in preparation for planning the maintenance:

Video surveillance of the gaskets with the underwater camera.

Determined the material type and specification, ordered and received raw material.

New digital camera for documentation.

Search of Old Engineering Records for historical data.

Ordered and Received work platform for project.

Contacted Wayne and received Email about past history of the gasket material.

It was determined that the inlet flow gasket was in good shape and flow to the core was not an issue.

No date has been set for change out.

Enclosure 3-Budget

From: Terry Tehan [ttehan@gso.uri.edu]

Sent: Thursday, January 25, 2007 8:23 AM

To: Stephen Mecca; Kadak@earthlink.net; BN@uri.edu;

L_Gromet@brown.edu;

Alfred.Allen@us.army.mil

Subject: Budget update

To All- RIFANS currently lists \$24,014 free balance in the General Account after all salaries until the end of the year have been

encumbered. We have an Authorized Red Balance approved for \$16,000 so we have \$40,000 available in the operating budget for the rest of the year. We may make it given the cuts currently in place-no overtime and all items we can have been shifted to federal accounts. Two big uncertainties exist- electricity, which is a function of reactor operation, and the janitor position. The janitor is going out on workman's comp. The length of his absence is unknown. Given the hiring freeze, this will save money. The Governor just put out another letter cutting off allot more spending but it does not affect us since we did not have any spending in these categories. We do have to submit monthly reports now.

The federal accounts are in good shape: \$75,000 left in Reactor Sharing, \$108,000 in Reactor Instrumentation and \$114,000 in INIE. The bad news is that John Guteridige at DOE does not have the new programs to replace these grants set up or approved yet. He is looking at March for some insight on where we are headed. We do have \$85,000 in INIE money that is for this year but I do not want to bill MIT until June so it goes into the new year budget on July 1. This is to prevent the annual problem of getting Accounts and Controls to move the money into FY08. They take a long time because they collect interest by putting the money in revenue bonds while we have to work with ARBs from budget.

The state budget situation is bad this year and worse next year. I do not expect any capital budget items to get approved. The Governor

presents his budget in his state of the state address this week. The budget hearings will start in a few months. I will let you know where next year's budget is going when I get some reliable information.-

Terry

Enclosure 4- NAA

From: Michael J. Davis [jdavis@gso.uri.edu]

Sent: Monday, January 29, 2007 3:19 PM

To: Alfred.Allen@US.Army.mil; L_Gromet@Brown.edu;

Kadak@Earthlink.net;

SMecca@Providence.edu; BN@URI.edu

Cc: TTehan@gso.uri.edu; MMiddleton@gso.uri.edu

Subject: RINSC NAA Marketing Update

Gentlemen –

In preparation for tomorrow's RIAEC meeting, I thought that I would send you a report on the progress that I have made toward our marketing effort.

At the last RIAEC meeting the Commissioners decided that the RINSC staff should work on marketing our NAA capabilities, and more specifically that we should write an informative article about NAA that could be published in university engineering publications. I am not sure what efforts others have made on this, but I have approached the NAA marketing problem from a couple of different angles.

In regard to writing an article about NAA, it occurred to me that it would be nice to have a single source of information that could be drawn on to write engineering publication articles, awareness pamphlets, power point presentations, and to put together a website. With that in mind, I

have

been gathering data (with references) that I think will be useful, including

information about:

- History of NAA**
- Description of NAA**
- Sensitivity limits**
- Competing methods**
- Advantages over competing methods**
- How NAA has been used in the past**
- How NAA has been used at RINSC**

I am still working on understanding the competing methods, and the advantages / disadvantages associated with each technique. I also need to

get information about the article length and formatting requirements for

each of the university publications that we are interested in providing a

submission.

I have also been considering the larger problem of marketing NAA in general.

To that end, I spoke with Doug Cullen. Doug is a long time tenant of RINSC,

who does trace metal analysis in environmental samples. He is familiar with the market for trace analysis. Based on my conversations with him, I have drawn the following conclusions:

- Most potential customers are NOT interested in doing the analysis themselves. They want to send out their samples and get meaningful data back.**
- Most potential customers want data that is traceable (i.e. NIST traceable), which means that we need to have an NAA program, complete with a QA program and SOPs.**
- We need an analyst.**

I also met with a couple of representatives of RI Economic Development. In addition to giving me a list of potential contacts at URI, they suggested that we put together a power point presentation on NAA, and have a round table discussion to introduce this analytical technique to potential users, and to get feedback on how it might be applicable to their endeavors.

Additionally, as you are aware, I am in the process of wrapping up an MBA program. One of the courses that I took last summer was marketing, and while I think that it would be safe to say that most of marketing involves common sense, I did get some insight on how to put together a marketing plan and how to develop a strategy for success. I met with my marketing professor to discuss our desire to sell NAA services. He has agreed to help guide me through the process of putting a plan together. I also suggested that this project may be something that a marketing student could use as an independent study project. He agreed, and is keeping his eye out for a suitable student.

Finally, as any good marketer knows, word of mouth is the best form of advertising. I know a graduate student that came here to the Bay Campus of URI from Harvey Mudd College in California. He is still working with his Harvey Mudd advisor on a research project involving shell bead

production by

the Chumash Indians on Santa Cruz Island about a thousand years ago.

Apparently these beads were made on this island, and used as currency as far

inland as Arizona and New Mexico. Their research project focuses on the

tools that were used to make these beads. They are trying to link the tools

that they have found to specific chert outcrops on the island. I suggested

to him that NAA might be a way to do this. He has brought samples from the

various outcrops to our facility so that we can see whether or not there is

any distinguishing elemental signature in the samples that are characteristic of the outcrops of origin. If this is successful, it may open the door to further work. Here at URI, this student is working on his

Ph.D. with Dr. Bob Ballard as his advisor. At present they are doing underwater archeology in the Black Sea. Needless to say, if RINSC could

somehow be involved in research related to Dr. Ballard, it would be a huge

coup politically.

I expect to be present at the meeting tomorrow, in the event that there are any questions.

JD