



AMERICAN NUCLEAR SOCIETY

REACTOR PHYSICS DIVISION



Message from the Chair

By Ben Rouben

The ANS Reactor Physics Division is in very good shape in terms of membership, finances, and activity. **Jess Gehin**, the immediate Past Chair of RPD, **and in fact all the Executive Members and Officers of the Division in the last few years** can justifiably feel proud of their splendid leadership which has led to this excellent result. I would like to thank them all on my behalf as well as yours.

The membership of the Division has increased steadily over the last half-dozen years 2000-2005 (2006 final numbers not yet available), both in absolute number and in terms of the percentage of total ANS membership, reaching about 15% in 2005 (see Figure 1). The participation of RPD in the national meetings continues to be very high, and in addition the Division has organized a high number of very successful topical meetings. Again, our thanks should go to Ivan Maldonado and previous Program Committee Chairs for this terrific success. But, equally, thanks should go to all of you, loyal Division members, who have enthusiastically submitted papers to all our Conferences. Keep those papers coming!

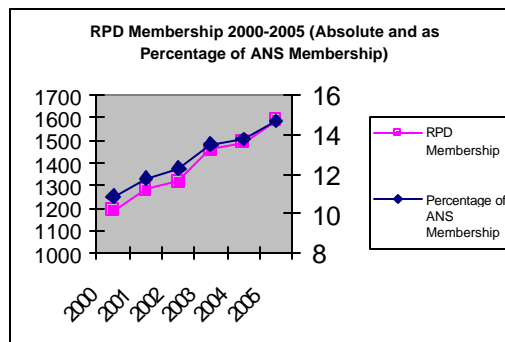
In keeping with these statistics and with the surpluses in the topicals, the Division finances have been very healthy. In fact, RPD has been able to put away funds to basically endow the Henry-Greebler Award. The Division also continues to support the annual Student Conference and student participation at national meetings, and also, most recently, at PHYSOR-2006.

The nuclear renaissance which is currently ongoing on an international scale bodes well for the future of the reactor-physics discipline. We can be confident that the increased demand which we have recently seen for reactor physicists in all areas will continue, and in fact gain steam. And universities will be graduating more bright young minds trained in the nuclear discipline. This is extremely important in ensuring the

continuity of trained manpower as the previous generation reaches retirement.

The Division's international impact is also very strong. This is very clearly evidenced in the hosting and organization of PHYSOR-2006 by the Canadian Nuclear Society (in Vancouver, BC), and the awarding of PHYSOR-2008 to Switzerland (in Interlaken). Fostering meaningful international relationships will continue to be a strength of RPD. All the Division Topicals consistently show very high participation by non-US members.

I look forward to continued excellent success for the Division, and to the high level of service to its members.



2007 Ballot News

Congratulations to our new 2006-2007 executive committee members! They will hold their positions as of June 2006 until June 2007.

Chair:	Benjamin Rouben
Vice-Chair/Chair-Elect:	Farzad Rahnema
Treasurer:	Jeffrey L. Bradfute
Secretary:	Robert St.Clair
Executive Committee:	Michael Todosow
	Pavel Hejzlar
	Bojan Petrovic
	Ken Kozier

Program Committee Changes

A list of program committee members including the new chairman and 2006/2009 members is attached to this newsletter. A special thank you

is given to Ivan Maldonado as outgoing program committee chairman and the outgoing 2003/2006 program committee members for their years of support to the Division.

Best Paper Awards

The best paper award from RPD for the Reno meeting went to M. J. Driscoll and C. S. Handwerk from the Massachusetts Institute of Technology for their paper titled: "Flow-Levitated Absorber for GFR LOF and LOCA Mitigation." Our congratulations go to Prof. Driscoll and his co-author as our appreciation for consistently submitting high-quality work to our sessions. Also, we'd like to acknowledge Prof. Nam Zin Cho and his KAIST co-authors for their excellent contribution, their runner-up paper was titled: "The AFEN Method in Cylindrical (r,T,z) Geometry for Pebble Bed Reactors – Extension to Multigroup and Treatment of Voids."

June 2006 Annual Meeting

The 2006 Annual Meeting in Reno attracted about 30 abstracts to the RPD Division and the corresponding presentations in four sessions. Ivan Maldonado and Scott Thomas represented RPD during the preceding paper auction in Chicago in February. Three sessions were the usual "standing" sessions: Reactor Physics General – 8 papers, Reactor Analysis Methods – 6 papers, and Reactor Physics Design, Validation, and Operating Experience – 8 papers. The fourth session was a special session organized by Mark DeHart from ORNL called "Student/Professional Collaborations in Reactor Physics" which attracted 8 papers. We also held in Reno our annual standing panel on Current Topics for Reactor Engineers organized by Bob StClair. This roundtable discussion focused primarily on current issues and problems in reactor physics associated with reactor engineering and core designs, such as planning power maneuvers, precluding fuel clad failures, and power suppression strategies. Panelists invited included John Singleton from Calvert Cliffs, Geoff Pihl from Duke, Dan Powers from Southern California Edison, and Tom Marcille from LANL.

Winter Meeting 2006

The paper auction for the 2006 Winter Meeting in Albuquerque, NM, was held in Chicago. The

RPD TPC Chair, Ivan Maldonado, represented RPD during this meeting held in July. There were 28 abstracts arranged into 4 sessions. The usual three standing sessions were: Reactor Physics General – 7 papers, Reactor Analysis Methods – 7 papers, and Reactor Physics Design, Validation, and Operating Experience – 7 papers. Also, a fourth session is a special session organized by Prof. Tunc Aldemir from Ohio State University on the subject of "research reactor modeling."

In summary, 2006 has been a good year for RPD. However, overall abstract contributions from our division have been down relative to recent times in which we've had tallies of 40 to 50 abstracts per meeting. This is not unusual, in fact, given the tremendous success enjoyed by PHYSOR 2006 which likely had an impact upon RPD contributions to this year's national meetings. However, in 2007 we should place additional focus upon encouraging the organizing of special sessions, which we've often had 2 or even 3 special sessions per meeting. Special sessions directly yield additional abstract contributions, but most importantly, they provide a forum for the "latest & hottest" contemporary topics in our area. Therefore, we encourage every member of RPD, though especially target members of the Technical Program and Executive Committees, to help organize a special session or two during their tenure. For those of you out there interested in launching a special RPD session for a future meeting, it is actually easy to do, so please contact Ivan.Maldonado@uc.edu for information about the process. During the Albuquerque meeting, on Sunday November 12, we will start collecting proposed special sessions for the 2007 Winter Meeting in Washington, DC.

2007 Student Conference

The 2007 student conference will be held March 19-21, 2007 at Oregon State University. Additional information may be found online at <http://groups.engr.oregonstate.edu/ans/>

Wigner Award

There will be no Wigner award to be given in 2006.

The Wigner Award is one of the most prestigious awards of the Society. Nominations for persons who have made significant contributions toward the advancement of the field of Reactor Physics

may be made using the appropriate form posted on the ANS website (Honors and Awards) and submitted to the ANS Headquarters. The deadline for applications is April 1st. The candidate need not be a member of the Society or a U.S. citizen.

The Reactor Physics Division is now providing the opportunity for the recipients of the Wigner Award to present a paper in a special lecture series "The Wigner Lectures" during which the recipient's work is highlighted and discussed. The lectures are embedded in one of the Reactor Physics sessions at the Winter Meeting. The Wigner lecture series was inaugurated in November of 2004 and is quickly becoming the highlight of the reactor physics technical sessions at the ANS winter meetings.

Reactor Physics Standards News

The next Reactor Physics Standards committee will meet during the ANS Winter meeting in Albuquerque, NM, on Monday, November 13, 2006, from 8:30 to 10:30 a.m. in the Enchantment A room of the Hyatt Hotel. Interested person are invited to attend this meeting.

Plans for the revision of ANSI/ANS-19-1, "Nuclear Data Sets for Reactor Design Calculations", were presented by the chair of the ANS-19 Working Group, Bob Little (LANL). Plans include a discussion of uncertainties and a review of resonance integrals. A draft of the revised standard is scheduled to be completed by the end of the year. The 2005 revision of ANS-19.3, "Determination of Reaction Rate Distributions and Reactivity of Nuclear Power Reactors", Working Group Chair Ben Rouben (AECL), is already in circulation. The latest (2006) revision of ANSI/ANS-19.6.1, "Reload Startup Physics Tests for PWRs" has been released and is already in circulation. A major new revision is being drafted. Included in this new revision will be an expanded set of bases for each test. Charles Rombough, Working Group Chair, expects that a draft for ANS-19 review is will be completed by the end of 2007. A revision of ANSI/ANS-19.10, "Calculation and Measurement of the Moderator Temperature Coefficient of Reactivity for PWRs", R.D. Mosteller, WG Chair, is planned. A draft of proposed standard ANS-19.9, "Delayed Neutron Parameters for LWR's", M. Brady-Raap, new WG Chair, is being prepared. The latest revision

of proposed standard ANS-19.10, "Determination of Neutron Fluence in BWR and PWR Pressure Vessel and Reactor Internals", L. Lois, WG Chair, is being circulated for review by ANS-19. Bob Schenter, former WG Chair of ANS-5.1, "Decay Heat Standard", is scheduled to propose a new standard, as yet unnamed, related to the reactor physics aspects of the production of certain medical isotopes. In the international domain, the core of the U.S. decay heat standard, ANSI/ANS-5.1 was accepted by the International Standards Organization. Three ANSI/ANS standard for possible ISO adoption were proposed by D. Cokinos at the biennial meeting of the ISO held in Ottawa last June. These are: ANSI/ANS-19.1, ANSI/ANS-19.3, and ANSI/ANS-19.6.1. At the last June ANS-19 meeting, Enrico Sartori of OECD, NEA, discussed the newly produced "International Handbook of Evaluated Reactor Physics Benchmark Experiments" and invited interested persons to review the guidelines vis-à-vis ANSI/ANS-19.4, "A Guide for Acquisition and Documentation of Reference Power Reactor Physics Measurements for Nuclear Analysis Verification". It must be pointed out that ANSI/ANS-19.4 is due for revision.

A special session on Nuclear Standards will be held at the PHYSOR 2006 International Reactor Physics Conference in Vancouver, September 10-14, 2006. Seven papers covering a wide area of physics standards has been scheduled for presentation.

Computational Benchmarks for the Doppler Reactivity Defect

A set of computational benchmarks for the Doppler reactivity defect in PWR pin cells has been created and distributed. The benchmarks cover UO₂ fuel pins with enrichments from 0.711 to 5.0 wt.%, reactor-recycle MOX fuel pins with MOX content from 1 to 8 wt.%, and weapons-grade MOX fuel pins with MOX content from 1 to 6 wt.%. Contributed results will be incorporated in a summary report that will be posted on the Internet along with the specifications themselves. Anyone who has questions or would like a copy of the benchmark specifications should contact Russ Mosteller at Los Alamos National Laboratory (mosteller@lanl.gov, 505-665-4879).

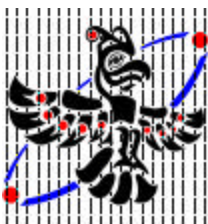
RPD Financial Report

The RPD is in excellent financial health. We ended 2005 with a balance of \$9,430. Also, the Henry/Greebler scholarship fund is now fully endowed. For more details, please refer to the minutes of the executive committee meeting held at the 2006 Annual Meeting in Reno, NV. These can be found on the RPD website.

Reactor Physics Division Website

<http://rpd.ans.org>

Announcements
Bylaws, Charter, Goals
Meeting Minutes
Newsletters



PHYSOR-2006 Summary
B. Rouben
2006 September

The ANS Reactor Physics Topical Meeting in 2006, PHYSOR-2006, was hosted and organized by the Canadian Nuclear Society, and was held at the Hyatt Regency hotel in Vancouver, British Columbia, Canada, on September 10 to 14. Jim Lake of INL served very enthusiastically as PHYSOR-2006 Honorary Chair.

The PHYSOR-2006 Call for Papers elicited a terrific response: more than 400 reduced-length papers were submitted. The Technical Program Committee, consisting of 174 members from 25 countries, reviewed papers very diligently, and the final number of papers in the PHYSOR-2006 program was 354. The lead Technical Program Co-Chair was Ken Kozier of AECL. International Technical Program Co-Chairs were R. Mosteller (LANL), C.-H. Kim (Seoul National University), and E. Sartori (OECD NEA).

The Canadian organizing committee for PHYSOR-2006 consisted of a small number of very enthusiastic and hard-working volunteers from Atomic Energy of Canada Limited (K. Kozier, A. Buijs, W. Shen, B. Bromley, P. Schwanke, M. Younis, D. Scherbakova, C. Gaver and B. Rouben), Candesco Corporation (M. Gold), École Polytechnique de Montréal (G. Marleau, R. le Tellier), University of Ontario Institute of Technology (E. Nichita), and Canadian Nuclear Society (D. Rouben). The committee met about 40 times (by teleconference) in the two years before PHYSOR-2006, to finalize all organizational details. The “atomic thunderbird” logo of PHYSOR-2006 was designed by P. Schwanke.

The first event in PHYSOR-2006 consisted of workshops on 3 reactor-physics codes, given in sequence:

- A workshop on TRITON, by Mark DeHart of ORNL
- A workshop on PARCS, by Tom Downar (and students) of Purdue University, and
- A workshop on DRAGON by Guy Marleau, Alain Hébert and Robert Roy of École Polytechnique de Montréal.

This day of workshops was very successful, with more than 90 participants attending (the original limit of 50 participants having been increased several times).

The PHYSOR-2006 program included three plenary sessions, scheduled on Monday and Tuesday:

- Plenary I – Advances in Generation III+ Reactors, with 2 papers, by J. Hopwood of AECL and M. Parece of AREVA.
- Plenary II – Advances in Analysis Methods, consisting of a paper by J. Gehin of ORNL.
- Plenary III – Advances in Nuclear Data Libraries, with four invited papers, by C. Nordborg of the OECD, P. Obložinský of BNL, A.L. Nichols of the IAEA, and K. Shibata et al. of the Japan Atomic Energy Agency.

Outside of these plenaries, the very busy PHYSOR-2006 program required scheduling the large number of papers in 5 parallel sessions. While this required the registrants to make some hard choices about which sessions to attend, it fortunately did not seem to create serious problems. Conflicts in the schedules of presenters giving more than one paper were resolved without great difficulty. PHYSOR-2006 registrants commented on the general high quality of the Technical Program. Over the three-and-a-half days of the Conference, there were 64 individual sessions, most being 2 hours long. Topics covered the usual very wide range of reactor-physics areas, such as transport and Monte-Carlo methods, fuel cycles, core design and analysis, etc., but there were also some new topics on the program, probably not encountered in previous PHYSORs, for instance Nuclear Methods for Nonproliferation and Homeland Security, Covariance Data Generation for Nuclear Applications, and The International Reactor Physics Experiment Evaluation Project (IRPhEP).

The final attendance at PHYSOR-2006 was 392 registrants, from 26 countries and approximately 147 different institutions. PHYSOR-2006 was truly an international event, with about 58% of the attendees coming from outside the USA & Canada. This high level of international participation was facilitated and stimulated by (non-financial) co-sponsorship and publicity by 17 sister nuclear societies world-wide.

The attendees included 54 students. Of these, 25 students from 18 universities in 10 countries participated in the student-paper competition. The student winners were:

- 1st prize (US\$ 500): Massimiliano Fratoni, University of California at Berkeley
Title: Optimal Hydride Fueled BWR Assembly Designs
- 2nd prize (US\$ 300): Romain Le Tellier, École Polytechnique de Montréal
Title: Benchmarking of the Characteristics Method Combined with Advanced Self-Shielding Models on BWR-MOX Assemblies
- 3rd prize (US\$ 200): Angel Papukchiev, Technische Universität München
Title: Impact of Boron Dilution Accidents on Low Boron PWR Safety

The Poster Session, held on Wednesday afternoon with wine and cheese to encourage attendance, included 46 papers. Two equal prizes were presented for best poster paper, and they were awarded to:

- Maria Pázsit, Carl Sunde and Imre Pázsit, “Beam Mode Core-barrel Vibrations in the PWRs Ringhals 2-4”, Chalmers University of Technology, Göteborg, Sweden (paper presented by Carl Sunde).
- D.W. Nigg, P.E Sloan, J.R. Venhuizen, C.A. Wemple, G.E. Tripard, K. Fox, E. Corwin, “Computational and Experimental Physics Performance Characterization of the Neutron Capture Therapy Research Facility at Washington State University”, Idaho National Laboratory; University of Illinois; and Washington State University (paper presented by Patrick Sloan).

Financial support for PHYSOR-2006 was gratefully received from 15 organizations in Canada and the USA. In addition, 6 organizations had displays. This financial support contributed greatly to the success of PHYSOR-2006.

The following refreshments and meals were provided gratis to regular registrants, as part of the registration fee: morning breakfast, coffee breaks and lunch at the Sunday Workshop, continental breakfast for speakers every day, early-morning coffee, morning and afternoon coffee breaks, Monday Luncheon (with guest speaker Dwight Willett of Bruce Power on the status of the nuclear industry in Canada), Poster Session wine and cheese, Wednesday Banquet (with guest speaker Prof. David Scott of University of Victoria on the promise of the hydrogen economy), and Thursday sandwich lunch. The lunch and banquet were not included in the student fee, however students were in the end invited to the Banquet. An Abstract Book and the CD-ROM Proceedings (designed and produced by Denise Brien of Koclas Logic Systems) were also included in all registration fees.

Tickets were sold for one special event, a Fun Evening at the Vancouver Aquarium on Tuesday, featuring drinks and supper and a beluga whale show. This drew 220 people and seemed to be thoroughly enjoyed by everyone. A technical tour on Thursday morning to TRIUMF, the TRI-University Meson Factory (accelerator), attracted about 30 participants.

PHYSOR-2006 ended in the early afternoon of Thursday with presentation of the student and poster prizes, and a fun, random draw for attendance prizes and souvenirs.

In addition to its technical success, PHYSOR-2006 far exceeded its budgeted financial surplus, as a result of the very large number of participants.

Benjamin Rouben

PHYSOR-2006 General Chair

**2006-2007 REACTOR PHYSICS DIVISION OFFICERS
INCOMING CHAIR**

Benjamin Rouben
Atomic Energy of Canada, Limited
Sheridan Science and Technology Park
Mississauga, ON, CANADA
Phone: (905) 823-9060 ext. 4550 (FAX: 822-0567)
e-mail: roubenb@aecl.ca

VICE CHAIR/CHAIR ELECT

Farzad Rahnema
Nuclear & Radiological Engineering
And Medical Physics Programs
Georgia Institute of Technology, George Woodruff School
Atlanta, GA 30332-0405
Phone: (404) 894-3731 (FAX: 3733)
e-mail: farzadrahnama@nre.gatech.edu

TREASURER

Jeffrey Bradfute
Westinghouse Electric Company
Nuclear Fuel Business Unit
5801 Bluff Road
Columbia, SC 29250
Phone: (803) 647-2080 (FAX: 2026)
e-mail: bradfujl@westinghouse.com

SECRETARY

Robert St.Clair
Duke Energy
P.O. Box 1006
Charlotte, NC 28201-1006
Phone: (704) 382-6820 (Fax: 7852)
e-mail: brstclai@duke-energy.com

**EXECUTIVE COMMITTEE
2008**

2007

Steven Baker
266 Pennsville Pedricktown Rd
Pedricktown, NJ 08067
Phone: (856) 299-0207 (FAX: same)
email: sbaker@twe.com

Abderrafi Ougouag
The Idaho National Laboratory
P.O. Box 1625
Idaho Falls, ID 83415-3885
Phone: (208) 526-7659
e-mail: abderrafi.ougouag@inl.gov

2009

Dr. Michael Todosow
Brookhaven National Laboratory
Bldg. 475B 12 S. Upton Road
P.O. Box 5000
Upton, NY 11973-5000
Phone: (631) 344-2445 (FAX: 7650)
Email: todosowm@bnl.gov

William Charlton
Nuclear Engineering Dept.
Texas A&M University
3133 TAMU
College Station, TX 77843-3133
Phone : (979) 845-7092
FAX : (979) 845-6443
e-mail : wcharlton@tamu.edu

Taek Kyum Kim
N Agonne National Laboratory
3411 Rosecroft Ln
Naperville, IL 60564
Phone: (630) 252-3213
FAX: (630) 252-4500
e-mail: tkkim@anl.gov

Dr. Pavel Hejzlar
Massachusetts Inst of Technology
77 Massachusetts Ave.
Bldg. 24 Room 15
Cambridge, MA 02139
Phone: (481) 777-1732
FAX: (617) 258-8863
Email: hejzlar@mit.edu

Juan-Luis Francois
Universidad Nacional Autonoma de Mexico
Facultad de Ingenieria
Apartado Postal 6-58
62131 Cuernavaca, Mor. MEXICO
Phone : (+52) 777-319-3282 (FAX: 4101)
e-mail : jflf@fi-b.unam.mx

Michael L Zerkle
Bettis Atomic Power Laboratory
PO Box 79
West Mifflin, PA 15122-0079
Phone: (412) 476-6188
FAX: (412) 476-5590
e-mail : zerkleml@bettis.gov

Dr. Bojan Petrovic
Westinghouse Electric Company
Science and Technology Dept.
1344 Beulah Road
Pittsburg, PA 15253
(412) 256-1295 (FAX: 2444)
Email: petrovb@westinghouse.com

Dr. Kenneth S. Kozier
Atomic Energy of Canada Ltd.
Chalk River Laboratories – Stn E3
Chalk River Ontario KOJ 1JO, Canada
Phone: 613-584-8811X5059
FAX: 613-584-8047
e-mail: kozierk@aecl.ca

PROGRAM

Dr. Bojan Petrovic
Westinghouse Electric Company
Science and Technology Dept.
1344 Beulah Road
Pittsburg, PA 15253
(412) 256-1295 (FAX: 2444)
Email: petrovb@westinghouse.com

**STANDARDS/
HONORS & AWARDS**

Dimitrios Cokinos
Brookhaven National Laboratory
Building 130
Upton, NY 11973-5000
Phone: (516) 344-2146 (FAX: 3957)
e-mail: cokinos@bnl.gov

**SCHOLARSHIP/
GOALS & MEMBERSHIP**

Phillip J. Finck
Argonne National Laboratory
Technology Development Div., Bldg 207
9700 S. Cass Avenue
Argonne, IL 60439
Phone: (630) 252-1987 (FAX: 4007)
e-mail: pfinck@ra.anl.gov

WEBSITE

Jason Breen
Georgia Institute of Technology
324883 Georgia Tech Station
Atlanta, GA 30332
Phone: (404) 385-1818 (Cell: 813-494-0793)
e-mail: jason.breen@gatech.edu

IMMEDIATE PAST CHAIR

Jess C. Gehin
Oak Ridge National Laboratory
2218 Brighton Farms Blvd.
Knoxville, TN 37932-1400
Phone: (865) 576-5093 (FAX: 574-9619)
Email: gehinjc@ornl.gov

PAST-PAST CHAIR

Baard J. Johansen
Westinghouse Electric Company
Nuclear Fuel Business Unit
P.O. Box 355
Pittsburgh, PA 15230-0355
Phone: (412) 374-2184 (FAX: 2284)
e-mail: johansbj@westinghouse.com

ANS Reactor Physics Division Program Committee

Chair

Dr. Bojan Petrovic
Westinghouse Electric Company
Science and Technology Dept.
1344 Beulah Road
Pittsburgh, PA 15253
(412) 256-1295(Voice)
(412) 256-2444 (FAX)
PetrovB@westinghouse.com

Alternate

G. Ivan Maldonado
University of Cincinnati
Dept. of Mechanical, Industrial, and Nuclear
Engr.
PO Box 210072
Cincinnati, OH 45221-0072
(513) 556-0412 (Voice)
(513) 556-3390 (Fax)
Ivan.Maldonado@uc.edu

Incoming/Outgoing			
2003/2006	2004/2007	2005/2008	2006/2009
<p>Dr. Bojan Petrovic Westinghouse Electric Company Science and Technology Dept. 1344 Beulah Road Pittsburgh, PA 15253 (412) 256-1295(Voice) (412) 256-2444 (FAX) PetrovB@westinghouse.com</p>	<p>Prof. Hironobu Unesaki Kyoto University (KURRI) Division of Nuclear Engr. Science Kumatori-cho, Sennan-gun, Osaka 590-0494, JAPAN +81-724-51-2361 (Voice) +81-724-51-2603 (Fax) unesaki@kuca.rii.kyoto-u.ac.jp</p>	<p>Prof. Tunc Aldemir Ohio State University Bldg. 1, Rm. 130B, Ste. 255 650 Ackerman Rd Columbus, OH 43202 Voice: (614) 292-4627 Fax: (614) 292-3163 Email: aldemir.1@osu.edu</p>	<p>Mark D. DeHart, Ph.D. Reactor Analysis Group, Nuclear Science and Technology Division Oak Ridge National Laboratory Voice: 865-576-3468 E-mail : dehartmd@ornl.gov</p>
<p>Dr. Pavel Hejzlar Massachusetts Institute of Tech 77 Massachusetts Avenue Building 24, Room 215 (24-215) Cambridge, MA 02139 (617) 253-4231 (Voice) hejzlar@mit.edu</p>	<p>Dr. Emilio Fuentes Florida Power & Light Company 700 Universe Blvd Juno Beach, FL 33408 Phone: 561-691-7413 Fax: 561-694-4310 Emilio_Fuentes@fpl.com</p>	<p>Dr. Hany Abdel-Khalik North Carolina State University Dept. of Nuclear Engineering PO Box 7909 Raleigh, NC 27606-7909 Voice: (919)515.4600 Fax: (919)515.5115 abdelkhalik@ncsu.edu</p>	<p>Dr. Young S. Ham Lawrence Livermore National Lab Chemical Biology & Nuclear Science P.O. Box 808, L-235 Livermore, CA 94551 Tel. (925) 423-2474 Fax: (925) 422-3570 ham4@LLNL.GOV</p>
<p>Dr. Paul Keller Electric Power Research Center North Carolina State University 1114 Burlington Nuclear Eng. Labs Box 7909 Raleigh, NC 27695-7909 keller@unity.ncsu.edu</p>	<p>Paul G. Edelmann, P.E Los Alamos National Laboratory D-5, Nuclear Design & Risk Analysis PO Box 1663, MS K575 Los Alamos, NM 87545 (505) 667-2938 (Voice) (505) 665-2897 (FAX) edelmann@lanl.gov</p>	<p>Prof. José M. Aragonés Dept. of Nuclear Engineering Polytechnic University of Madrid College of Industrial Engineering c/ José G. Abascal,2 28006 Madrid, SPAIN (34) 91-336-3110 [Phone] (34) 91-336-3002 [Fax] arago@din.upm.es</p>	<p>Albert G. Gu AREVA NP Inc 2101 Horn Rapids Rd. Richland, WA 99352 509-375-8509 (Voice) 509-375-8402 (Fax) Albert.Gu@areva.com</p>
<p>Dr. Michael Todosow Brookhaven National Laboratory Mail Stop 475B Upton, NY 11973-5000 (631) 344-2445 (Voice) (631) 344-7650 (FAX) todosowm@bnl.gov</p>	<p>Prof. Edmundo del Valle Gallegos Instituto Politécnico Nacional Departamento de Ingeniería Nuclear Av. IPN s/n, Col. Lindavista México, D.F., 07738 MEXICO Tel. +52(55)57296000 x 55033 Fax. +52(55)55862957 edmundo@nuclear.esfm.ipn.mx</p>	<p>Dr. John F. Zino Principal Engineer GE Nuclear Energy Global Nuclear Fuel P.O. Box 780, Mail Code F-12 Wilmington, NC 28402 TEL (910) 675-6116 FAX (910) 675-6614 John.Zino@gnf.com</p>	<p>Szelim Kong Bechtel Bettis, Inc. Bettis Atomic Power Laboratory PO Box 79 West Mifflin, PA 15122-0079 Tel (412) 476-5945 szelim@comcast.net</p>
<p>Mr. Scott Thomas Duke Energy Corporation EC08G/P.O. Box 1006 Charlotte, NC 28201-1006 (704) 382-3868 (Voice) (704) 373-4464 (FAX) sbthomas@duke-energy.com</p>	<p>Dr. David J. Loaiza Los Alamos National Laboratory MS J562 Los Alamos, NM 87545 (505) 667-4936 (Voice) dloaiza@lanl.gov</p>	<p>Prof. Youssef Shatilla, D.Sc. Department of Nuclear Engineering King Abdul Aziz University P.O. Box 80204 Jeddah 21589, Saudia Arabia Tel (9662) 640-0000 ext 68346 Fax (9662) 695-2276 yshatilla@kaau.edu.sa</p>	<p>Dr. Ronald J. Ellis Nuclear Science and Technology Div Oak Ridge National Laboratory P.O. Box 2008, 1 Bethel Valley Road Oak Ridge, TN 37831-6172 Office: (865)574-6107 Fax: (865)574-9619 ellisrj@ornl.gov</p>
<p>Dr. Ken Kozier Atomic Energy of Canada Limited Stn. E3, Chalk River Laboratories Chalk River, Ontario CANADA K0J 1J0 (613) 584-8811+5059 (Voice) (613) 584-8047 (FAX) kozierk@aecl.ca</p>	<p>Keith J Drudy PWR Core Technologies Westinghouse Electric Company Nuclear Fuels Business Unit Westinghouse Energy Center Monroeville, PA 15146 (412)374-5841 (Voice) drudyk@westinghouse.com</p>	<p>Kevin T. Clarno, Ph.D. Reactor Analysis Group Oak Ridge National Laboratory P.O. Box 2008 Oak Ridge, TN 37831-6363 Phone: (865) 241-1894 Fax: (865) 574-9619 clarnokt@ornl.gov</p>	<p>Dr. Michael Scott McKinley Defence and Nuclear Technologies Lawrence Livermore National Lab L-95 LLNL, 7000 East Ave. Livermore, CA 94551 Phone: (925) 424-2738 Fax: (925) 424-6163 mckinley9@llnl.gov</p>