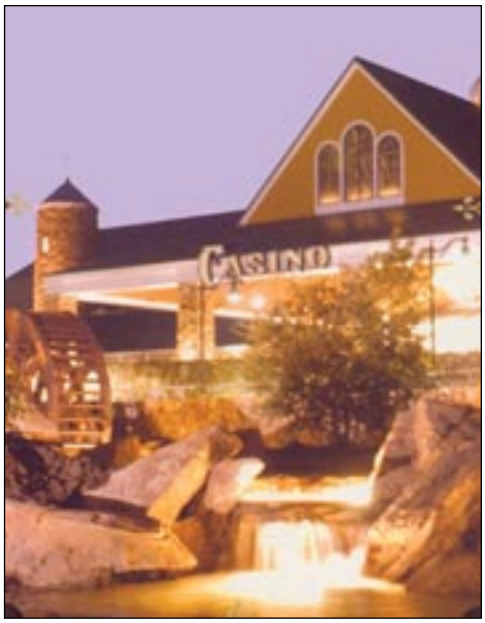
Preliminary Program and Registration Materials

2003 ANS ANNUAL MEETING

"The Nuclear Technology Expansion – Unlimited Opportunities"

June 1-5, 2003 • San Diego, California • Town and Country Resort & Convention Center

Table of Contents



Surrounded by the rugged beauty of wild sage, chaparral, and California Oak, Barona Valley Ranch Resort & Casino whispers of great promise and warm country charm. Designed to capture the flavor of the Barona Reservation's 1932 origins, the $260-million Barona Valley Ranch was crafted by Bergman, Walls & Associates, the creative visionaries behind such imaginative Las Vegas resorts as The Mirage, Paris Hotel and Casino, and Caesars Palace.

Please see page 7 for information on the special evening event at the Barona Valley Ranch Resort & Casino.

Note: This is a PRELIMINARY listing. Time and locations are subject to change. The Official Program, distributed at the meeting, will contain the final meeting schedule.

Visit ANS home page www.ans.org for future meetings and more!

San Diego, California: A sparkling waterfront city with urban sophistication and relaxed resort appeal

2003 ANS Annual Meeting

"The Nuclear Technology Expansion – Unlimited Opportunities"

June 1-5, 2003 • San Diego, California

Town and Country Resort & Convention Center

MEETING HIGHLIGHTS

SATURDAY, MAY 31, 2003

9:00 a.m. - 5:00 p.m.	Teachers' Workshop
1:00 p.m. - 6:00 p.m.	ABET Training Workshop
5:30 p.m. - 8:30 p.m.	Professional Divisions Workshop

SUNDAY, JUNE 1, 2003

8:30 a.m. - 5:00 p.m.	Professional Development Workshop #2 - "Effective Management of Risk: Supporting the Nuclear Renaissance"
9:00 a.m. - 5:00 p.m.	Professional Development Workshop #1 - "Preparing for the Nuclear Engineering Professional Engineering Exam"
1:00 p.m. - 1:30 p.m.	First-Time Attendees Orientation
4:00 p.m. - 5:00 p.m.	Student Assistant Training Session
5:00 p.m. - 6:00 p.m.	Mentoring Program
6:00 p.m. - 7:30 p.m.	ANS President's Reception

MONDAY, JUNE 2, 2003

8:00 a.m. - 10:00 a.m.	Spouse/Guest Hospitality
8:00 a.m. - 11:30 a.m.	Plenary Session: "The Nuclear Technology Expansion - Unlimited Opportunities"
9:15 a.m. - 3:00 p.m.	Spouse/Guest Tour: San Diego Sea and Land Adventure
11:30 a.m. - 1:00 p.m.	Operations & Power Division Luncheon
11:30 a.m. - 1:00 p.m.	DDR and FCWM Divisions Luncheon
1:00 p.m. - 4:00 p.m.	Technical Sessions: Annual Meeting
1:00 p.m. - 4:00 p.m.	Technical Sessions: Embedded Topical Meeting – Decommissioning and Spent-Fuel Management

"For the water-sports enthusiasts, this city offers some of Southern California's finest, public shores for surfing, sailing, jet-skiing, sunbathing, windsurfing, fishing and other aquatic-themed activities."

(A special thank you to the photographer, Scott Dam.)

MONDAY, JUNE 2, 2003 (Continued)

1:00 p.m. - 4:00 p.m.	Plenary Session: Embedded Topical Meeting – Risk Management ... Now More Than Ever
1:00 p.m. - 4:00 p.m.	Plenary Session: Embedded Topical Meeting – Accelerator Applications of Nuclear Technology (Acc/App03)
4:00 p.m.- 6:00 p.m.	General Chair's Special Session: "Nuclear Power: Leveling the Environmental Playing Field"
4:00 p.m - 6:00 p.m.	ANS Business Meeting
6:15 p.m. - 10:00 p.m.	Evening at Sea World

TUESDAY, JUNE 3, 2003

8:00 a.m. - 10:00 a.m.	Spouse/Guest Hospitality
8:30 a.m. - 11:30 a.m.	Technical Sessions: Annual Meeting and Three Embedded Topical Meetings
11:30 a.m. - 1:00 p.m	ANS Honors and Awards Luncheon
10:45 a.m. - 4:00 p.m.	Spouse/Guest Tour: Temecula Grapeline Tour and Lunch
1:00 p.m. - 4:00 p.m.	Technical Sessions: Annual Meeting and Three Embedded Topical Meetings
4:00 p.m. - 6:00 p.m.	ANS President's Special Session
5:45 p.m. - 10:30 p.m.	Dinner Cruise on the Hornblower

WEDNESDAY, JUNE 4, 2003

8:00 a.m. - 10:00 a.m.	Spouse/Guest Hospitality
8:30 a.m. - 11:30 a.m.	Technical Sessions: Annual Meeting and Three Embedded Topical Meetings
11:30 a.m. - 1:00 p.m.	Nuclear Installations Safety Division Luncheon
11:30 p.m. - 5:30 p.m.	Technical Tour: Archimedes Technology Filter Demonstration, San Diego Gamma Knife Center, General Atomic's D III-D National Fusion Facility
1:00 p.m. - 4:00 p.m.	Technical Sessions: Annual Meeting and Three Embedded Topical Meetings
4:00 p.m. - 6:00 p.m.	Technical Program Chair's Special Session: "Science and Technology for Yucca Mountain"
4:00 p.m. - 6:00 p.m.	Embedded Topical Meeting – Decommissioning and Spent-Fuel Management: Special Session on Military Facility Decommissioning
6:15 p.m. - 10:30 p.m.	Multi-Division Dinner at Barona Valley Ranch & Casino

THURSDAY, JUNE 5, 2003

8:30 a.m. - 11:30 a.m.	Technical Sessions: Annual Meeting and Three Embedded Topical Meetings
8:30 a.m.- 5:00 p.m.	Professional Development Workshop #3 - "Criticality Alarm Systems"
8:30 a.m.- 5:30 p.m.	Professional Development Workshop #4 - "Advanced Gas Reactor Technology Course"

FRIDAY, JUNE 6, 2003

8:00 a.m. - 4:00 p.m.	DOE Nuclear Criticality Safety Program
8:30 a.m.- 5:00 p.m.	Professional Development Workshop #4 - "Advanced Gas Reactor Technology Course"

MEETING OFFICIALS

Admiral Dennis Wilkinson
Honorary General Chair
MDM Services Corporation

Linden Blue
Honorary General Chair
General Atomics

Edward L. (Ted) Quinn
General Chair
MDM Services Corporation

Henry K. Chiu
Assistant General Chair
General Atomics

Per Peterson
Technical Program Chair
University of California, Berkeley

Laurence L. Parme
Assistant Technical Program Chair
General Atomics

Joanne Appel
Assistant Technical Program Chair
Southern California Edison

David R. Anderson
Assistant Technical Program Chair
Electric Boat Corporation

Gregory T. Gibson
Finance Chair
Southern California Edison

Chris Ellis
Student Chair
General Atomics

Karl R. Umstadter
Assistant Student Chair
Archimedes Technology Group

Karen J. Seeland
Special Events Chair and Spouse/Guest Program Chair
Seeland & Associates

Bob Simons
Technical Tours Chair
Southern California Edison

Pat Winter
Teachers Workshop
General Atomics

Things To Do in San Diego

Surrounding one of California's greatest natural harbors, San Diego's beauty and temperate year-round climate makes her a great location for an incredible array of recreational opportunities.

Nature/Wildlife:

- Lovers of wildlife will be drawn to the rare collection of exotic species at the World Famous San Diego Zoo. Recognized as one of the world's best zoos, the San Diego Zoo houses approximately 4,000 animals of nearly 800 species in its 100 acres.
- For a safari-like experience, the 2,200-acre San Diego Wild America Park has more than 3,000 wild animals, representing many endangered species, which roam free over expanses resembling their native habitats in Africa and Asia.
- SeaWorld San Diego, located on Mission Bay, is a 150-acre marine park featuring trained killer whales, manatees, seals, dolphins, sea lions, sea otters, and penguins.

Shopping:

- For avid shoppers, quaint antique shops in the downtown Gaslamp Quarter hold the promise of special treasures.
- The electric atmosphere of the fabulous Horton Plaza offers a chic shopping experience not soon to be forgotten.
- For the entire family, dozens of unique shops and amusement beckon from the early California setting of Seaport Village – there's even a working merry-go-round!

Ocean and Beaches:

- If your idea of relaxation includes cruising, then San Diego's harbor is a must with sternwheelers, tall ships and private party yachts.
- For the water-sports enthusiasts, this city offers some of Southern California's finest, public shores for surfing, sailing, jet-skiing, sunbathing, windsurfing, fishing and other aquatic-themed activities.

Dining:

- For the gourmet, San Diego's restaurants offer some of Southern California's premier dining experiences – accompanied by unmatched views of the restless Pacific Ocean, the city's dynamic skyline, or quiet harborside lights.
- There are more than 6,400 restaurants in San Diego, providing a wide range of culinary experiences—from Pacific Rim and Mexican to Tuscan Italian and classic French fare.

Cultural:

- Referred to as the "Smithsonian of the West," Balboa Park is the nation's largest cultural park, and home to 85 cultural attractions, including 15 unique museums and the world-famous San Diego Zoo.

Exciting and dynamic, active and changing – yet never losing sight of her charm – San Diego has grown to a vital world tourism and business center making her an ideal location to meet for work or play.

"The Nuclear Technology Expansion– Unlimited Opportunities"

The 2003 Annual Meeting will be held June 1-5, 2003, in San Diego, CA. There will be three embedded topical meetings held in conjunction with the 2003 Annual Meeting:

- Decommissioning and Spent-Fuel Management
- Risk Management: Now More Than Ever
- Accelerator Applications of Nuclear Technology (AccApp03)

Four Professional Development Workshops will also be held:

- "Preparing for the Nuclear Engineering Professional Engineering Exam"
- "Effective Management of Risk: Supporting the Nuclear Renaissance"
- "Criticality Alarm Systems"
- "Advanced Gas Reactor Technology Course - 2 Day Workshop"

Accommodations & Hotel Information

The Town and Country Resort & Convention Center will be the location for the 2003 Annual Meeting, where all meeting activities, technical sessions, and governance committee meetings will take place. A San Diego landmark, the Town and Country Resort & Convention Center is spread over 40 acres of immaculate grounds, landscaped by hundreds of grand arching palms.

Once a fertile farming valley, Mission Valley is now one of the most dynamic hot spots in all of San Diego. Adjacent to the Town and Country is the 27-hole Riverwalk Golf Course, world-class shopping at Fashion Valley Shopping Center, the largest shopping mecca in San Diego, with over 300 specialty shops and restaurants plus an 18 screen movie complex. In addition, access to San Diego's newly expanded light rail trolley system provides visitors with convenient transportation Downtown to the San Diego Convention Center and historic Gaslamp Quarter, east to Qualcomm Stadium and South to the border at Tijuana, Mexico and of course, Old Town.

Workshop for Science Educators

A workshop for science educators will be held on Saturday, May 31st, 9:00 a.m. – 5:00 p.m., in conjunction with the 2003 Annual Meeting. The materials and information will help 7th through 12th grade educators incorporate nuclear science topics into classroom programs.

Attendees will have a full day of hands-on activities and discussion with nuclear science educators and professionals. Each attendee will receive a CD-V700 Geiger counter, curriculum materials, and sources.

Details on location and speakers are available from the ANS Outreach Department, 708/579-8251, outreach@ans.org. Help us announce the workshop by contacting teachers you may know in the San Diego, CA area. Watch for information on the ANS web site, www.ans.org.

ABET Training Workshop

The ANS Accreditation Policy and Procedures Committee will conduct a half-day training workshop (1:00 p.m. - 6:00 p.m.) for ABET Program Evaluators on Saturday, May 31, 2003, in the Royal Palm III Room of the Town and Country Resort & Convention Center. The training session is required for qualification as a future Program Evaluator for ABET (Accreditation Board for Engineering and Technology). The training will introduce the participant to ABET, the responsibilities of a program evaluator, Engineering Criteria 2000– "EC 2000", outcomes assessment terminology; and the process of assessing and evaluating a program. The content is appropriate for prospective program evaluators, faculty members interested in gaining a better understanding of the accreditation process, as well as others interested in the philosophy and mechanics of ABET outcomes-based accreditation. The training will be limited to the first 25 individuals who register. There is no charge for the materials and instruction. If you wish to reserve a seat in the workshop, please contact Dr. Nick Tsoulfanidis (573) 341-4745 or email tsoul@umr.edu.

Spouse/Guest Hospitality

The Terrace Pavilion at the Town and Country Resort & Convention Center will be open from 8:00-10:00 a.m., Monday, June 2nd through Wednesday, June 4th. Continental breakfast will be served each morning. Spouse/Guest registration is required for admittance to the hospitality room.

Professional Development Workshops

Note: Registration for the workshops is separate from, and in addition to, the meeting registration fee. Use the advance registration form included in this program to register for the workshops.

A beautiful sunset viewed from Coronado Island. (A special thank you to the photographer, Scott Dam.)

Professional Development Workshop #1
"Preparing for the Nuclear Engineering Professional Engineering Exam"
Sunday, June 1 • 9:00 a.m. – 5:00 p.m.
Location: Pacific 1

Professional Development Workshop #2
"Effective Management of Risk: Supporting the Nuclear Renaissance"
Sunday, June 1 • 8:30 a.m. – 5:00 p.m.
Location: Pacific 3

Professional Development Workshop #3
"Criticality Alarm Systems"
Thursday, June 5 • 8:30 a.m. – 5:00 p.m.
Location: Royal Palm III

Professional Development Workshop #4
"Advanced Gas Reactor Technology Course - 2 Day Workshop"
Part 1: Thursday, June 5 • 8:30 a.m. – 5:30 p.m.
Location: Garden Salon I and II

Part 2: Friday, June 6 • 8:30 a.m. – 5:00 p.m.
Location: Garden Salon I and II

DOE Nuclear Criticality Safety Program

Friday, June 6 • 8:00 a.m. – 4:00 p.m.
Location: Royal Palm I, II and III

Student Assistance Program

Attendance at the 2003 ANS Annual Meeting is an exciting professional opportunity for college and graduate students. To help defray travel and living expenses, students can sign up to work as session chairs' assistants. Student assistants must attend the Student Training Session on Sunday, June 1st, 4:00-5:00 p.m. in the Pacific 2 Room of the Town and Country Resort & Convention Center. Student assistants receive free meeting registration and a copy of the meeting *Transactions*. To apply for one of the 40 student assistant positions, complete and submit forms posted on the ANS web site. For more information, contact either 1) Chris Ellis at 858/455-3141 (phone) or Chris.ellis@gat.com (email); 2) Karl Umstadter at 858/642-9170 x218 (phone) or kumstadter@ atgsd.com (email); or 3) the ANS Meetings Department at 708/579-8287. All students are responsible for paying their own room, tax and incidentals. Please refer to the ANS web site, www.ans.org, for more information about the meeting.

ANS student members who register for the meeting and/or work as session chairs' assistants should pick up a travel assistance request form which can be found in the student headquarters room. Student travel assistance is provided through contributions from the ANS professional divisions.

The student headquarters will be located in Devonshire room of the Town and Country Resort & Convention Center. Details on the Student Mixer are to be determined.

First-Time Attendee Orientation

The ANS Membership Committee will offer an orientation session for the first-time ANS meeting attendees. Learn what goes on at national meetings, how to get involved at the national and local levels, and how the national organization works, both administratively and for its members. Whether you are attending as a new national or local member, or are moving into full membership from a student branch, come to the session. The session will be held from 1:00-1:30 p.m. on Sunday, June 1st, in the Brittany Room of the Town and Country Resort & Convention Center. The Membership Committee invites you to attend and learn how to get involved and stay involved.

Mentoring Program

A special mentoring program will be held from 5:00-6:00 p.m. on Sunday, June 1st in the Pacific 7 Room of the Town and Country Resort & Convention Center. ANS members who will serve as mentors hold a variety of positions within the Society, serving on governance committees and working within the divisions. The mentors encompass a wide range of careers and technical specialties, all of which they hope to share with first-time meeting attendees, student members, new members, and those seeking career advancement and networking opportunities. To participate in the Mentoring Program, use the registration form contained in the back of this program.

Attention Runners: NA YGN Fun Run (organized by the NA YGN)

On Tuesday, June 3rd, there will be a non-competitive run starting at 6:00 a.m. from the lobby of the hotel. NA YGN is looking forward to seeing you at the fun run in San Diego, CA. Bring shoes and a big smile. We'll take care of the rest! For any further information, contact Emmy Roos at phone number, 303/843-3394 or email, eroos@etceteraweb.com.

A view of San Diego from the harbor.

ANS Registration

ANS Registration will be located in the Grand Foyer of the Town and Country Resort & Convention Center, on Saturday, May 31st through Thursday, June 5th. Meetings and Workshop Registration, Speakers' and Session Chair Desk and the Message Desk will also be located in the ANS Registration area.

Meeting registration is required for all attendees and presenters. Badges are required for admission to all technical sessions, workshops and events. An advance registration form for the meeting and workshops is included in the back of this program.

Registration Hours

Saturday, May 31st • 2:00 p.m. - 5:00 p.m.
Sunday, June 1st • 11:00 a.m. – 7:00 p.m.
Monday, June 2nd • 7:30 a.m. – 5:00 p.m.
Tuesday, June 3rd • 7:30 a.m. – 5:00 p.m.
Wednesday, June 4th • 7:30 a.m. – 5:00 p.m.
Thursday, June 5th • 7:30 a.m. – 10:00 a.m.

Message Information Desk

For those who wish to reach an attendee at the meeting, call the hotel phone number at 619/291-7131 and ask for the ANS Message Desk.

Notice for Speakers

All speakers and session chairs must sign in at the "Speakers' Desk," located in Grand Foyer of the Town and Country Resort & Convention Center (Sunday, June 1st through Thursday, June 5th).

A Speaker's Preview Room, the Esquire Room of the Town and Country Resort & Convention Center, will be available on Sun. (June 1st) from 12–6:00 p.m., on Mon. (June 2nd) through Wed. (June 3rd) from 7:00 a.m. – 4:00 p.m., and on Thurs. (June 4th) from 7:00 a.m. – 12:00 p.m. Audio/visual equipment will be set up; so that speakers may preview their presentation materials.

Conference Office

Terrace Salon I

ANS Secretariat

Terrace Salon II-III

ANS Press Office

Monday, June 2nd through Wednesday, June 4th
Pacific 6

Don't be disappointed! Pre-registration is required for special events and tours. Space is limited. Register today.

CONFERENCE LUNCHEONS

Operations & Power Division Luncheon

Monday, June 2 • 11:30 a.m. – 1:00 p.m.
Location: Sunset Room

This year's recipient of the Walter H. Zinn Award will be featured at the luncheon. Established in 1976, this award is given by the Operations and Power Division for outstanding contributions to the advancement of nuclear power. It honors the memory of Walter H. Zinn, the Society's first president. This award is granted to an individual for a notable and sustained contribution to the nuclear power industry that has not been widely recognized. It may be a technical contribution, one of leadership, or other notable service to the industry. Tickets can be purchased in advance or on-site at the ANS registration desk for $40.

DDR and FCWM Divisions Luncheon

Monday, June 2 • 11:30 a.m. – 1:00 p.m.
Location: Terrace Pavilion

The speaker for this luncheon is Joseph (Joe) Wambold, Vice President, SCE. Tickets can be purchased in advance or on-site at the ANS registration desk for $40.

Honors and Awards Luncheon

Tuesday, June 3 • 11:30 a.m. – 1:00 p.m.
Location: California Room

Plan to attend the Honors and Awards Luncheon held to recognize the outstanding efforts of the award winners and to celebrate their accomplishments. Tickets can be purchased in advance or on-site at the ANS registration desk for $40.

Nuclear Installations Safety Division Luncheon

Wednesday, June 4 • 11:30 a.m. – 1:00 p.m.
Location: Terrace Pavilion

Tickets can be purchased in advance or on-site at the ANS registration desk for $40.

EVENING EVENTS

ANS President's Reception

Sunday, June 1 • 6:00 p.m. – 7:30 p.m.
Location: Town and Country Ballroom

The ANS President's Reception kicks off the meeting on Sunday, June 1st, in the Town and Country Ballroom of the hotel. One ticket to the ANS President's Reception is included in the full meeting registration fee. Additional tickets can be purchased in advance or on-site at the ANS registration desk for $45.

Shamu, the killer whale, is the star of the show.
(A special thank you to the photographer, Scott Dam.)

Evening at Sea World

Monday, June 2 • 6:15 p.m. – 10:00 p.m.

Come see why SeaWorld is the second most popular attraction in Southern California! From the exotic to the educational, this fantastic collection of marine life is like no other in the country. This world-famous park is enhanced by acres of beautiful flowers and palms. SeaWorld is fun for "children" of all ages.

As the sun sets over the Pacific, SeaWorld becomes transformed into a wonderland of twinkling lights, sparkling water, and continuous entertainment. Dinner has been arranged at the new Shipwreck Rapids. End the evening with the amusing antics of the popular sea lions and otters who will perform just for you. Tickets can be purchased in advance or on-site at the ANS registration desk for $45.

Dinner Cruise on the Hornblower

Tuesday, June 3 • 5:45 p.m. – 10:30 p.m.

The Hornblower Dinner Cruise provides a celebration of imaginative cuisine and gracious service in an unforgettable setting. Pacific Hornblower is a modern streamlined motor yacht who completed her maiden voyage from the shipyards in Louisiana through the Panama Canal to the West Coast of the United States. Pacific Hornblower features two enclosed decks which are fully carpeted and appointed with brass and wood trim.

San Diego is most beautiful when seen from the water at night. Cruise the sparkling bay and watch the city lights reflect on the peaceful water. Your private yacht awaits you at the dock for an evening of splendor. This is truly an experience of elegant dining and relaxation. You will enjoy a seated 3-course dinner prepared by onboard chefs. Dinner tonight will be a delicious pan roasted chicken breast with sage cream and a sumptuous herb crusted grilled sirloin with sauteed mushrooms, wild rice pilaf and fresh vegetables. Save room for an elegant desert.

You will have an opportunity to view "upclose" major Naval vessels in port while strolling the outside decks. San Diego Harbor is a major seaport for Naval/Nuclear ships. A talented DJ will spin selections of your favorite tunes from the past and present. Dance the time away as the sights pass you by! Whether you just sit back and relax, or dance to the music provided by the DJ, this evening will sparkle in your memory. Tickets are available in advance or may be purchased on-site at the ANS Registration Desk for $45.

Multi-Division Dinner at the Barona Valley Ranch and Casino

Wednesday, June 4 • 5:45 p.m. – 11:00 p.m.

Tucked quietly away on a sun-streaked valley floor just 45 minutes from downtown San Diego,

the picturesque Barona Valley Ranch Resort and Casino offers a unique combination of exciting recreational opportunities and calming pastoral beauty. Home to an exciting array of challenging and award-winning gaming opportunities, including progressive slots with jackpots reaching up to millions of dollars, the environment of warm sophistication is accentuated by the many rustic, natural touches.

Purchased as a working cattle ranch in 1932, the 7,000-acre reservation continued to sustain the families who struggled to work the land for many decades. In the 1980s, the Barona Band of Mission Indians ran a successful bingo hall that heralded the arrival of a new and more prosperous era. Barona Valley Ranch Resort and Casino, one of the leading resort destinations in California, offers visitors the peace and tranquility of a sprawling mountain escape as well as the best casino action in California. What began as a small ranching community, with the establishment of the Barona Reservation, has blossomed into a successful and award-winning resort that far exceeds the hopes and dreams of the reservation's founding families.

Barona Valley Ranch Resort and Casino understands that guests who are hungry for the adventure and challenge of our exciting gaming opportunities also crave the satisfaction of fresh, bold, and inventive cuisine. Attendees will enjoy a delicious dinner at the Ranch house Buffet. Tickets are available in advance or may be purchased on- site at the ANS Registration Desk for $18.

**Please note: you must be at least 18 years of age to attend this event.*

SPOUSE/GUEST TOURS:

Note: Pre-registration is recommended for spouse/guest tours. All tours limited to 45 participants. Please refer to individual descriptions for guidelines and restrictions. Busses will leave promptly from the Front Entrance (West) of the Town and Country Resort & Convention Center (except for the San Diego Sea and Land Adventure Tour, which will depart from and return to the Convention Center Entrance of the Town and Country Resort & Convention Center) at the specified time. Refunds cannot be provided for missing the departure bus.

San Diego Sea and Land Adventure

Monday, June 2 • 9:15 a.m. – 3:00 p.m.

Our trolley departs from the Town and Country and heads into San Diego to begin your private tour of the city. The trolley will begin the tour first by heading into Old Town. As you may know, the Old Town area is known as the oldest permanent settlement on the West Coast of the United States and the most visited State Park in California. Upon leaving Old Town, the trolley will then tour along the picturesque Embarcadero area, enjoying the beautiful view of the waterfront in our historic "open-air" trolley. The trolley will then tour around the Cruise Ship Terminal and into Seaport Village. Upon arrival into Seaport Village, the group will disembark the trolley and have a short break before the SEAL Tour begins.

The group will board the SEAL Tour – the San Diego Sea and Land Adventure. The SEAL Tour is a two hour, fully narrated, amphibious tour. Wind your way through picturesque San Diego streets before splashing down for a cruise through the waters of Mission Bay. Experience the history and ecological wonders of San Diego in the comfort and security of our virtually unsinkable Hydra-Terras. You may even meet an endangered species or two! Your adventure then continues by land to another splash down in San Diego Bay where you will experience, first hand, the rich maritime and military history of San Diego as you cruise past Navy ships, tugboats and fishing vessels through the waters that are the playground of the California sea-lion. Upon completion of the SEAL Tour, the group will be brought back to Seaport Village. Enjoy the lunch break on your own at Seaport Village, where plenty of excellent dining opportunities await you.

After lunch, the group will tour through Horton Plaza and into the historic heart of downtown San Diego known as the Gaslamp Quarter. The architecture of the Victorian buildings will amaze you. Eventually, the trolley will make its way across the San Diego-Coronado Bay Bridge and head over to the beautiful island of Coronado. While touring the "Crown Isle," your group will hear stories about the historically famous Hotel Del Coronado and why the island was once called "Tent City." After a complete tour of Coronado, the trolley will head back over the San Diego-Coronado Bay Bridge and see what some would argue is the best view of the San Diego skyline.

We will then proceed to tour past the San Diego Zoo and into Balboa Park. Balboa Park is often referred to as "The Smithsonian of the West" and is full of beautiful scenery and incredible museums that the group may enjoy going back to later in their visit to San Diego. As the tour continues, the trolley will then travel through Banker's Hill. As the name implies, the area was made popular in the late 1800's/early 1900's when a large number of Bankers moved to the area. The exclusive area is still home to Bankers and a great number of beautiful Victorian Homes.

As the trolley departs the Bankers Hill area, we will travel down Laurel Street and finish with the rest of the city tour before making our way back to the Town and Country Resort & Convention Center. You will return to the hotel feeling thoroughly familiar with the city. Tickets are available in advance or may be purchased on-site at the ANS Registration desk for $39.

Temecula Grapeline Tour and Lunch

Tuesday, June 3 • 10:45 a.m. – 4:00 p.m.

Temecula means "sun shining through the fine mist," and is called the hidden gem of Southern California. The area is similar to Napa Valley and France, which is reason enough for visiting this beautiful wine country. Temecula Valley wine is rich and elegant, fruity and complex, exhibiting all of the fine characteristics found in premium wines.

We'll visit two vintners today, sampling their best wines, touring their wineries and learning about their grapes, harvesting, crushing and fermentation. A delicious lunch is included.

Temecula is located about an hour from San Diego, just 20 miles inland from the Pacific Ocean. A Mediterranean climate turns this valley into a tourist paradise. Old Town Temecula was born in 1882 and was the site of the Butterfield Overland Stagecoach Stop. You may even catch a glimpse of beautiful hot air balloons floating overhead. This is quite a unique town! Tickets are available in advance or may be purchased on-site at the ANS Registration desk for $42.

You, too, may catch a glimpse of hot air balloons overhead.
(A special thank you to the photographer, Scott Dam.)

TECHNICAL TOUR:

Note: Tour registrants must complete the mandatory technical tour clearance form included in the back of this program and return it with your meeting registration form.

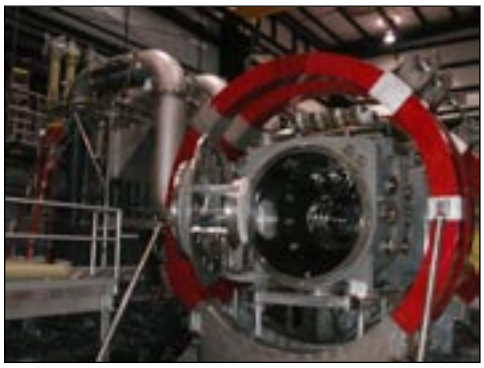
Archimedes Technology Filter Demonstration, San Diego Gamma Knife Center, General Atomic's D III-D National Fusion Facility

Wednesday, June 4 • 11:30 a.m. - 5:30 p.m.

Archimedes Technology Filter Demonstration

Archimedes Technology Group, San Diego, is developing a new method of material separation for industrial process streams and compounds. Unlike traditional chemical separation methods, the Archimedes Plasma Filter relies on fundamental laws of plasma physics to separate elements based on their atomic mass. The Filter integrates well-established technologies such as RF helicon plasmas, kilogauss magnetic fields, ~10 volt per centimeter electric fields, and high vacuum pumping systems. Taken together these systems yield a breakthrough approach to material separation with the following important attributes: 1) high separation efficiency, 2) high throughput rate, 3) attractive economics, 4) ability to handle complex materials, and 5) low environmental impact.

Archimedes's immediate application involves the cleanup of the enormous volumes of radioactive waste created over the course of a half-century of U.S. nuclear weapons development. The Department of Energy has estimated that utilizing currently available technologies, nationwide cleanup of weapons-related nuclear waste could cost $200 billion and require in excess of sixty years to complete. Archimedes believes that its technology can dramatically reduce the cost and complexity of this cleanup process by improving the efficiency of the separations process required for treatment. Since only a small fraction of this waste material is highly radioactive, the ability to separate radioactive elements could save tens of billions of dollars and accelerate the clean-up process.



Archimedes Filter

The Company is engaging with industrial partners to accelerate the commercialization of its technology. As an example, for the nuclear waste remediation market, Archimedes has formed a Collaboration Agreement with the Commissariat á l'Energie Atomique of France (CEA), a global leader in the development, manufacturing and operations of nuclear facilities. The demonstration Filter project will continue through the end of 2004. Conceptual design of a commercial Archimedes Filter Plant (AFP) that could be sited at the Waste Treatment Plant (WTP) at Hanford is underway. Plant construction could begin as early as 2005 enabling AFP startup on a schedule consistent with the WTP startup.

San Diego Gamma Knife Center

Gamma Knife Radiosurgery at the San Diego Gamma Knife Center - opened as a center of excellence in October 1994. The Center treats patients with brain tumors, AVMs, acoustic neuromas, essential tremors, trigeminal neuralgia and many other brain disorders.

Epilepsy patients with seizures uncontrolled by medication now have a non-invasive alternative to brain surgery, with finely focused beams of radiation replacing the surgeon's knife. Not really a knife at all, the Gamma Knife is a medical instrument that emits 201 finely focused beams of radiation that simultaneously intersect at the precise location of a brain disorder. The radiation therapy doesn't remove abnormal cells, like conventional brain surgery. Rather, it changes the biochemistry enough to stop the spontaneous electrical activity that triggers seizures.

The Gamma Knife is an outpatient procedure with a short recovery period. And, there are far fewer side effects such as hemorrhage, infection and pain. It's not unusual for low-dose radiation therapy, such as that delivered by the Gamma Knife, to have a delayed effect. However, physicians don't know why the delay occurs and are studying this phenomenon.

The San Diego Knife Center, located in La Jolla, is used by area neurosurgeons primarily to treat tumors, vascular abnormalities, and functional disorders such as trigeminal neuralgia and epilepsy. Gamma Knife treatment for epilepsy is relatively new in the United States with surgeries performed in the past year at only a handful of medical centers such as the Cleveland and Mayo Clinics.

Inside of the DIII-D Tokamak

D III-D National Fusion Facility at General Atomics

The DIII-D tokamak, one of the world's premier magnetic fusion experiments, is operated by General Atomics for the Department of Energy. Over the past three decades, the GA fusion research program has been a major contributor to the significant progress in the development of fusion energy science. DIII-D work has increased understanding and predictability of high-temperature reactor plasma regimes, advanced fusion technology, and helped refine magnetic fusion power plant concepts. Over 60 laboratories, universities, and industries collaborate at DIII-D. The facility tour will be followed by light refreshments. Those under 18 years of age, pregnant, or with pacemakers are not allowed. Please complete the mandatory technical tour clearance form, located at the bak of this program, and return it with your meeting registration forms. Tickets are available in advance for $35.

Bus transportation for all evening events, spouse/guest tours and the technical tour will depart from and return to the Front Entrance (west) of the Town and Country Resort & Convention Center. The San Diego Sea and Land Adventure Tour will depart from and return to the Convention Center Entrance of the Town and Country Resort & Convention Center.

SESSIONS BY TRACK *(Asterisks indicate special sessions.)*

TRACK 1: "THE NUCLEAR TECHNOLOGY EXPANSION: UNLIMITED OPPORTUNITIES"

ANS Plenary Session: "The Nuclear Technology Expansion—Unlimited Opportunities," Mon. a.m., 8:00 – 11:30 a.m.

General Chair's Special Session: "Nuclear Power—Leveling the Environmental Playing Field," Mon. p.m., 4:00 – 6:00 p.m.

ANS President's Special Session, Tues. p.m., 4:00 – 6:00 p.m.

Technical Program Chair's Special Session: "Science and Technology for Yucca Mountain," Wed. p.m., 4:00 – 6:00 p.m.

TRACK 2: NUCLEAR PLANT SYSTEMS, OPERATIONS, AND NEW CONSTRUCTION

*Reactor Vessel Corrosion: Prevention, Identification and Replacement–Panel, Mon. p.m.

*Revitalizing the U.S. Department of Energy National Laboratories in Support of a Nuclear Renaissance–Panel, Mon. p.m.

*Financing the Next Generation of Nuclear Power Plants-Papers/Panel, Tues. a.m.

Plant Upgrades—I, Tues. a.m.

Plant Upgrades—II, Tues. p.m.

*Goal and Direction of Risk Management–Papers/Panel, Tues. p.m.

*Nuclear Asset Management–Papers/Panel, Wed. a.m.

*Significance Determination Process–Panel, Wed. a.m.

*U.S. Nuclear Power Plant Control Room Habitability–Panel, Wed. p.m.

Instrument and Control for Security, Operations, and Decommissioning, Thurs. a.m.

TRACK 3: ENVIRONMENT, SAFETY, AND HEALTH

Data, Analysis, and Operations for Nuclear Criticality Safety—I, Mon. p.m.

Data, Analysis, and Operations for Nuclear Criticality Safety—II, Tues. a.m.

*Safety Culture–Panel, Mon. p.m.

Radioactive Materials in the Environment, Mon. p.m.

*Site Licensing Progress: Safety Impacts in the Early Site Licensing Process–Panel, Tues. a.m.

Environmental Sciences: General, Tues. a.m.

*Determination of Overall Likelihood for Nuclear Criticality Safety Accident Scenarios Under 10 CFR 70–Panel, Tues. p.m.

Environmental Monitoring at Nuclear Facilities, Tues. p.m.

*Nuclear Criticality Safety Standards Forum–Panel/Forum, Wed. a.m.

Environmental and Safety Aspects of Spent Fuel and Contaminated Materials, Wed. a.m.

*Alternative Source Term Applications to Improve Power Reactor Safety Analysis–Panel, Wed. a.m.

Nuclear Criticality Safety Issues for First Responders, Wed. p.m.

Criticality Safety Issues in Transportation Packaging, Wed. p.m.

Safety Program to Achieve Beneficial Uses of ^{233}U in Medical Applications, Wed. p.m.

Risk Informing 10 CFR 50: Progress on Option 2–Panel, Wed. p.m.

Nuclear Installations Safety: General, Thurs. a.m.

TRACK 4: NUCLEAR ENGINEERING SCIENCE

*Particle Transport Methods in Medical Applications, Mon. p.m.

Computational Fluid Dynamics and Heat Transfer, Mon. p.m.

*Training, Human Performance, and Workforce Development—I, Mon. p.m.

*Training, Human Performance, and Workforce Development—II, Tues. a.m.

General Two-Phase Flow/Thermal Hydraulics of Next-Generation Nuclear Reactors, Tues. a.m.

Thermal Hydraulics of Code Development, Tues. p.m.

Mathematical Modeling: General, Tues. p.m.

Current Issues in Computational Methods–Roundtable, Tues. p.m.

Transport Methods and Applications: General, Wed. a.m.

*Research by U.S. Department of Energy–Sponsored Students, Wed. a.m.

TRACK 5: NONPROLIFERATION AND HOMELAND SECURITY

*Physical Protection of Nuclear Materials and Facilities Post-9/11–Panel, Tues. a.m.

TRACK 6: FUEL CYCLES AND MATERIALS

*Spent-Fuel Partitioning and Transmutation Studies to Enable Efficient Use of the High-Level Waste Repository, Tues. p.m.

*Transmutation Fuel Development and Irradiation Studies, Wed. a.m.

*Developments and Issues in Storage and Disposal of Radioactive Wastes, Wed. p.m.

Advances in Nuclear Fuel, Wed. p.m.

Material Corrosion in Liquid Metal and CO_2 Coolants, Thurs. a.m.

TRACK 7: REACTOR PHYSICS AND SHIELDING

*American Nuclear Society Joint Benchmark Committee Benchmarks and Related Efforts, Mon. p.m.

Radiation Transport Applications, Mon. p.m.

*Nuclear Data, Noise Analysis, and System Control: Rafael Perez Legacy—I, Tues. a.m.

*Nuclear Data, Noise Analysis, and System Control: Rafael Perez Legacy—II, Tues. p.m.

Reactor Physics: General, Wed. a.m.

*Current Issues for Reactor Engineers–Panel, Wed. a.m.

*Reactor Pressure Vessel Embrittlement—I, Wed. p.m.

*Reactor Pressure Vessel Embrittlement—II–Papers/Roundtable, Thurs. a.m.

Reactor Physics Design, Validation, and Operating Experience, Wed. p.m.

Reactor Analysis Methods, Thurs. a.m.

TRACK 8: NONPOWER RADIATION APPLICATIONS

*Low-Energy Nuclear Reactions—I, Tues. a.m.

*Low-Energy Nuclear Reactions—II, Tues. p.m.

Innovations in Nuclear Infrastructure and Education, Thurs. a.m.

Isotopes and Radiation: General, Thurs. a.m.

TRACK 9: EMERGING NUCLEAR TECHNOLOGIES

U.S. Department of Energy Nuclear Energy Research Initiative–I, Tues. p.m.

U.S. Department of Energy Nuclear Energy Research Initiative–II, Wed. p.m.

SESSIONS BY DIVISION

(Asterisks indicate special sessions.)
(Parentheses indicate cosponsorship.)

SPECIAL SESSIONS

ANS Plenary Session: "The Nuclear Technology Expansion—Unlimited Opportunities," Mon. a.m., 8:00 – 11:30 a.m.
General Chair's Special Session: "Nuclear Power—Leveling the Environmental Playing Field," Mon. p.m., 4:00 – 6:00 p.m.
ANS President's Special Session, Tues. p.m., 4:00 – 6:00 p.m.
Technical Program Chair's Special Session: "Science and Technology for Yucca Mountain," Wed. p.m., 4:00 – 6:00 p.m.

EDUCATION AND TRAINING (ETD)

*Training, Human Performance, and Workforce Development—I, Mon. p.m.
*Training, Human Performance, and Workforce Development—II, Tues. a.m.
(U.S. Department of Energy Nuclear Energy Research Initiative–I, Tues. p.m.)
(U.S. Department of Energy Nuclear Energy Research Initiative–II, Wed. p.m.)
*Research by U.S. Department of Energy–Sponsored Students, Wed. a.m.
Innovations in Nuclear Infrastructure and Education, Thurs. a.m.

ENVIRONMENTAL SCIENCES (ESD)

Radioactive Materials in the Environment, Mon. p.m.
Environmental Sciences: General, Tues. a.m.
Environmental Monitoring at Nuclear Facilities, Tues. p.m.
Environmental and Safety Aspects of Spent Fuel and Contaminated Materials, Wed. a.m.

FUEL CYCLE AND WASTE MANAGEMENT (FCWMD)

*Revitalizing the U.S. Department of Energy National Laboratories in Support of a Nuclear Renaissance–Panel, Mon. p.m.
*Physical Protection of Nuclear Material and Facilities Post-9/11–Panel, Tues. a.m.
*Spent-Fuel Partitioning and Transmutation Studies to Enable Efficient Use of the High-Level Waste Repository, Tues. p.m.
(U.S. Department of Energy Nuclear Energy Research Initiative–I, Tues. p.m.)
(U.S. Department of Energy Nuclear Energy Research Initiative–II, Wed. p.m.)
*Transmutation Fuel Development and Irradiation Studies, Wed. a.m.
*Developments and Issues in Storage and Disposal of Radioactive Wastes, Wed. p.m.

HUMAN FACTORS (HFD)

(Plant Upgrades—II, Tues. p.m.)
(Instrument and Control for Security, Operations, and Decommissioning, Thurs. a.m.)

ISOTOPES AND RADIATION (IRD)

*Low-Energy Nuclear Reactions—I, Tues. a.m.
*Low-Energy Nuclear Reactions—II, Tues. p.m.
Isotopes and Radiation: General, Thurs. a.m.

MATHEMATICS AND COMPUTATION (MCD)

*Particle Transport Methods in Medical Applications, Mon. p.m.
(*American Nuclear Society Joint Benchmark Committee Benchmarks and Related Efforts, Mon. p.m.)
Mathematical Modeling: General, Tues. p.m.
Current Issues in Computational Methods–Roundtable, Tues. p.m.
Transport Methods and Applications: General, Wed. a.m.

MATERIALS SCIENCE AND TECHNOLOGY (MSTD)

Advances in Nuclear Fuel, Wed. p.m.
Material Corrosion in Liquid Metal and CO_2 Coolants, Thurs. a.m.

NUCLEAR CRITICALITY SAFETY (NCSD)

Data, Analysis, and Operations for Nuclear Criticality Safety—I, Mon. p.m.
Data, Analysis, and Operations for Nuclear Criticality Safety—II, Tues. a.m.
*Determination of Overall Likelihood for Nuclear Criticality Safety Accident Scenarios Under 10 CFR 70–Panel, Tues. p.m.
*Nuclear Criticality Safety Standards Forum–Panel/Forum, Wed. a.m.
Nuclear Criticality Safety Issues for First Responders, Wed. p.m.
Criticality Safety Issues in Transportation Packaging, Wed. p.m.

NUCLEAR INSTALLATIONS SAFETY (NISD)

*Safety Culture–Panel, Mon. p.m.
*Site Licensing Progress: Safety Impacts in the Early Site Licensing Process–Panel, Tues. a.m.
*Alternative Source Term Applications to Improve Power Reactor Safety Analysis–Panel, Wed. a.m.
(*U.S. Nuclear Power Plant Control Room Habitability–Panel, Wed. p.m.)
Safety Program to Achieve Beneficial Uses of ^{233}U in Medical Applications, Wed. p.m.
Risk Informing 10 CFR 50: Progress on Option 2–Panel, Wed. p.m.
Nuclear Installations Safety: General, Thurs. a.m.

OPERATIONS AND POWER (OPD)

*Reactor Vessel Corrosion: Prevention, Identification, and Replacement–Panel, Mon. p.m.
(*Revitalizing the U.S. Department of Energy National Laboratories in Support of a Nuclear Renaissance–Panel, Mon. p.m.)
*Financing the Next Generation of Nuclear Power Plants–Papers/Panel, Tues. a.m.
Plant Upgrades—I, Tues. a.m.
Plant Upgrades—II, Tues. p.m.
*Goal and Direction of Risk Management–Papers/Panel, Tues. p.m.
U.S. Department of Energy Nuclear Energy Research Initiative–I, Tues. p.m.
U.S. Department of Energy Nuclear Energy Research Initiative–II, Wed. p.m.
*Nuclear Asset Management–Papers/Panel, Wed. a.m.
*Significance Determination Process–Panel, Wed. a.m.
*U.S. Nuclear Power Plant Control Room Habitability–Panel, Wed. p.m.
Innovations in Nuclear Infrastructure and Education, Thurs. a.m.
Instrument and Control for Security, Operations, and Decommissioning, Thurs. a.m.

RADIATION PROTECTION AND SHIELDING (RPSD)

(*American Nuclear Society Joint Benchmark Committee Benchmarks and Related Efforts, Mon. p.m.)
Radiation Transport Applications, Mon. p.m.
*Reactor Pressure Vessel Embrittlement—I, Wed. p.m.
*Reactor Pressure Vessel Embrittlement—II–Papers/Roundtable, Thurs. a.m.

REACTOR PHYSICS (RPD)

*American Nuclear Society Joint Benchmark Committee Benchmarks and Related Efforts, Mon. p.m.
*Nuclear Data, Noise Analysis, and System Control: Rafael Perez Legacy—I, Tues. a.m.
*Nuclear Data, Noise Analysis, and System Control: Rafael Perez Legacy—II, Tues. p.m.
Reactor Physics: General, Wed. a.m.
*Current Issues for Reactor Engineers–Panel, Wed. a.m.
Reactor Physics Design, Validation, and Operating Experience, Wed. p.m.
Reactor Analysis Methods, Thurs. a.m.

THERMAL HYDRAULICS (THD)

Computational Fluid Dynamics and Heat Transfer, Mon. p.m.
General Two-Phase Flow/Thermal Hydraulics of Next-Generation Nuclear Reactors, Tues. a.m.
Thermal Hydraulics of Code Development, Tues. p.m.

SPECIAL COMMITTEE ON NUCLEAR NONPROLIFERATION (SCNN)

(*Physical Protection of Nuclear Materials and Facilities Post-9/11–Panel, Tues. a.m.)

MONDAY, JUNE 2, 2003, 8:00 A.M.

ANS Plenary Session: The Nuclear Technology Expansion—Unlimited Opportunities

Welcome:
- Harold Ray (ANS, President)

Speaker:
- The Honorable Darrell E. Issa (U.S. Congress)
- Chairman Nils J. Diaz (U.S. Nuclear Regulatory Commission)
- J. Russell Dyer (U.S. Department of Energy)
- Franklin R. Chang-Diaz (NASA)
- Bertrand Barre (Cogema)

MONDAY, JUNE 2, 2003, 1:00 P.M.

Particle Transport Methods in Medical Applications, sponsored by MCD. *Session Organizer:* Alireza Haghighat (Univ of Florida)

Transport Benchmarks for Physical Dosimetry to Support Development of Fast-Neutron Therapy with Neutron Capture Augmentation, David Nigg (INEEL), invited

New Insights in the Micro-Dosimetry of Boron Neutron Capture Therapy Using a Monte-Carlo Technique, Trent L. Nichols, Laurence F. Miller, George W. Kabalka (Univ of Tennessee)

Applications of PENTRAN to a High Dose Rate Brachytherapy Problem, Glenn E. Sjoden (Univ of Florida), invited

A Monte Carlo Evaluation of Antiprotons for Radiation Therapy, John J. DeMarco (Univ of California, Los Angeles), invited

A Monte Carlo Based Simulation Tool for Modeling X-Ray Computed Tomography, Christopher H. Cagnon, John J. DeMarco, Michael F. McNitt-Gray (UCLA Medical Center)

Monte Carlo Modeling of the MOSFET Dosimeter and Its Application, Baodong Wang, Chan-Hyeong H. Kim, Xie George Xu (RPI)

Computational Fluid Dynamics and Heat Transfer, sponsored by THD. *Session Organizers:* Whee Choe (TXU Energy), Chang Oh (INEEL)

Numerical Investigation of Particle Penetration in Pipes, Gokhan Yesilyurt, Yassin A. Hassan, Andrew R. McFarland (Texas A&M Univ)

Investigation of Heat Transfer from Finite Vertical Cylinders, Freddie Davis, Eric Jensen, Jonathon Ethridge (West Texas A&M Univ)

Temperature Dependence of Accommodation Coefficients: Stainless Steel-Inert Gas Systems, Chun-Hyung Cho, Tushar K. Ghosh, Robert V. Tompson, Jr., Sudarshan Kumar Loyalka (Univ of Missouri-Columbia)

Numerical Investigation of Collection Efficiency in Snow-White Air Sampler, Gokhan Yesilyurt, Yassin A. Hassan, Andrew McFarland (Texas A&M Univ)

Natural Convection Heat Transfer in a Rectangular Pool, Seung-Dong Lee, Kang-Hee Lee, Kune-Yull Suh (Seoul Natl Univ)

Turbulent Heavy Liquid Metal Heat Transfer—Instrumentation Development and Experiment, Cord-Henrich Lefhalm (Forschungszentrum Karlsruhe), Nam Il Tak (KAERI), Robert Stieglitz (Forschungszentrum Karlsruhe)

Heat Transfer Predictions of k-e Turbulence Models in Buoyant Flows, Constantine P. Tzanos (ANL)

Data, Analysis, and Operations for Nuclear Criticality Safety—I, sponsored by NCSD. *Session Organizer:* Richard Taylor (Univ of Tennessee)

Gains Resulting From the Use of the Latest French Burnup Credit Hypotheses, Sylvain Janski (Electricité de France)

Extended Interpretation of Sensitivity Data for Benchmark Areas of Applicability, Sedat Goluoglu, Calvin Mitchell Hopper, Bradley T. Rearden (ORNL)

The KENO V.a Primer, Robert D. Busch (Univ of New Mexico), Stephen M. Bowman (ORNL)

On the "Smores" Capability for Minimum Critical Mass Determination, Ehud Greenspan, Yonathan - Karni, Dror Regev (Univ of California), Sedat Goluoglu, Calvin Mitchell Hopper, Lester Petrie (ORNL)

SAS2H/Radiochemical Assay Comparisons for Limerick BWR Spent Fuel Samples, Horia Raul Radulescu (Bechtel SAIC Company, LLC)

Functional and Operational Requirements for TA-18 Relocation to the NTS/DAF Site, Richard E. Malenfant (LANL), David A. Bedsun (Bechtel Nevada), Richard R. Paternoster (LANL)

Criticality of a Neptunium-237 Sphere, Rene G. Sanchez, David J. Loaiza, Robert Kimpland (LANL)

Training, Human Performance, and Workforce Development—I, sponsored by ETD. *Session Organizer:* Jane LeClair (Nine Mile Point Nuclear Station)

Why Nuclear Professionals Participate in Continuing Education: Implications for Training, Randy McCamey (TXU Energy)

Shifting the Training Paradigm: Using Blended Learning Techniques, Pamela S. Aigner (Westinghouse)

Continuing Improvement: Focusing the Training of Nuclear Power Plant Engineers on Performance, Raymond James Dean (Nine Mile Point Nuclear Station, LLC)

Educational Assistance Program of the National Academy for Nuclear Training, Ann D. Winters (National Academy for Nuclear Training)

Web Based Nuclear Testing/Training, Richard Coe (Richard Stockton College of New Jersey)

Training and Nuclear Power Plant Performance, Kent W. Hamlin (Institute of Nuclear Power Operations)

Reactor Vessel Corrosion: Prevention, Identification, and Replacement–Panel, sponsored by OPD. *Session Organizer:* Donna Skay (NRC)

Panelists:
- Dean Price (Dominion)
- NRC representative to be determined.
- EPRI representative to be determined.

Revitalizing the U.S. Department of Energy National Laboratories in Support of a Nuclear Renaissance–Panel, *Session Organizer:* Alan Waltar (PNNL) sponsored by FCWMD; cosponsored by OPD

Panelists:
- Hermann Grunder (ANL)
- John Sackett (ANL)

- Robert Bari (BNL)
- James Lake (INEEL)
- John Immele (LANL)
- Michael Anastasio (LLNL)
- William Madia (ORNL)
- David Hill (ORNL)
- Michael Lawrence (PNNL)
- Paul Robinson (SNL)
- Thomas Blejwas (SNL)

American Nuclear Society Joint Benchmark Committee Benchmarks and Related Efforts, sponsored by RPD; cosponsored by MCD, RPSD

Improving the LLNL Pulsed Sphere Experiments Database and MCNP Models, James A. Bucholz (ORNL), Stephanie C. Frankle (LANL)

Update Status of Benchmark Activity for Reactor Physics Study of LWR Next Generation Fuels, Hironobu Unesaki (Kyoto Univ), Keisuke Okumura (JAERI-Japan), Takanori Kitada (Osaka Univ), Etsuro Saji (Secretariat of The Nuclear Safety Commission), invited

Development of the Calvert Cliffs Isotopics Benchmark Specification, Steven Baker (TransWare Enterprises Inc.)

Benchmark Solution for an Unstructured Geometry PWR Problem, Zarko Stankovski (CEA)

Standard for Determination of Reaction-Rate Distributions and Reactivity, Benjamin Rouben (AECL)

Verify the Criticality Impact of Pu-Rich Agglomerate in MOX Fuel, Gray Chang (INEEL), invited

Criticality Benchmark Calculations Using PARTISN: Comparisons Using MENDF5 and MENDF6 Nuclear Data Libraries, Ronald James Ellis, James J. Yugo (ORNL), Stephanie C. Frankle, Robert C. Little (LANL)

Testing of the ENDF66 Nuclear Data Library with the MCNP Criticality Validation Suite, Russell D. Mosteller (LANL)

Safety Culture–Panel, sponsored by NISD. *Session Organizer:* Charles Martin (DNFSB)

Panelists:
- Beverly Ann Cook (DOE)
- James J. McConnell (DNFSB)
- Alan E. Levin (NRC)
- Thomas P. McLaughlin (LANL)
- Charles R. Jones (Consultant)
- Dana A. Powers (SNL)

Radioactive Materials in the Environment, sponsored by ESD

Review of the Prediction of C-14 Concentration in the Rice Plant Using the Photosynthesis Model, Kun Jai Lee (KAIST)

The Potential for Unexpected Release of Contamination Adsorbed by Metal Surfaces, Jay F. Kunze (Idaho State Univ)

Measurements of Water Adsorption by CsI, Charles Riggs, Robert V. Tompson, Jr., Tushar K. Ghosh, Sudarshan Kumar Loyalka (Univ of Missouri-Columbia)

A Study on the Evaluation of the Indoor Radon Concentration, Jang Mee, Kang Chang Sun, Moon Joo Hyun (Seoul National Univ)

Evaluation of the Technical Basis for DOE Standard 1027, Victoria K. Anderson, Brett P. Broderick, Charles Martin (DNFSB)

Radiation Transport Applications, sponsored by RPSD

Shielding Evaluation of Plutonium and Uranium Contents in 9975 Shipping Containers, Steven J. Nathan, Marvin H. Barnett (WSMS LLC)

A Feasibility Study to Develop a Radiation Management System Using Internet Virtual Reality, Kidoo Kang (Korea Hydro & Nuclear Power Co., Ltd.), Brian Hajek (Ohio State Univ), Sangwoon Shin (Korea Hydro & Nuclear Power Co., Ltd.)

Radiation Scattering Analysis for Transporter Receipt Building at Yucca Mountain, Charlotta E. Sanders, Shiaw-Der Su (Bechtel SAIC Company (Yucca Mountain Project))

Revisit of the Compound Dual Radiation Theory, C. K. Chris Wang, Xin Zhang, Marat Seidaliev (Georgia Institute of Technology)

Neutronics Simulations: The d-d Fusion Rate Claimed in Acoustic Cavitation Experiments Inconsistent with Observed Neutron Emission Rate, Richard A. Lillie, Igor Remec, Tony A. Gabriel (ORNL)

Review of "Neutronic Simulations: The D-D Fusion Rate Claimed in Acoustic Cavitation Experiments with Observed Neutron Emission Rate" by R. Lillie et al., Rusi Taleyarkhan, C. D. West (ORNL), R. C. Block (RPI)

MONDAY, JUNE 2, 2003, 4:00–6:00 P.M.

General Chair's Special Session: Nuclear Power—Leveling the Environmental Playing Field

Speakers:
- Environmental Value of Nuclear in an Era of Climate Change Concerns, Dan Keuter (Entergy, Jackson)
- Financial Value of Today's Nuclear Fleet to the Environment and Life Cycle Management Issues, Theodore U. Marston (EPRI)
- The DOE Nuclear Hydrogen Program, David Henderson (DOE)
- Nuclear Production of Hydrogen, Kenneth Schultz (General Atomics)
- The Role of Nuclear Power in the Hydrogen Economy, Andrew Green (Navigant Consulting)
- Nuclear Power Statistics: The Environmental Trade-Offs, When Do They Matter? Ronald Hagen (EIA)
- The Hydrogen Production Program at the INEEL, Finis Southworth (BWXT)

TUESDAY, JUNE 3, 2003, 8:30 A.M.

Physical Protection of Nuclear Material and Facilities Post-9/11–Panel, sponsored by FCWMD. *Session Organizer:* Alex Burkart (U.S. Dept of State)

IAEA Activities, Anita Nilson (IAEA–Austria)

Amending the Physical Protection Convention, Patricia A. Comella (Department of State)

Readout from the IAEA International Conference on the Security of Radioactive Sources, Kirsten Cutler (Nucl Safety Dept of State)

DOE International Physical Protection Cooperation Program, Ronald C. Cherry (NNSA)

U.S. Domestic Activities, NRC representative to be determined.

General Two-Phase Flow/Thermal Hydraulics of Next-Generation Nuclear Reactors, sponsored by THD. *Session Organizers:* Jong Kim (EPRI/KAIST–Korea), Karen Vierow (Purdue Univ)

New Cyclotron Targetry to Enhance F-18 Clinical PET, J. Michael Doster, Amy N. Roberts (North Carolina State Univ), Bruce W. Wieland (Duke Univ Medical Center)

Mean Flow Velocity Profile Modification by Microbubble Injection in a Boundary Layer, Javier Ortiz-Villafuerte, Jose Alfredo Jimenez-Bernel, Yassin A. Hassan (Texas A&M Univ)

Transient Film Boiling on Downward-Facing Hemispheres, Chan Soo Kim, Kune Yull Suh (Seoul National Univ, Korea)

Critical Heat Flux in One-Dimensional Downward-Heated Channel, Yong Hoon Kim, Sungjoong Kim, Sang Woo Noh, Kune Yull Suh (Seoul National Univ, Korea)

Condensation Regime Map for a 4-Hole Sparger, Yeon-Sik Kim, Chul-Hwa Song (KAERI)

Hydrogen Generation in Reflood Experiments with LWR-Type Rod Bundles (QUENCH Program), Leo Sepold, Christoph Homann, Alexei Miassoedov, Martin Steinbrueck, Gerhard Schanz, Ulrike Stegmaier, Juri Stuckert (Forschungszentrum Karlsruhe)

Thermal-Hydraulic Analysis of a Helical Coil Steam Generator for Level Monitoring, Belle R. Upadhyaya, Ke Zhao (Univ of Tennessee), Richard T. Wood, Dan T. Ingersoll (ORNL)

Data, Analysis, and Operations for Nuclear Criticality Safety—II, sponsored by NCSD. *Session Organizer:* Richard Taylor (Univ of Tennessee)

Legacy Nonconformance Issue in Solid Waste Disposal, Charles Alva Rogers (Fluor Hanford Company)

Improved Methodology for 12-Rd Analysis in a Shielded Facility at SRS, Pran K. Paul, G. J. Winkler (Westinghouse), Roger W. Bartholomay, Kenneth C. Okafor (WSMS)

Gamma Spectroscopy Measurements of BoroBond Blocks, John S. Neal, Jarrod D. Edwards, John T. Mihalczo (ORNL)

Neutron Transmission Measurements of BoroBond Blocks, John S. Neal, Sara A. Pozzi, Jarrod D. Edwards, John T. Mihalczo (ORNL)

Neutron Counting Measurements of BoroBond Blocks, John S. Neal, Sara A. Pozzi, Jarrod D. Edwards, John T. Mihalczo (ORNL)

Method for Verification of the Hydrogen and Boron Content of the RCSB for Storage of HEU at the HEUMF, John S. Neal, Sara A. Pozzi, Jarrod D. Edwards, John T. Mihalczo (ORNL)

Incorporation of NCS Requirements into the DSA, Kevin Kimball (NISYS Corporation), Bruce Wilson (Bechtel Jacobs Company LLC), John Chandler, Doug Heal (Westinghouse SMS - Mid America)

Training, Human Performance, and Workforce Development—II. *Session Organizer:* Jane LeClair (Nine Mile Point Nuclear Station)

Assessing Nuclear Safety Culture Using Advanced Organizational Research Methods, Eric VanBuskirk Fries (Management Insight Technologies)

STARS Executive Leadership Academy, Terry Louise Brass-Nash (STARS/STP Nuclear Operating Company)

Transitioning to a Technology Based Learning Environment, Bob Wood, Robert L. Sandstrom (Southern California Edison)

Implementing Human Performance Initiatives: Step Two—Training the Work Force, Tony Hedges, Richard Watts (Rochester Gas and Electric)

A RELAP/SCDAP Based Classroom Analysis Simulator for the Laguna Verde Nuclear Power Plant, Humberto Salazar-Cravioto, Carlos Chavez-Mercado (Universidad Nacional Autonoma de Mexico)

Education at a Distance, Southwest Consortium, Mike Spellman, J. Bradley Smith

Financing the Next Generation of Nuclear Power Plants–Papers/Panel, sponsored by OPD. *Session Organizer:* Edward Quinn (Consultant)

US Patents in Reactor Technology: Disappearing Ideas and Property Rights, Michael T. Cash (Patent Attorney)

European Utility Requirements: Actions in Progress and Next Steps, Pierre Berbey (Electricité de France)

Evaluating the Viability of Future Nuclear Developments in the United States, Robert C. Twilley, Jr. (Framatome ANP)

Panelists:
- Kenneth Hughey (Entergy)
- Andrew Patterson (Scully Assoc)
- Ronald Hagen (DOE EIA)
- Edward Quinn (Consultant)
- Raymond Durante (Durante Assoc)

Plant Upgrades—I, sponsored by OPD. *Session Organizer:* Steve Stamm (SWEC)

Energy Balance Software in the Plant Life Cycle, Gene Minner, Bill Kettenacker, Gene Minner (SCIENTECH, Inc.), invited

Status of the EPRI/Utility On-Line Monitoring Working Group, J. Wesley Hines (Univ of Tennessee), Eddie Davis (Edan Engineering Corporation)

Feedwater Flow Estimation in Nuclear Power Plants Using Neural Networks, Sungsik Yu, Jongtae Seo, Jongju Sohn (Korea Power Engineering Company, Inc.), Jongho Park (Chungnam National Univ)

Optimization of the Worth Shape of Axially Variable Strength Control Rods for the Power Maneuvering of PWRs, Ung-Soo Kim (KAIST), Un-Chul Lee (Seoul National Univ), Poong-Hyun Seong (KAIST)

A Quantification Method for Fault Coverage of NPP Digital Systems Combining Mathematical Analysis and Computer Simulation, Man Cheol Kim, Suk Joon Kim, Poong-Hyun Seong (KAIST)

Nuclear Data, Noise Analysis, and System Control: Rafael Perez Legacy—I, sponsored by RPD. *Session Organizers:* Felix Difilippo (ORNL), Luiz Leal (ORNL). All invited

Early Neutron Wave Theory and Experiments in Nuclear Systems, Robert Eugene Uhrig (Univ of Tennessee)

Thermalization of Neutrons in Graphite: From Neutron Wave Propagation to Generation IV Reactors, Felix C. Difilippo, John Paul Renier (ORNL)

Diffusion Approximation for Transport with Multiplying Boundary Conditions, Vladimir Alexandru Protopopescu (ORNL)

Markovian and Non-Markovian Sources in Subcriticality Monitoring by Noise Analysis Methods, José L. Munoz-Cobo (Universidad Politécnica de Valencia), Angel N. Perez (Universidad Politécnica), Yolanda Rugama (Technological Univ of Delft)

Source-Driven Noise Analysis Measurements with Neptunium Metal Reflected by High-Enriched Uranium, Timothy E. Valentine, John K. Mattingly (ORNL)

Nonlinear Dynamics of Boiling Water Reactors During Instability Events, Jose A. March-Leuba (ORNL)

Site Licensing Progress: Safety Impacts in the Early Site Licensing Process–Panel, sponsored by NISD. *Session Organizer:* Anthony Baratta (Penn State)

Panelists:
- Bhupinder P. Singh (DOE)
- George Zinke (Entergy)
- Spencer W. Semmes (Dominion Res Svc)
- Russell Bell (NEI)
- James E. Lyons (DOE, Rockville)

Environmental Sciences: General, sponsored by ESD

The Need for Engineering Realism on Radiation and Radioactivity, Theodore Rockwell (Radiation, Science & Health, Inc.)

Quantitative Assessment of Emergency Preparedness and Response Using QEM-World™, Gary Wayne Scronce, J. Krause Wilson, Neeraj Mainkar (Innovative Emergency Management, Inc.)

Proprietary™—Success of a Chemical Extraction Technology at Rocky Flats, Craig Wilson (Environmental Alternatives, Inc.)

Radiation Transmission Measurement for a Lightweight Fabric, Herbert W. Friedman (LLNL), invited

Effect of the Angle of Approach of the Convergence Section on the Predicted Cutpoint Value for a Real Impactor, Sridhar Hari, Yassin A. Hassan, Andrew McFarland (Texas A&M Univ)

Low-Energy Nuclear Reactions—I, sponsored by IRD. *Session Organizer:* George Miley (Univ of Illinois)

The Dynamics of the Pd/D-D_2O-Li+ System as a Precursor to the Fleischmann-Pons Effect, Stanislaw Szpak, Pamela Ann Boss (SPAWAR Systems Center San Diego), invited

Lattice Resonating Group Method Approach to Excess Heat in PdD, Peter Laurence Hagelstein (MIT), invited

New Neutron State in Transition-Metal Hydrides and Cold Fusion Phenomenon, Hideo Kozima (Portland State Univ), invited

Importance of Broken Gauge Symmetry in Initiating LENR's, Scott R. Chubb, Sr. (Research Systems, Inc), invited

"Bubble Fusion" and Condensed Matter Nuclear Science, Xing Zhong Li (Tsinghua Univ), invited

HDCC: Non-Power Radiation Applications, Hal Fox (EEMF), invited

Screening Effects due to Atomic Charge Distribution, George H. Miley, Nie Luo (Univ of Illinois)

TUESDAY, JUNE 3, 2003, 1:00 P.M.

Spent-Fuel Partitioning and Transmutation Studies to Enable Efficient Use of the High-Level Waste Repository, sponsored by FCWMD. *Session Organizer:* Emory D. Collins (ORNL)

Transmutation of Plutonium from Spent Nuclear Fuel Using Full Cores of Mixed Oxide Fuel in Existing Light Water Reactors, Holly R. Trellue (LANL)

AFCI Economic Study for Series 1 Near-Term Chemical Processing of LWR Spent Fuels and Fabrication of LWR MOX Fuel, Emory D. Collins (ORNL), James J. Laidler (ANL), W. Brent Boore (Westinghouse SRC), J. D. Smith (SNL)

Dissolution of Dresden Reactor Fuel, Glen F. Kessinger, Major C. Thompson (SRTC), invited

Demonstration of the UREX Solvent Extraction Process with Dresden Reactor Fuel, Tracy S. Rudisill, Major C. Thompson, Michael A. Norato, Glen F. Kessinger, Robert A. Pierce, Jermaine D. Johnson (Westinghouse SRC), invited

Processing of TRISO-Coated Fuel in Support of High-Temperature Gas-Cooled Reactors, Guillermo D. Del Cul (ORNL/UT-Battelle), Barry B. Spencer, Charles Forsberg, Emory D. Collins (ORNL), William S. Rickman (TSD Management Associates)

Palladium in Spent Nuclear Fuel—Are There Prospects of Recovering and Usage?, Yuri Alekseevich Pokhitonov, Valery Romanovsky (Khlopin Radium Institute)

Thermal Hydraulics of Code Development, sponsored by THD. *Session Organizers:* Undine Shoop (NRC), Karen Vierow (Purdue Univ)

Validation of the SAS4A Sodium Boiling Model at Low Power, Floyd Dunn (ANL)

VVER-1000 Three Dimensional Model Assessment, Emilian Lubomirov Popov, Graydon L. Yoder (ORNL), Valeri Velichkov (WANO)

A New Concept for Early Detection of BWR Instabilities, Claudio Delfino, Asok Ray, Kostadin Ivanov, Fan-Bill Cheung (Penn State)

Application of RELAP5-3D Code for RBMK-1500 Transient Analysis, Eugenijus Uspuras, Algirdas Kaliatka (Lithuanian Energy Institute)

Simulation of Subcooled Boiling at Low Pressure Conditions with RELAP5-3D, Sm Mohsin Reza (Texas A&M Univ)

COBRA-TF PWR Core Wide and Hot Subchannel Calculations, Maria Nikolova Avramova, Kostadin Ivanov (Penn State), Juris Kronenberg, Friedrich Burtak (Framatome ANP GmbH)

Internal Assessment of Uncertainty for Neutronics/Thermal-Hydraulics Coupled Codes, Kostadin Ivanov, Alessandro Petruzzi (Penn State), Francesco D'Auria (Universita di Pisa)

Determination of Overall Likelihood for Nuclear Criticality Safety Accident Scenarios Under 10 CFR 70–Panel, sponsored by NCSD. *Session Organizers:* Lon Paulson (GNF), Robert Frost (Nucl Safety Assoc)

Panelists:
- Lon E. Paulson (GNF)
- Charles Robinson (Nuclear Safety Assoc)
- Brian O. Kidd (BWXT)
- Carl A. Snyder (Westinghouse, Columbia)
- Randy Shackelford (Nucl Fuel Svc)
- Margaret S. Chatterton (NRC)

Mathematical Modeling: General, sponsored by MCD. *Session Organizers:* Jong Kim (EPRI/KAIST–Korea), Karen Vierow (Purdue Univ)

Dominance Ratio Computation via Time Series Analysis of Monte Carlo Fission Sources, Taro Ueki, Forrest B. Brown, D. Kent Parsons (LANL)

Research Reactor Core Parameter Prediction by ANN's Method, Mazrou Hakim (COMENA)

In-Core Power Detection with CTPS Using a Non-Linear Model, Tunc Aldemir (Ohio State Univ)

Current Issues in Computational Methods–Roundtable, sponsored by MCD

Goal and Direction of Risk Management–Papers/Panel, sponsored by OPD

Probabilistic Safety Assessment of Pipe Rupture Event at Hamaoka-1, Mamoru Fukuda, Toru Kishi, Satoshi Miura, Masahiro Yamashita (Nuclear Power Engineering Corporation), Norito Watanabe (Ministry of Economy, Trade and Industry)

A Method for Risk-Informed Safety Significance Categorization Using AHP and BBN, Jun-Su Ha, Poong-Hyun Seong (KAIST)

Simulation Based I&C Reliability Analysis, J. Michael Doster, Charles W. Mayo, Haishan Zhou (North Carolina State Univ)

Panelists:
- F. Mark Reinhart (NRC)
- Alan Hackerott (OPPD)
- Michelle P. Carr (SCE, San Onofre)
- Carl Richard Grantom (South Texas Project)

Plant Upgrades—II, sponsored by OPD; cosponsored by HFD

An Impact Analysis of Human Machine Interface with Autonomous Operating System on Nuclear Power Plant System Safety, Seungjun Lee, Man Cheol Kim, Ung-Soo Kim, Poong-Hyun Seong (KAIST)

Development of Input Database for HRA Using Plant Simulator, Wondea Jung, Jinkyun Park, Jaewhan Kim (KAERI)

Formal Verification of FBD-Based PLC Software Using VIS, Han Seong Son, Kee-Choon Kwon (KAERI)

Automatic Generation of Goal-Tree from Statecharts Requirements Specification, Junbeom Yoo, Sungdeok Cha (KAIST), Han Seong Son (KAERI)

Safety Assessment Framework for Software Based I&C Systems, Jang-Soo Lee, Kyung-Ho Cha, Kee-Choon Kwon (KAERI)

Nuclear Data, Noise Analysis, and System Control: Rafael Perez Legacy—II. *Session Organizers:* Felix Difilippo (ORNL), Luiz Leal (ORNL)

Generalized Pole Representation Revisited, Richard N. Hwang (ANL), invited

R-Matrix Evaluation of 19F Neutron Cross Sections up to 1 MeV, Luiz Leal (ORNL), invited

Effect of the Double-Humped Barrier Around the Threshold of the Fission Cross Section of ^{238}U, Felix C. Difilippo (ORNL), invited

Forewarning of Machine Failure via Nonlinear Analysis, Vladimir Alexandru Protopopescu (ORNL), invited

An Adaptative Method Based on Dynamics Reconstruction. Application to BWR Stability Monitoring, Gumersindo Verdu Martin, Damian Ginestar (Universitat Politecnica de Valencia), invited

Defect Monitoring in Steam Generator Structures Using Piezoelectric Transducers and Time-Frequency Analysis, Belle R. Upadhyaya, Baofu Lu, J. Wesley Hines (Univ of Tennessee), Sergio Perillo (IPEN)

Environmental Monitoring at Nuclear Facilities, sponsored by ESD

A Program for Enhanced Sampling and Reporting of Tritium, Peter Fledderman, Charles Harvel (Savannah River Site)

Real-Time Web-Based Environmental Plant Monitoring, Richard Edward Hale, Steve Norris Hammonds (ORNL)

Evolution of Integrated Biological Control Activities at the Hanford Site, Austin Ray Johnson, Gregory D. Perkins (Fluor Hanford, Inc.), Tracy A. Ikenberry (Dade Moeller & Associates, Inc.)

LCA Application on NPPs' Environmental Burdens in Korea, Whan-Sam Chung, Sung-Won Yun, Seung-Su Kim, Meang-Ho Yang (KAERI)

Land Remediation and Soil Segregation Projects in Germany and United Kingdom, Gerold Simon, Marina Sokcic-Kostic (RWE Nukem), Jasmina Vujic (Univ of California, Berkeley), Jonathan Betts (RWE Nukem)

Low-Energy Nuclear Reactions—II, sponsored by IRD. *Session Organizer:* George Miley (Univ of Illinois)

On Transmutation Reactions in Solids, George H. Miley, Prajakti Joshi Shrestha (Univ of Illinois)

Energy Production by Passing an Electrical Current Through Selected Metals, Jacques Dufour (CNAM), invited

Effect of Hydrogen Isotope Plasmas on Isotopic Content of Uranium, John Dash (Portland State Univ), Irina Savvatimova (Lutch), invited

^{4}He Detection in a Cold Fusion Experiment, Antonella De Ninno, Antonio Frattolillo, Antonietta Rizzo (ENEA), Emilio Del Giudice (INFN)

Mass Spectrometric Measurements of Fusion Products: ^{3}H, ^{3}He and ^{4}He, Michael Charles McKubre, Francis Louis Tanzella (SRI International), Vittorio Violante (ENEA), invited

Energetic Alpha and Proton Emissions on the Electrolysis of Thin-Pd Films, Andrei G. Lipson, George H. Miley (Univ of Illinois), Alexei S. Roussetski (Institute Russian Academy of Sciences)

Generation of Energetic Charged Particles During Electrolysis, Richard A. Oriani (Univ of Minnesota), John C. Fisher, invited

U.S. Department of Energy Nuclear Energy Research Initiative—I, sponsored by OPD; cosponsored by FCWMD, ETD

Active or Passive Post-LOCA Cooling of GFRs?, Michael J. Driscoll, Pavel Hejzlar (MIT)

Basic Design Choices for a Breed and Burn Fast Reactor, Michael J. Driscoll, Pavel Hejzlar (MIT), Kevan D. Weaver (INEEL), Mitchell K. Meyer (ANL)

Cold-Finger Concept for Passive Decay Heat Removal in Gas-Cooled Reactors, Earl E. Feldman, Thomas Y. C. Wei (ANL)

Development of Gen-IV Advanced Gas-Cooled Reactors with Hardened/Fast Neutron Spectrum, Thomas Y. C. Wei (ANL), Jacques Rouault (CEA–Cadarache)

Reactor Physics Feasibility Analysis of Long-Lived STAR-H2 System, Galina V. Tsvetkova (Texas A&M Univ), Won Yang, David Wade (ANL), Kenneth L. Peddicord (Texas A&M Univ)

TUESDAY, JUNE 3, 2003, 4:00–6:00 P.M.

ANS President's Special Session

WEDNESDAY, JUNE 4, 2003, 8:30 A.M.

Transmutation Fuel Development and Irradiation Studies, sponsored by FCWMD

TRISO-Coated Fuel Development Plan for the "Deep-Burn" Concept, David Williams, Robert N. Morris (ORNL), Don McEachern, David L. Hanson (General Atomics)

Fabrication, Characterization, and Irradiation of Minor Actinide Fuels in the AFC-1 Test, Mitchell Meyer, John Rory Kennedy, Steven L. Hayes, Dennis D. Keiser (ANL), Gray Chang, Richard Ambrosek (INEEL)

Alpha and Gamma Radiolysis Studies for Neptunium Oxides, Alan S. Icenhour, Robert M. Wham, Ron R. Brunson (ORNL)

Feasibility Study on Recycling of ThO_2/UO_2 Fuel in CANDU Reactors Through Dry Reprocess Technology, Hangbok Choi, Chang-Joon Jeong (KAERI)

Nuclear Transmutation by High Brightness Gamma Ray and Its Application, Masanori Aoki, Kazuo Imasaki, Dazhi Li (Institute for Laser Technology)

Experiment on Gamma Ray Generation for Nuclear Transmutation, Dazhi Li, Kazuo Imasaki, Masanori Aoki (Osaka Univ)

Transport Methods and Applications: General, sponsored by MCD

Multidimensional Spatial Eigenmode Analysis, Drew Kornreich, D. Kent Parsons (LANL)

A Semi-Analytical Benchmark for 2-D Time Dependent Neutron Transport, Barry Douglas Ganapol (Univ of Arizona)

Comparison of Angular and Spatial Domain Decomposition Using Parallel Performance Models, James Welton Fischer, Yousry Youssef Azmy (Penn State)

Effectiveness of an Expert System for Selection of Parallel SN Domain Decomposition Strategy, Apisit Patchimpattapong (Penn State)

Direct Simulation of Multi-Component Aerosol Dynamics, Sudarshan Kumar Loyalka (Univ of Missouri-Columbia)

Developing an Accurate Thickness Correction Methodology for Am-241 Thickness Gauge, Jin-Woo Lee, Chan-Hyeong H. Kim (RPI), Cheol-Hee Choi (Gwangyang Steel Works, POSCO)

An Analytically Initiated Approach with Finite Elements for Cylindrical Shielding, Eric Victor Steinfelds, Sudarshan Kumar Loyalka, Mark Antonio Prelas (Univ of Missouri-Columbia)

Neutron Multiplicity Counting for Nuclear Safeguards with MCNPX, John S. Hendricks, Martyn T. Swinhoe, Stephen J. Tobin, Douglas R. Mayo (LANL)

Nuclear Criticality Safety Standards Forum–Panel, sponsored by NCSD. *Session Organizer:* Thomas McLaughlin (LANL)

Nuclear Asset Management–Papers/Panel, sponsored by OPD. *Session Organizer:* Robert Holzworth (South Dakota State Univ)

Enterprise Asset Management—A Key to Achieve Excellence in Nuclear Operations, Terry M. Maxey (Indus International)

Risk-Informed Asset Management (RIAM) for Nuclear Power Plants, James Keith Liming (ABSG Consulting)

Panelists:
- NEI/NAM Task Force Update, Marc Goettel (SCE, San Onofre)
- Enterprise Asset Management—A Key to Achieving Excellence in Nuclear Operations, Terry M. Maxey (INDUS International)
- Risk-Informed Asset Management (RIAM) for Nuclear Power Plants, Rick Grantom (South Texas Project), James Keith Liming (ABSG Consulting)
- Asset Performance Management for the Nuclear Industry, Joel J. Barger (Meridium)
- Nuclear Asset Management at Wolf Creek Nuclear Operating Company, Maurice E. Dingler (WCNOC)
- Energy Balance Software in the Plant Life Cycle, William C. Kettenacker (SCIENTECH, Idaho Falls), Gene L. Minner (SCIENTECH, Lewisville)
- Capacity Improvements and License Renewal: New Life From Aging Assets, Charles J. "Jeff" Richardson (Entergy/Univ of Arkansas, Jackson), Garry G. Young (Entergy/Univ of Arkansas, Russellville)
- NAM Integration and Stepping Outside the Box, Robert E. Holzworth (Independent Consultant/South Dakota State Univ), Gerald P. Motl (Queen City Consultants/Naval Academy)

Significance Determination Processes–Panel, sponsored by OPD. *Session Organizer:* Richard Rasmussen (NRC)

Panelists:
- Richard Rasmussen (NRC)
- See-Meng Wong (NRC)
- Marie A. Pohida (NRC)
- Duncan Brewer (Duke Eng)
- Thomas C. Houghton (NEI)
- Gregory Gibson (SCE, San Onofre)

Reactor Physics: General, sponsored by RPD

Analysis of PROFIL-1 Irradiation Experiment and Related Uncertainty Assessment, Luigi Mercatali, Giuseppe Palmiotti, Massimo Salvatores (ANL)

Thorium and Spent LWR MOX Fuel in CANDU Reactors, Sumer Sahin (Gazi Univ), Senay Yalcin (Bahcesehir Univ), H. Mehmet Sahin, Kadir Yildiz, Mahmut Alkan (Gazi Univ)

Effect of Dancoff Factor in Criticality Calculation for Cluster Fuel Bundles, Hyeong-Heon Kim (Korea Power Engineering Company, Inc.), Nam-Zin Cho (KAIST)

Spectral Effects at Core-Reflector Interface in Fast Neutron Systems, Gerardo Aliberti, Giuseppe Palmiotti, Massimo Salvatores (ANL)

Comparison of GFR Core Reflectors, Kun Yu, Michael J. Driscoll, Peter J. Yarsky, Michael A. Pope, Pavel Hejzlar (MIT)

Effect of Additional Chemical Assay Data on Actinide-Only Burnup Credit, Dale Lancaster (Nuclear Consultants.com)

Power Density Effect on Spent Fuel Characteristics, Zhiwen Xu, Pavel Hejzlar, Mujid S. Kazimi (MIT)

Analysis on the Np-237 Sphere Surrounded by U-235 Shells Experiment, David J. Loaiza (LANL)

Fusion Breeder Option of HYLIFE-II Reactor, Sumer Sahin, Haci Mehmet-Sahin (Gazi Univ), Senay-Yalcin (Bahcesehir Univ), Mustafa-Ubeyli (Gazi Univ)

Research by U.S. Department of Energy–Sponsored Students, sponsored by ETD. Session Organizer: Brian Hajek (Ohio State)

Modeling the Radiation Response of Respiratory Tissue, Natela G. Ostrovskaya, John R. Ford (Texas A&M Univ)

Detection System for Measuring Radiation Quality in the Phantom Rats Lung Using the Variance Method, Wen Hsing Hsu, Leslie A. Braby, Warren D. Reece (Texas A&M Univ)

Advances in Parametric X-Ray Production at the RPI Linear Accelerator, Yaron Danon, Bryndol A. Sones, Robert C. Block (RPI)

Use of Enriched Boric Acid as Chemical Shim and Effect on B10 Holdup from Contributing Mechanisms, Radhakrishnan Srinivasan, Barclay G. Jones (Univ of Illinois)

Reactor Production of Thorium-229, Marc Garland (Univ of Maryland College Park), Saed Mirzadeh (ORNL)

Crud Formation and Effects of Corrosion, Heat Flux, and Radiation, Hyun-Jong Joe (Univ of Illinois), Barclay G. Jones (UIUC)

Environmental and Safety Aspects of Spent Fuel and Contaminated Materials, sponsored by ESD

The Application of Production Reactor Interim Safe-Storage (SAFSTOR) Experience at Hanford to the Nuclear Decommissioning Industry, James D. Goodenough (DOE)

Minimizing the Gamma Radiation Effects to Spent Fuel Pool Walls, Chanatip Tippayakul, Kostadin Ivanov (Penn State)

NCRP Report 141: Managing Potentially Radioactive Scrap Metal, Shih-Yew Chen (ANL)

Alternative Source Term Applications to Improve Power Reactor Safety Analysis–Panel, sponsored by NISD. *Session Organizer:* Steve Schultz (Duke Eng)

Panelists:
- Mark Drucker (SCE)
- John Duffy (PSE&G)
- Stephan F. La Vie (NRC)
- James Metcalf (Polestar)
- Gopal Patel (NUCORE)

Current Issues for Reactor Engineers–Panel, sponsored by RPD. *Session Organizer:* John Bosner (TXU)

Invited Panelists:
- Gerry Potts (GE)
- Matt Eyre (Exelon)
- David Smith (Entergy)

WEDNESDAY, JUNE 4, 2003, 1:00 P.M.

Developments and Issues in Storage and Disposal of Radioactive Wastes, sponsored by FCWMD

A Pilot PRA of a Dry Cask Storage System, Christopher Ryder, Lee Abramson, Alan Rubin (NRC)

Development of SITES for Radioactive Waste Repository, Chang-Lak Kim, Chan Goo Rhee, Se-Moon Park, Myung-Jae Song (Nuclear Environment Technology Institute)

IAEA's Low and Intermediate Level Disposal Program: Current and Emerging Issues, Ramesh Dayal (IAEA), invited

Depleted Uranium Dissolution and Solidification, Dianne Gates-Anderson, Carola Laue, Tom Fitch (LLNL)

Reactor Pressure Vessel Embrittlement—I, sponsored by RPSD. *Session Organizers:* Igor Remic (ORNL), JyAnn Wang (ORNL)

Contributions of Fundamental Studies to Understanding RPV Embrittlement, Roger E. Stoller, Michael K. Miller (ORNL), G. Robert Odette (Univ of California, Santa Barbara), Brian D. Wirth (Univ of California, Berkeley)

WWER RPV Dosimetry Benchmarking in LR-0 Reactor. Recent Activity, Bohumil Osmera (NRI Rez), Sergei M. Zaritsky (RRC Kurchatov Institute), Frantisek Cvachovec (Military Academy Brno), Nikolai Alekseev, Mikhail Gurevich (RRC Kurchatov Institute)

Analysis of Irradiation Conditions of WWER-1000 Surveillance Specimens, Sergei M. Zaritsky, Mikhail Gurevich, Denis Shkarovsky (RRC Kurchatov Institute)

Study of the Neutron Flux and Dpa Attenuation in the Reactor Pressure-Vessel Wall, Igor Remec (ORNL)

RPV Integrity Assessment by Operational Feedback: Post Service Investigations of VVER-Type NPPs, Udo Rindelhardt (Forschungszentrum Rossendorf)

Pressure Vessel Enhanced Surveillance at the Argentine Heavy Water Reactor Atucha 1, Magdalena Serrano De Caro (Centro Atomico Bariloche), Eric Van Walle (SCK CEN Belgian Nuclear Research Centre)

A New Methodology for Developing Charpy Impact Data Trend Curves, Jy-An John Wang (ORNL)

Advanced Multigroup Libraries for Pressure Vessel Dosimetry, F. Arzu Alpan, Alireza Haghighat (Univ of Florida), invited

Nuclear Criticality Safety Issues for First Responders, sponsored by NCSD. *Session Organizer:* Kevin Reynolds (DOE, Oak Ridge)

Integration of Criticality Safety into Emergency Preparedness and Response at SNL, Norman F. Schwers (SNL), Ronald A. Knief (XE Corporation), Jeffrey Philbin (SNL)

SRS Emergency Response to a Criticality Accident, Rahn H. Ross (Washington Safety Management Solutions)

Nuclear Criticality Safety Aspects of Emergency Response at the Los Alamos National Laboratory, James Baker (LANL)

Preparations and Issues for Nuclear Criticality Responders at LLNL, John Pearson, Song Huang (LLNL)

Criticality Safety Issues in Transportation Packaging, sponsored by NCSD. *Session Organizer:* Robert Frost (Nucl Safety Assoc)

Cadmium Bias Adjustment for the NPC Type A Fissile Package, Lon E. Paulson (Global Nuclear Fuel - Americas), John F. Zino (GE Nuclear Energy)

Burnup Credit Isotopic Validation with Commercial Reactor Criticals, John Scaglione, Allan H. Wells (Bechtel SAIC Company, LLC)

Criticality Safety Challenges for the TransNuclear FSV Cask with the Oak Ridge Container, Robert L. Frost (NuclearSafety Associates)

U.S. Department of Energy Nuclear Energy Research Initiative—II

Conceptual Design of Mixed Spectrum Supercritical Water Reactor,

Taek Kim (ANL), Paul Wilson (Univ of Wisconsin-Madison), Wonsik Yang (ANL)

Inclusion of GASKET in the NJOY Code, Victor H. Gillette (North Carolina State Univ), J. Rolando Granada (Instituto Balseiro), Ayman Ibrahim Hawari (North Carolina State Univ), J. Santisteban (Open Univ), Iyad I. Al-Qasir, Tong Zhou, Bernard W. Wehring (North Carolina State Univ), Felix C. Difilippo, John-Paul Renier (ORNL)

Generation of Thermal Neutron Scattering Laws Using Ab-Initio Phonon Frequency Distributions, Iyad I. Al-Qasir, Ayman Ibrahim Hawari, Bernard W. Wehring, Victor H. Gillette, Tong Zhou (North Carolina State Univ), Felix C. Difilippo, John-Paul Renier (ORNL)

GCFR Lessons for the GEN IV GCR Design Development, Alfred Torri (Risk Management Associates, Inc.), Arkal S. Shenoy (General Atomics), Jeff Broido

U.S. Nuclear Power Plant Control Room Habitability–Panel, sponsored by OPD; cosponsored by NISD

Panelists:
- W. Mark Blumberg (NRC, Rockville)
- Russell N. Dietz (BNL)
- Stephen Schultz (Duke Eng)
- James Metcalf (Polestar, Portsmouth)
- Robert Campbell (TVA)

Reactor Physics Design, Validation, and Operating Experience, sponsored by RPD

The Need for Better Cross-Sections for Neutronic Analyses of Actinide Burning in Hard-Spectrum Nuclear Systems, Pavel Hejzlar (MIT)

Zero Burnup Reactivity Core for CO_2 Gas Turbine Fast Reactor, Yasuyoshi Kato (Tokyo Institute of Technology)

Preliminary Neutronic Design of a Supercritical CO_2 Pebble-Bed Gas-Cooled Fast Reactor, James W. Sterbentz, Kevan D. Weaver (INEEL)

Benchmark Calculation of WIMS/RFSP for Coolant Void Reactivity, Hangbok Choi, Byung Joo Min (KAERI)

Spent Fuel Simulation of Garigliano's Light Water Reactor Assemblies with HELIOS and ORIGEN, Juan Luis Francois (Universidad Nacional Autonoma de Mexico, Mexico), Alejandro Cortes (Comisión Nacional de Seguridad Nuclear y Salvaguardias)

Economic Analysis for Plutonium Recycling in BWR, J. Ramón Ramírez, R. T. Perry, Javier Palacios, Gustavo Alonso (National Institute for Nuclear Research)

Optimizing the Placement of Burnable Poisons in the PWRs, Serkan Yilmaz, Kostadin Ivanov, Samuel Levine (Penn State), Mahgerefteh Moussa (Exelon Corporation)

Technological Feasibility of Fission Fragment Magnetic Collimator Reactors, Pavel V. Tsvetkov, Theodore A. Parish, Ron R. Hart (Texas A&M Univ)

Safety Program to Achieve Beneficial Uses of ^{233}U in Medical Applications, sponsored by NISD. *Session Organizer:* Herbert Massie, Jr. (DNFSB)

^{233}U Safe Storage, Inspections and Medical Isotope Extraction at ORNL, James E. Rushton, Don Foster, Jr., Alan M. Krichinsky, Fred J. Peretz, Dan W. Ramey, Gary D. West (ORNL), Peter J. Bereolos (AIMS), George E. Kulynych (BWXT Services), invited

Actinium Hot Cell Production Process at the Oak Ridge National Lab (ORNL), Dairin W. Malkemus (ORNL)

Production of Actinium-225 for Alpha Particle Mediated Radioimmunotherapy, Rose A. Boll (Univ of Tennessee), Dairin W. Malkemus, Saed Mirzadeh (ORNL)

Comprehensive Flowsheet for the Production of Bismuth-213 from Uranium-233, Kenneth R. Givens (MedActinium, Inc.), Andrew H. Bond, E. Philip Horwitz, Daniel R. McAlister (PG Research Foundation, Inc.)

^{233}U Disposition, Medical Isotope Production, and Building 3019 Complex Shutdown, Thomas Joseph O'Connor (DOE)

Advances in Nuclear Fuel, sponsored by MSTD. *Session Organizers:* David Senor (PNNL), Ron Ballenger (MIT)

The Effect of Design and Uncertainty on Coated Particle Fuel Reliability, Jing Wang, Ronald George Ballinger (MIT)

Modeling Fission Gas Release in CERCER Fuel, Yun Long, Yi Yuan, Mujid S. Kazimi (MIT)

QA/QC for Advanced Fuel Particle Production, Ronald L. Hockey, Leonard J. Bond (PNNL)

The Effect of Rare Earth Dopants on UO_2 Oxidation, Brady Hanson (PNNL)

Some Electrical Properties of UO_2—Part 1, Thomas T. Meek (Univ of Tennessee), Bolko G. Von Roedern (National Renewable Energy Laboratory), Jonathan Haire (ORNL)

Risk Informing 10 CFR 50: Progress on Option 2–Panel, sponsored by NISD

Panelists:
- David B. Mathews (NRC)
- Robert Lutz (Westinghouse)
- Glen E. Schinzel (South Texas Project)
- Tony Petrangelo (NEI)
- Parvis Moieni (SCE)
- Doug True (ERIN)

WEDNESDAY, JUNE 4, 2003, 4:00–6:00 P.M.

Technical Program Chair's Special Session: Science and Technology for Yucca Mountain

Speakers:
- Quantifying Uncertainty in Predicting Yucca Mountain's Total System Performance, John Kessler (EPRI)
- Managing Decay Heat in an Unsaturated Environment, Bo Bodvarsson (LBNL)
- Spent Fuel Transportation, Jeffrey Williams (DOE-RW)
- Augmenting Repository Performance with Advanced Nuclear Fuel Cycles, Ralph Bennett (INEEL)

THURSDAY, JUNE 5, 2003, 8:30 A.M.

Reactor Pressure Vessel Embrittlement—II–Papers/Roundtable. *Session Organizer:* Igor Remic (ORNL)

Comparison of Irradiation-Induced Shifts of Fracture Toughness and Calculative Procedures of Regulatory Guides, Mikhail A. Sokolov, Randy K. Nanstad (ORNL)

Pressure Vessel Steels Exposure Parameter Determination, Alain Alberman (Commissariat a l'Energie Atomique)

Revisiting the LEPRICON Methodology, Jekutiel Jehudah Wagschal (Hebrew Univ of Jerusalem), John G. Williams (Univ of Arizona), Yehuda Yeivin (Hebrew Univ of Jerusalem)

New Radiation Embrittlement Correlation for Use in Assessing Reactor Pressure Vessel Integrity, William Server (ATI Consulting)

Preliminary Results of EPRI 3D RAMA Fluence Methodology, Steven Baker (TransWare Enterprises Inc.)

Innovations in Nuclear Infrastructure and Education, sponsored by OPD; cosponsored by ETD

The Western Nuclear Science Alliance: Collaborations in Research and Education, Stephen E. Binney (Oregon State Univ), Wade J. Richards (Univ of California, Davis)

Nuclear Engineering Research and Education Enhancements at Penn State, Kenan Ünlü, Jack S. Brenizer, C. Frederick Sears (Penn State Univ), invited

An Update of the Consortium of Big-10 University Research and Training Reactors INIE Activities, Jack S. Brenizer, C. Frederick Sears, Kenan Ünlü (Penn State), Lefteri H. Tsoukalas, Tatjana Jevremovic (Purdue Univ), James Stubbins (Univ of Illinois), Robert Agasie, Michael Corradini (Univ of Wisconsin-Madison)

Innovations in Nuclear Infrastructures and Education Programs at MIT and RINSC, John Bernard (MIT), invited

The Southwest Reactor and Research Consortium: A 21st Century Collaboration, Sean O'Kelly (The Univ of Texas at Austin)

The University of Wisconsin's Role in the Big 10 Consortium for University of Research and Training Reactors INIE Activities, Michael L. Corradini (Univ of Wisconsin-Madison)

Instrument and Control for Security, Operations, and Decommissioning, sponsored by OPD; cosponsored by HFD

Fast Neutron Damage to Digital-to-Analog Converters in a Mixed Radiation Environment, Sukesh K. Aghara, William S. Charlton (Univ of Texas at Austin), Rainer Fink (Texas A&M Univ)

Securing Nuclear Facilities Using Spherical Imaging Security Systems, David Ripley (iMove, Inc.)

Using 360 Degree Photography as a Decommissioning Tool, Gregory J. Lebaron (Hanford)

Development of a Remote Monitoring and Control System for Nuclear Power Plants, Seungjun Lee, Minseong Kim, Jonghyun Kim, Poong-Hyun Seong (KAIST)

Reactor Analysis Methods, sponsored by RPD

Modeling Super-Prompt-Critical Rod Ejection Accidents, Blair P. Bromley, David Diamond (BNL)

Coupled Three-Dimensional Kinetics/Thermal Hydraulics Modeling and Transient Analysis of VVER-1000, Juswald Vedovi, Kostadin Ivanov (Penn State), Francesco D'Auria (Univ of Pisa)

Source Coupling Interface Between MCNP-X and Deterministic Codes for ADS Analyses, Won Sik Yang, Jon C. Beitel, Edward Hoffman, John A. Stillman (ANL)

Partial Current-Based CMFD Acceleration of the 2D/1D Fusion Method for 3D Whole-Core Transport Calculations, Nam Zin Cho, Gil Soo Lee, Chang Je Park (KAIST)

Integrated Methodology for BWR Axial Fuel Assembly and Reload Core Optimization, Juan Luis Francois, Cecilia Martin Del Campo, Jaime Gonzalez (Universidad Nacional Autonoma de Mexico, Mexico)

Code Comparisons for International Benchmark Problems, Blair Bromley, Michael Todosow, Arnold Aronson (BNL)

BWR MOX Fuel Lattice Calculation and Comparison with Three Computational Codes, Gustavo Alonso, Hector Hernandez, Javier Ortiz-Villafuerte (Instituto Nacional de Investigaciones Nucleares)

A Comparison of Results Between HELIOS and CASMO Transport Codes for MOX/LEU Assemblies, Gustavo Alonso, Robert Terrell Perry (Instituto Nacional de Investigaciones Nucleares)

Nuclear Installations Safety: General, sponsored by NISD. *Session Organizer:* Undine Shoop (NRC)

Consequences of Severe PWR Boron Dilution Events, David Diamond, Blair Bromley (BNL)

Passive Heat Removal System with Injector-Condenser, Konstantin I. Soplenkov, Vadim G. Selivanov, Alexander L. Voronin (VNIIAES)

Isotopes and Radiation: General, sponsored by IRD

Enhanced Security and Reduced Operating Cost by Passive Heat Removal, Winfried Reinsch (DYNAC Systems), Konstantin Soplenkov (VNIIAES)

Experimental Measurements of Fiber Volume in Carbon Composites Using PGAA, Daniel J. Dorsey (Univ of Texas at Austin), William S. Charlton (LANL), Robert Hebner (Univ of Texas at Austin)

Experiments to Measure Variations in the Neutron Flux Delivered by the Texas Cold Neutron Source, Daniel Dorsey (Univ of Texas at Austin), William S. Charlton (LANL)

Material Corrosion in Liquid Metal and CO_2 Coolants, sponsored by MSTD. *Session Organizer:* Todd Allen (ANL–Idaho)

Research Update on Liquid Metal Corrosion at the Idaho National Engineering and Environmental Laboratory, Eric Loewen (INEEL)

In-Situ Corrosion Observation of Iron Base Material Under Sodium Peroxide, Tomohiro Furukawa, Kazumi Aoto (Japan Nuclear Cycle Development Institute)

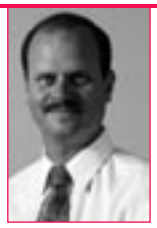
Corrosion Testing for a Supercritical CO_2 Cooled Fast Reactor, Eric Loewen, Kevan Weaver (INEEL)

Corrosion of Steels After Exposure to Pb/Bi at 420–600°C, Georg Mueller (Forschungszentrum Karlsruhe)

Experimental Studies on the Corrosion of Fe-Si, Fe-Cr, and Fe-Cr-Si Alloys in Pb-Bi Eutectic, Jeongyoun Lim, Ronald George Ballinger, Peter W. Stahle (MIT)

Note: This is a PRELIMINARY listing. Time and locations are subject to change. The Official Program, distributed at the meeting, will contain the final meeting schedule.

Joseph Wambold
General Chair
Southern California Edison



Richard St. Onge
Technical Program Co-Chair
Southern California Edison

J. Mark Price
Technical Program Co-Chair
Southern California Edison

Steven Bossart
Assistant Technical Program Co-Chair
U.S. Department Of Energy

Donald R. Eggett
Assistant Technical Program Co-Chair
Automated Engineering Services Corporation

Embedded Topical Meeting #1:
Decommissioning and Spent-Fuel Management

MONDAY, JUNE 2, 2003, 1:00 P.M.

Technology and Project Successes in Decommissioning Activities: The Best of Our People, Processes, and Performances—I: Decontamination. *Session Organizer:* James S. Rang (JS Rang Svc)

Filtering a Radioactive Moist Off-Gas Stream Containing Sodium Hydroxide, Wesley Willis Benjamin, Dale R. Wahlquist, John A. Michelbacher (ANL)

The Design and Installation of a Cesium Trap for BN-350, Ken J. Allen, Darrel R. Beebe, David A. Sell (ANL)

Alternatives for Decontamination of HWR Fuel Channels, Alfredo Martin Hey, Silvio Fabri, Elena Forlerer, Dante Peix (Comicion Nacional de Energia Atomica)

Lessons Learned Using Cellular Concrete for Decommissioning, Leonard S. Peterson, Danen Heath (Decommissioning and Integrated Sciences Co., LLC), Patrick Stephens (Pacific International Grout)

Technology's Role in Decommissioning Building 771 at Rocky Flats, Joel Zarret, Brian Larsen (RFETS)

Evaluation of Decontamination Technologies for Plutonium Contaminated Gloveboxes, John Norman McFee, James Martin Langsted, Ellen Stallings (LANL)

Decontamination of the Head End Cells at the West Valley Demonstration Project, Ken Schneider (West Valley Nuclear Services Company), John Drake (DOE), Jeff Choroser, Scott Chase (West Valley Nuclear Services Company), invited

Perspective on Radiological Low Level Waste Disposal and Treatment: Compacts Disposal Initiatives. *Session Organizer:* Timothy Clepper (SCE)

Waste Control Specialists (WCS) Current and Future Capabilities for Management of Decommissioning Waste, William Dornsife (Waste Control Specialists)

Solving Complex Problems at Envirocare, Al Rafati (Envirocare of Utah, Inc.), invited

The Barnwell Disposal Option, George Antonucci (Chem-Nuclear Systems, Inc.), invited

Avoiding a Crisis in Low-Level Radioactive Waste Disposal, Alan D. Pasternak (Alan D. Pasternak Consulting, Inc.), invited

Reactor Pressure Vessel Transportation and Disposal, Timothy M. Clepper (SCE), invited

Decision Point: Do You Need Access to Low-Level Radioactive Waste Disposal?, Kathryn V. Haynes (Southeast Compact Commission), invited

U.S. Ecology Involvement in Low-Level Radioactive Waste Compact System, Chad K. Hyslop (American Ecology Corporation), invited

TUESDAY, JUNE 3, 2003, 8:30 A.M.

Commercial Decommissioning Historical Review, Current Status and Future Plans: Where has this Fledgling Industry Been and Where is it Going? *Session Organizer:* James Byrne (GPU Nuclear)

A Brief History of Earlier Decommissioned Reactors, Tom LaGuardia (TLG Services, Inc.), invited

40 Months in Chernobyl, Jim McIlvaine (Bechtel SAIC)

Millstone Unit 1 Decommissioning Support, Robert L. Grubb (Transnuclear, Inc), Timothy J. Petit (Dominion Nuclear Connecticut, Inc), Eric C. Biemiller (MOTA Corporation)

Operations Support of Decommissioning, John H. Custer (SCE), invited

Planning and Funding for Future Decommissioning in Sweden, Per-Arne Holmberg, Jan Carlsson (SKB–Sweden)

Preplanning for Decommissioning, Christopher J. Wood (EPRI), invited

Challenge of Developed Techniques for Future Application, Takeshi Ishikura (Nuclear Power Engineering Corporation)

Technology and Project Successes in Decommissioning Activities: The Best of Our People, Processes and Performances—II: Characterization. *Session Organizer:* Steven Bossart (DOE, Morgantown)

Video Inspection of the Experimental Breeder Reactor -II Primary Tank, Daniel K. Baird (ANL)

Automated MARSSIM Compliant Monitoring, Arthur Desrosiers (Bartlett Services, Inc.)

Decommissioning of a Reactor Component Decontamination Facility, Steve Woods, Dwaine Brown (Halliburton Energy Services, Inc.)

Concrete Slab and Footer Sampling, Characterization, and Analysis Utilizing TRUPROsm System, Sue Aggarwal, Grant Charters, Drew Thacker (New Millennium Nuclear Technologies)

Preliminary Estimation of Activation Product Inventory for Kori Unit-1, Hak Soo Kim (Nuclear Environment Technology Institute)

Decommissioning of the Army's Nuclear Facilities at Fort Detrick, Maryland, Edward Shum (SAIC)

Lessons Learned From Monitoring Alpha Emitting Nuclides During Decommissioning, Michael Joseph Russell (SCE)

TUESDAY, JUNE 3, 2003, 1:00 P.M.

Technology and Project Successes in Decommissioning Activities: The Best of Our People, Processes, and Performances—III: Cutting, Demolition, and Material Handling. *Session Organizer:* Steven Bossart (DOE, Morgantown)

The Oxy-Gasoline Cutting Torch, Milt Heft (American Welding Society), invited

Automated In-Situ Pipe Asbestos Insulation Removal System, Noellette Conway, Hagen Schempf (Carnegie Mellon University)

Deployment of a Semi-Automated Crate Size Reduction Platform at LANL's Decontamination and Volume Reduction Facility, Leo E. Lagos, Lymari Montanez, John Laffitte (Hemispheric Center for Environmental Technology)

SONGS Unit 1 Decommissioning Reactor Vessel Internals (RVI) Segmentation and Handling of GTCC Waste, James K Huey (SCE), invited

Large Component Removal and Transportation, Timothy M. Clepper (SCE)

Demolition of the San Onofre Unit 1 Sphere Enclosure Building, Robert Anthony Yale (SCE)

Challenges for the Removal of the Unit 1 Sphere Enclosure Building Roof at San Onofre Nuclear Generating Station - SONGS, Joseph E Timmons (SCE, San Onofre), invited

Large Component Loading and Transportation, David Gilson (SCE, San Onofre)

Advancements in Dry Cask Storage Technologies and Regulations: Examining the Industry Needs and the Art of the Possible

Impact from the Regulatory Perspective: NRC Overview, Wayne Hodges (NRC)

San Onofre Nuclear Generating Station Upgrades Cask Handling Cranes to Single Failure Proof Design, John W Bock (SCE, San Onofre), invited

San Onofre ISFSI Security System, Jarlath Curran (SCE, San Onofre), invited

A Utility's Perspective on State Involvement in Spent Fuel Storage, Eric T. Howes (Maine Yankee Atomic Power Company)

Development of a Low Dose, Reduced Footprint and High Seismic Capacity ISFSI, Jorge Morales (San Onofre Nuclear Generating Station), Ian McInnes, Usama Farradj (Transnuclear, Inc.)

Response of the HI-STAR Transport Package to Certain Beyond-the-Design Basis Threats, Alan Israel Soler, Krishna Pal Singh, John Zhai (Holtec International), invited

Development of Cask Loading Criteria Using an Adjoint Shielding Methodology, James Edward Hopf (BNFL Fuel Solutions)

WEDNESDAY, JUNE 4, 2003, 8:30 A.M.

Technology and Project Successes in Decommissioning Activities: The Best of Our People, Processes and Performances—IV: General Technology. *Session Organizer:* James S. Rang (JS Rang Svc)

Innovative Technologies and Lessons Learned During Environmental Restoration, Nelson C. Little (Bechtel Hanford, Inc.)

Nuclear Decommissioning Technologies with Cost, Safety, and Schedule Benefits, Steven James Bossart (National Energy Technology Laboratory), Danielle M Blair (SAIC)

Successful Deactivation, Decontamination and Decommissioning Through Integrated Technology Deployment, Dennis E. Raunig (INEEL)

Decontamination and Volume Reduction System Facility Operations at Los Alamos National Laboratory, Michael Jerome Romero (LANL)

Innovative Decontamination and Decommissioning Technology Deployments Produce Cost Savings, John Alfred Campbell, John Norman McFee, Ellen Stallings (LANL)

Technology Applied to Tokamak Fusion Reactor D&D, Keith Richard Rule, Erik Perry, Michael Viola, John Semler, James Chrzanowski, Robert Parsells (Princeton University)

Update on the Status of the West Valley Demonstration Project, Larry Camper, Chad Glenn, Dominick Alan Orlando (NRC)

Decommissioning Cost Management and Performance, Project Controls, Latest Tools, and Budget Performance Considerations. *Session Organizer:* Joseph Carignan (TLG Svc)

Decommissioning Waste Forecasting at the Rocky Flats Site, Peter C. Sanford (DOE)

Decommissioning Projects: Managing for Cost and Schedule Success, William P. Harroun (Kaiser - Hill LLC.), invited

Why Operating Reactor Plants Should Plan for Decommissioning Now, William John Manion (WJM Consulting Services LLC), William J Trubilowicz (Big Rock Point restoration Project)

Incorporating Existing Data and Information in Decommissioning Cost Estimates, Edward Crafts Abbott (ABZ, Inc)

Decommissioning Business and Financial Issues—The Surprising Reality, Elias Hanna (SCE, San Onofre)

Determining the Measurement of a Liability for an SFAS 143 Asset Retirement Obligation, Geoffery M. Griffiths (TLG Svc), invited

The Savannah River Site's Integrated D&D Plan—Dealing with the Present While Protecting the Future, William Edwin Austin, Jr., J. Christopher Noah (Westinghouse SRC)

WEDNESDAY, JUNE 4, 2003, 1:00 P.M.

Licensing and Regulatory Initiatives in Decommissioning Activities: Current State of Affairs. *Session Organizer:* Lynne Goodman (Detroit Edison)

Status of the NRC Decommissioning Program, Larry W. Camper, Dominick A. Orlando (NRC)

Debris Disposal: Policy and Politics, Tracy A. Goble (Consumers Energy)

Saxton Nuclear Experimental Corporation License Termination Plan, Art F Paynter (GPU Nuclear Inc, Saxton)

Radionuclide Profiles—License Termination Surveying Made Easy, Eric Michael Goldin (San Onofre Nuclear Generating Station)

Development and Implementation of a Memorandum of Understanding, John T. Greeves, Eric Robert Pogue (NRC)

The 10 Commandments of Decommissioning Licensing, Lynne Goodman (Detroit Edison)

Dry Cask Storage Facilities—Sharing Our Experience and Updating Project Status. *Session Organizer:* Michael Lackey (PGE, Rainier)

Perspective of On- Site Storage at NRC Licensee Sites: NRC Overview William Brach (NRC)

Overview of Dry Cask Storage Project at San Onofre Nuclear Generating Station, Jorge Morales (SCE, San Onofre), invited

Rancho Seco Fuel Storage Project, James J. Field (Sacramento Municipal Utility District), Jack Boshoven (Transnuclear, Inc.)

Spent Fuel Removal and Transfer for Hanford 324 Building Deactivation, Richard Smith (Packaging Technology, Inc.), Robert Rasmussen (Mid Columbia Engineering, Inc.)

Procurement and Fieldwork Issues Associated with Building a Safety-Related ISFSI Pad, Mark V Malzahn (SCE, San Onofre), invited

Trojan ISFSI Update, Michael B. Lackey, Bruce R. Wallis (Portland General Electric), invited

Rancho Seco Dry Fuel Storage Lessons Learned, Steve Redeker (Sacramento Municipal Utility District), invited

Parameters Affecting Drying Defected Commercial Reactor Fuel, Allan B Christensen (INEEL), MaryAnne Willmore (Bechtel BWXT Idaho LLC)

WEDNESDAY, JUNE 4, 2003, 4:00 P.M. - 6:00 P.M.

Special Session on Military Facility Decommissioning

THURSDAY, JUNE 5, 2003, 8:30 A.M.

DOE Decommissioning Historical Review, Lessons Learned, and Current Status Report. *Session Organizer:* James S. Rang (JS Rang Svc)

Decommissioning of Hot Cell Facilities at the Battelle Columbus Laboratories, Patrick J. Weaver, Glenn Henderson, Pete Erickson, Dave Garber (Battelle)

Fast Flux Test Facility (FFTF) Closure, Oliver Alton Farabee (DOE)

Decontamination and Decommissioning of the Waste Experimental Reduction Facility Incinerator, Julie A. Sherwood, Patrick L. Gibson, Shannon J. Corrigan (INEEL)

The Success of the TFTR D&D Project, Erik Perry (Princeton University)

Safety Management Aspects of the Tokamak Fusion Test Reactor D&D, Michael Viola (Princeton University)

Demolition of the Ashtabula Environmental Management Project's Main Extrusion Plant, Kurt Colborn (RMI Environmental Services)

Progress at Rocky Flats, Mark Ferri (Kaiser-Hill L.L.C.), invited

A Quick Look at San Diego's Areas/Neighborhoods

Information gathered from the *Lonely Planet* Guide to San Diego

Gaslamp Quarter

In the city's early days, this colorful downtown neighborhood was home to San Diego's most profitable businesses - saloons, gambling joints, bordellos and opium dens. By the 1960s, it had declined to a skid row of flophouses and bars, whose seedy ambiance made it so unattractive to investors that many of its old buildings survived by default. When developers finally moved in, locals and the Gaslamp Quarter Council saved the area from demolition, and a 16 block area was designated a National Historic District. Now, restaurants, bars and galleries occupy restored buildings dating back to the 1870s, and wrought iron street lamps in the style of 19th century gas lamps give the area its historic flavor. The most enjoyable time to visit is on a warm evening, when people throng the streets and crowd the sidewalk tables.

Embarcadero

San Diego's original dockside, just west of downtown, is a remarkably clean and attractive area. It never developed as a major commercial port but retains plenty of nautical ambiance thanks to the old ships moored at the Maritime Museum, the kitschy re-created turn of the century seafront architecture of Seaport Village and the San Diego Convention Center, whose design is said to have been inspired by an ocean liner. There's a public fishing pier and an open-air amphitheater where free concerts are held during summer in the Embarcadero Marina Park.

Balboa Park

This huge park on the northeastern edge of downtown San Diego is a major civic asset, boasting extensive areas of greenery, museums, theaters, a zoo and an abundance of sports facilities. Many of the park's buildings sport a Spanish Colonial theme, thanks largely to the 1915-16 Panama-California Exposition held here. The exposition's temporary stucco buildings consciously pursued a romantic Spanish-Mexican theme; they proved so popular that many were retained or rebuilt in more durable concrete after the show.

Old Town

This area was the site of the first civilian Spanish settlement in California, known as the Pueblo de San Diego. A plaza was laid out here in the 1820s, and within 10 years it was surrounded by huts and whitewashed villas. It remained the center of San Diego until 1872, when the city's focus moved to the current downtown area. In 1968, Old Town became a State Historic Park, archaeological work was undertaken, the few surviving original buildings were restored and ruined structures were rebuilt. The area is now a touristy pedestrian precinct, but the open plaza with its shady trees is a pleasant place for a stroll, as long as you don't take it too seriously as a historical site. You'll get a good idea of San Diego's metamorphosis by visiting the 1820s Casa de Carrillo, the oldest house in San Diego, located just north of Old Town: it's now the pro shop for the Presidio Hills Golf Course. Old Town is 2.5 miles (4km) northwest of downtown.

Hotel del Coronado

This much-loved San Diego institution, commonly known as Hotel Del, is in the oh-so respectable seaside suburb of Coronado, just across the bay from downtown San Diego. It's a quirky timber building with a facade replete with conical towers, cupolas, turrets, balconies and dormer windows. Its cavernous public spaces reflect the architects' experience designing railway depots, though the acres of polished wood give the interior a warm old-fashioned ambiance. Opened in 1888, the hotel was where Edward (then Prince of Wales) first met Mrs Simpson and where parts of the 1959 Marilyn Monroe movie *Some Like It Hot* were filmed. Coronado is joined to the mainland by a spectacular 2 mile (3km) bridge and also by a long narrow sand spit that runs south to Imperial Beach. A ferry runs to Coronado from San Diego's Broadway Pier.

Robert L. Long
Honorary Chair
Nuclear Assurance, PLC

B. John Garrick
Honorary Chair

Ronald A. Knief
General Chair
XE Corporation

G. William Hannaman
Technical Program Chair
Data Systems and Solutions

Embedded Topical Meeting #2:
Risk Management ... Now More Than Ever

This meeting presents state-of-art ideas for addressing risk management in a spectrum of applications. The meeting sessions follows the historical thinking and development in risk management as a technical tool to support decision-making. The opening plenary begins with a broad overview of risk management issues from different disciplines. Then current risk management practices at a variety of facilities are addressed in session 1. Following the development of insights from quantifying risk one begins to understand the importance of organizations and human actions in risk management as discussed in session 2. Facility risk managers then ask how can a system be maintained over the long term using quantitative tools and software (Sessions 3.1, and 3.2). Then through applications of ever improving software tools quantification questions have arisen, current quantification issues are addressed in session 4. In today's environment facilities must be ready for a whole new set of risk issues involving how to manage for counter terrorism which is addressed in session 5. Finally, we address the need for standards in risk management by looking at various standards applications conveying elements of risk management (Session 6).

This meeting will provide a quick summary of the key elements of risk management for people new to the field, stimulate ideas for risk management innovations for experienced facility risk managers, and point to issues for standard development applicable to engineered facilities for risk managers faced with integrated decision-making across multiple facilities with different functions.

The authors and session leaders will be providing input into a follow up publication that is expected to become a primer on risk management of engineered facilities.

MONDAY, JUNE 2, 2003, 1:00–6:00 P.M.

Opening Plenary, *Session Organizer:* Ronald A. Knief (XE Corporation)

Speakers:

Risk—Manage It or It Will Manage You, Theodore Marston (EPRI)

Managing Risk Through Developing a Strong Safety Culture, Richard Taylor (BNFL)

Behavior-Based Safety: Reducing Risk Where It Counts, Dennis Ruddy (BWXT Y-12)

Risk Management—A Military Perspective, General Charles Bolden (U.S. Marines, ret.)

Risk Management Lessons from Man-Made Catastrophes: Implications for Aerospace and Anti-Terrorism, Ed Zebroski (Consultant)

The Role of Quantitative Risk Assessment in Combating Terrorism, B. John Garrick (Consultant)

Psycho-Social Risk for a Nuclear Terrorist Event, Robert Long (Nuclear Stewardship)

Smallpox: A Case Study for Personal Risk Management, Alan Zelicoff (SNL)

TUESDAY, JUNE 3, 2003, 8:30 A.M.

Facility Risk Management Applications

Application of Nuclear Insurance Risk Assessment Using Risk Informed Methodologies, Bill Wendland (American Nuclear Insurers)

NPP Improvement By Risk Management, William Edward Burchill (Texas A&M University)

Risk Management for the Highly Enriched Uranium Materials Facility, Ronald J. Kroon (BWXT Y-12 National Security Complex), Dennis A. Tollefson (Navarro Research and Engineering, Inc.), Nickolas J. Antonas, Russell B. Barber (BWXT Y-12 National Security Complex)

Hazard Assessment of the International Fusion Materials Irradiation Facility, Luciano Burgazzi (Ente per le Nuove Tecnologie l'Engerie e l'Ambiente)

Risk Informed Criticality Configuration Generator for the Monitored Geological Repository, James K Knudsen, John A McClure (Bechtel SAIC Company LLC)

Preparations and Issues for Nuclear Criticality Responders At LLNL, John Pearson, Song Huang (LLNL), invited

Safe Management of the Contaminated Land Inventory, Sellafield, UK, Colette Grundy, Paul Humphreys, Rex Strong (BNFL plc)

Risk Management of Legacy Materials at Oak Ridge National Laboratory, Karen M. Billingsley, Stephen Dirk Van Hoesen, Judy Hardt (ORNL)

TUESDAY, JUNE 3, 2003, 1:00 P.M.

Organization Culture Issues in Risk Management

Analysis of Human Error in Trip Event Considering Risk Significance of Events in Korean NPPs, Yong Suk Lee, Yoonik Kim, Sayhyung Kim, Chance Kim, Chang Hyun Chung (Seoul National University)

Effectively Managing Risk Through Human Performance Improvement, Richard Coe (Richard Stocktan College of New Jersey), invited

An Incident Management System for Nuclear Power Plants, Curtis L Smith (INEEL), George Apostolakis, Lorenzo Pagani (MIT)

Impact of the Organization on Human Reliability at Ft. Calhoun Nuclear Power Plant, Shantha Esther Daniel, Carolyn D. Heising (Iowa State Univ)

Risk Management: Many Challenges—Technical and Cultural, David Carlson, Joan Woodard, Chris Madigan (SNL)

Consideration of Human Factors to Improve Logistic Operations, Min

Jenq Chiou, Shuen Fa Lin (Chung-Shan Institute of Science & Technology), James C. Lin (ABSG Consulting Inc.)

Changing Safely—A Methodology for the Structured Assessment of Modifications to Safety Management Systems and Organizations, Mike Duncan Rowbottom, David Wilson (DGP International Ltd)

TUESDAY, JUNE 3, 2003, 4:00–5:30 P.M.

Special Session on Software Support for Risk Management

TMI and Chernobyl as Models for Emergency Planning, Theodore Rockwell (Radiation, Science & Health, Inc.)

From e-mail to the e-Safety Case—Using Internet Technology to Fully Integrate the Safety Case with Plant Operations, David Wilson, Mike Rowbottom (DGP International)

Development and Enhancement of a Level 3 PRA Tool, Stanley H. Levinson (Framatome ANP, Inc.)

WEDNESDAY, JUNE 4, 2003, 8:30 A.M.

Quantitative Methods for Managing Risk

Impacts of Data Updating on a Probabilistic Risk Assessment, Grant Teagarden (ERIN Engineering & Research, Inc.), Xavier Polanski (Exelon Generation Company), James Ahlman (Nexus Technical Services)

Uncertainty Propagation with Variable Dependency to Diverse Scenarios: Application of Radioactive Waste Disposal Risk, Chang-Ju Lee (Korea Institute of Nuclear Safety), Kun-Jai Lee (Korea Advanced Institute of Science and Technology)

Why Conservatism Need Not Be Discouraged in PSA: An Argument for "Absolute" Rather Than "Relative" Importance Measures, Raymond Gallucci (Ginna Nuclear Station)

Systematic Errors - A Neglected Subject in PSA Studies, Peter Dolan

Risk Management on an Enterprise-Wide Basis, Marian Sabety (Flywheel Group)

A Balanced Approach to Evaluation of the Risk of Terrorist Attack, G. Bruce Varnado, J. Mark Elliott (Infrastructure Protection Sciences, Inc.)

An Approach to Managing the Risk of Generation Loss at Nuclear Plants, James C. Lin (ABSG Consulting Inc.)

WEDNESDAY, JUNE 4, 2003, 1:00 P.M.

Science of Counterterrorism—Panel.

Session Organizer: Mark Prelas (Univ of Missouri, Columbia)

The Science of Counterterrorism, Mark A. Prelas (University of Missouri - Columbia)

Terrorism has become very dependent upon technology. Information technology for example has been used extensively by al-Qaida (satellite phones, cell phones, the internet, etc.). Since the events of September 11, 2001, it is clear that the goals of terrorist groups have changed to seek mass casualties. The means to do this resides in weapons technologies that are quickly being adapted by terrorist groups. We now know from documentation taken from Afghanistan that al-Qaida has sought nuclear, biological and chemical weapons. This reliance on technology by terrorist organizations has increased the sophistication of the science and technology of counterterrorism. This session will examine how technology has proliferated and how the science and technology has changed to adapt to the technology proliferation. A panel of experts will discuss the implications of technology in general, but also nuclear, biological and chemical technologies specifically and the associated threats that these technologies represent. National planning is a major endeavor given the proliferation of technology and these issues will be discussed by a planner involved in the acquisition of counterterrorism technologies for the National Guard Bureau. In addition, communities on the local level will be stressed being the first responders to a terrorism event that might use weapons of mass destruction. The mayor of a model small community will discuss how the proliferation of technology changed his community's terrorism response planning.

Preliminary Speakers:

- National Overview, Panelist to be determined.
- Counterterrorism, Tushar Ghosh (Univ of Missouri, Columbia)
- Chemical Terrorism, Panelist to be determined.
- Biological Terrorism, Gordon Christensen (Truman Veteran Hospital)
- Nuclear Terrorism, Sudarshan Loyalka (Univ of Missouri, Columbia)
- Government Response National Guard Bureau B, Julie Bentz (National Guard Bureau, Washington, D.C.)
- Local Response, Stan Salva (Mayor of Sugar Creek, Missouri)

WEDNESDAY, JUNE 4, 2003, 4:00–5:30 P.M.

Special Session on Computer Tools for Managing Risk

Assessing the Risk of Nuclear Terrorism Using Logic Evolved Decision Analysis, Stephen Eisenhawer, Terry Bott, D.V. Rao (LANL)

Quantitative Assessment of Emergency Preparedness and Response Using QEM-World(TM), Gary Wayne Scronce, Neeraj Mainkar, J. Krause Wilson (Innovative Emergency Management)

PARAGONTM—Next Generation Risk Management Software, Leo B. Shanley III, Doug True (ERIN Engineering & Research, Inc.), William Edward Burchill (Exelon)

THURSDAY, JUNE 5, 2003, 8:30 A.M.

Standards That Support Risk Management

Risk Management Dynamics in Today's Nuclear Project Environment, Harold Dorbin, Jack Dignum, Glen Palmer (The Nielsen-Wurster Group, Inc.)

Setting Standards for NPP Risk Management Practices, William Edward Burchill (Texas A&M University)

A Framework for Integrated Decision-Making in a Risk-Informed World, Adrian Heymer (NEI), John Gaertner (EPRI), Doug True (ERIN Engineering & Research, Inc.)

Response of a Certified Cask and Components Subjected to Limiting Accident, Harold E. Adkins, Jr., Brian J. Koeppel, Mohammad A. Khaleel (PNNL), Daniel T. Huang, David T. Tang (NRC)

Development of the Quad Cities Model into a First-Class PRA, Xavier Polanski, Eric R. Jebsen (Exelon Generation Company), Ed Burns, Lawrence Lee (ERIN Engineering and Research, Inc.)

Application and Evolution of Software V&V to Nuclear Safety Systems in Korea, Tae-Wook Lim (Korea Power Engineering Co.), Jong Ok Han (Sargent and Lundy, LLC), Jae-Youb Byun (Korea Power Engineering Co.)

The Need for Testing and Upgrading the Air Monitoring Systems at U.S. Nuclear Power Plants, Alfred C. Schmidt (Schmidt Instrument Co.)

Eric J. Pitcher
General Chair
Los Alamos National Laboratory

Tom Ward
Assistant General Chair

Denis E. Beller
Technical Program Chair
Harry Reid Center of Environmental Studies

Embedded Topical Meeting #3:
Accelerator Applications of Nuclear Technology: Accelerator Applications in a Nuclear Renaissance

MONDAY, JUNE 2, 2003, 1:00 P.M.

Opening Plenary. *Session Organizer:* Eric Pitcher (LANL)

The Many Faces of Particle Accelerators, Hans Mark (Univ of Texas, Austin), invited

High-Power Accelerators Operate Well!?!, Stan O. Schriber (LANL), invited

Spallation Target Materials Development, Kenji Kikuchi (JAERI–Japan), invited

Prospects for High-Power Radioactive Beam Facilities Worldwide, Jerry Nolen (ANL)

High Power Targets for Accelerator Applications, Günter S. Bauer (Research Center Jülich), invited

Active, Non-Intrusive Inspection Technologies for Homeland Defense, James Litton Jones (INEEL), invited

TRADE: A Full Experimental Validation of the ADS Concept in a European Perspective, Massimo Salvatores (ANL and CEA–France)

Poster Session

Threshold Activation Reaction and Absorption Dose Rates Inside and on the Surface of a Thick W-Na Target Irradiated with 0.8-GeV, Yu. Titatenko, V. Batyaev, E. Karpikhin, V. Zhivun, A. Koldobsky, R. Mulambetov, S. Mulambetova, V. Luckjashin, K. Lipatov (Institute for Theoretical and Experimental Physics), P. Bogdanov (Minatom RF), S. Mashnik, R. Prael (LANL)

Modeling Fast Neutron Shielding for the Direct nn-Scattering Experiment, Gueorgui P Gueorguiev (Univ of Florida)

Accelerator Applications to Neutron Source-New Neutron Data, Yuri Andreevich Alexandrov (Joint Institute for Nuclear Research)

Nuclear Waste Transmutation in Subcritical Reactors Driven by Target-Distributed Accelerators, Anatoly Blanovsky (Technical Innovation Center)

Properties of Photo-Neutron Sources for Accelerator Driven Sub-Critical Systems, Mohamed A. Reda, J. F. Harmon (Idaho State Univ), S. B. Sadineni (UNLV)

Number of Prompt Gamma Rays Emitted in U-235 Fission, Chuncheng Ji (Univ of Massachusetts, Lowell)

The TRADE Target Design and Development, Pietro Agostini, Antonio Aiello, Paolo Turroni, Fabrizio Pisacane, Stefano Monti (ENEA), Stefano Buono, Luca Maciocco (AAA), Stuart Maloy (LANL), Massimo Salvatores (ANL), Yves Lejeail (CEA)

Converting Magnetic Quadrupole Lenses from High- to Low-Voltage Operation, Afrim Alimeti, Gunter H. R. Kegel, David J. DeSimone, Thomas M. McKittrick, James J. Egan, Steven E. Tremblay (Univ of Massachusetts, Lowell)

Design of the Proton Beam Line for the TRADE Experiment, Luigi Picardi, Concetta Ronsivalle (Italian National Agency for New Technologies, Energy and the Environment), Massimo Salvatores (ANL and CEA–France), Stefano Monti (ENEA), Luciano Cinotti (Ansaldo), Nunzio Burgio, M. Carta (ENEA), Yacine Kadi (CERN), Norberto Meda, Giuliano Locatelli (Ansaldo), Alfonso Santagata (ENEA), Luca Zanini, Adonai Herrera-Martinez (CERN)

Analysis of Complex-Particle Spectra from the p(2.5 GeV) + Au Reaction with the LANL Codes CEM2k, LAQGSM, and LAHET, Stepan G. Mashnik (LANL), M. I. Baznat, K. K. Gudima (Institute of Applied Physics), Richard Prael, Arnold Sierk (LANL)

Fuel Design and Evaluation for MYRRHA Experimental ADS, Vitali Sobolev, Sergei Lemehov, Nadia Messaoudi, Hamid Ait Abderrahim (Belgian Nuclear Research Centre, SCK·CEN)

Modeling Neutron Multiplicities in a 60-Element 3He Detector System, Dean Curtis, Denis Beller (UNLV)

Optimization of a Five Cell Niobium Cavity, Myong Holl, Mohamed B. Trabia, Robert A. Schill, Jr. (UNLV)

The Core-Source Dominated Regimes in ADS. Application to the TRADE Project, Juan Blázquez, Miguel Embid (CIEMAT)

Studies of ADS Performance in Equilibrium Fuel Cycle, Kamil Tucek, Janne Wallenius, Jerzy Cetnar, Waclaw Gudowski (RIT–Sweden)

The New Detector Shield of the LQD Instrument, Guenter Muhrer (LANL)

Neutron Measurements from Activation Foils of 800-MeV Proton Irradiation of a 40-cm-Diameter Lead-Bismuth Target, Michael James (LANL), Raymond Klann (ANL), George Morgan, Eric Pitcher, Michael Paciotti (LANL), Jean Oostens (Campbellsville Univ), James Platte (Univ of Michigan), Daniel Lowe (UNLV)

University Programs of the U.S. Advanced Fuel Cycle Initiative, Denis Beller (UNLV)

Nuclide Production Cross Sections for 59Co and natCu Irradiated with 0.2 and 2.6 GeV Protons and 0.2 GeV/Nucleon Carbon Ions, Yu. Titarenko, V. Batyaev, E. Karpikhin, V. Zhivun, A. Koldobsky, K. Lipatov, R. Mulambetov, S. Mulambetova, Yu. Nekrasov, B. Sharkov, A. Golubev, A.

Fetman (Institute for Theoretical and Experimental Physics), S. Mashnik, R. Prael (LANL), V. Barashenkov (Joint Institute for Nuclear Research), K. Gudima, M. Baznat (Institute of Applied Physics)

Analysis of Impurities in Materials for the Spallation Neutron Source, Phillip D. Ferguson, Lorelei L. Jacobs, David H. Vandergriff (ORNL)

Cosmic Ray Muon Radiography, Larry Joe Schultz (LANL)

Radiation Dose Received by Diphyl in the MEGAPIE Primary Heat Exchanger, Eric Pitcher (LANL)

A Three Dimensional Simulation of a Thermal Experiment Conducted on an Accelerator Driven System Target Model Concept, Preston P. Pratt, Yassin A. Hassan (Texas A&M)

Behavior of High-Temperature Tungsten in Spallation Target Applications, G. A. Greene, C. C. Finfrock, A. L. Hanson (BNL)

Monte Carlo Model for Proton Elastic Scattering from Optical Model Calculations, Richard Prael, Lon-chang Liu (LANL), Sergei Striganov (FNAL)

Accelerator Production and de-Excitation of Nuclear Isomers, Doug Wells, Wade Scates, Alan Hunt, Frank Harmon, Khalid Chouffani (Idaho State Univ), James Jones (INEEL)

Validated Computational Tools and Data for IFMIF Neutronic Calculations, Ulrich Fischer, Stanislav Simakov (FzK–Germany), Pavel Bem (Nuclear Physics Institute), Alexander Konobeev (Institute of Nuclear Power Engineering), Ulrich von Moellendorff, Pavel Pereslavtsev (FzK–Germany), Paul Wilson (Univ of Wisconsin, Madison)

Effect of Stress Concentration on Cracking Behavior of Cladding Materials, Subhas Pothana, Heidi Aquino, Ajit Roy, Brendan J O'Toole (UNLV)

Development of Systems Engineering, Haritha Royyuru, Yitung Chen, Sean Hsieh, Randy Clarksean, Darrell W. Pepper (UNLV), George Vandegrift, James Laidler (ANL)

Design of an Oxygen Sensor Calibration/Measurement Apparatus, Xiaolong Wu (UNLV)

Feasibility of Mixed Carbide Fuels for Use in Transmutation Systems, Thomas Clifford Carter, Samim Anghaie, Travis Warren Knight (Univ of Florida)

Application of Conventional Reactor Kinetic Methods in Transient Safety Analysis of Source-Driven Systems, Marcus Eriksson (RIT–Sweden), James E Cahalan, Won Sik Yang (ANL)

Calibration and Use of a U-235 Fission Chamber for Dosimetry, Carlos F. Roldan, Gunter H. R. Kegel, David J. DeSimone, James J. Egan, Don-Soo Kim, Steven E. Tremblay (Radiation Laboratory)

Fission Multipliers for D-D/D-T Neutron Generators, Tak Pui P Lou, Jasmina L Vujic (Univ of California, Berkeley), Hanna Koivunoro, Jani Reijonen, Ka-Ngo N Leung (LBNL)

A Dosimetric Study of a Proton Beam Used in Human Eye Treatment, Michael Paul Shannon, Nolan E. Hertel (Georgia Tech)

Molten-Salt Type Effect on Once-Through Molten-Salt Transmuters Characteristics, Ehud Greenspan, Elena Rodriguez-Vieitez, Joonhong Ahn (Univ of California, Berkeley)

Residual Stress Measurements by Nondestructive and Destructive Methods, Ajit K Roy, Vikram Marthandam, Anand Venkatesh, Satish B Dronavalli (UNLV)

Electron Beam Disinfestation: An Accelerator Application Whose Time Has Come, Dolan Falconer, Richard Husemann, Gary Bowser, David Reeder (ScanTech Sciences LLC), Alexander Zavadtsev (Introscan Company)

High-Temperature Deformation of Alloy EP-823 for Transmutation Applications, Martin Lewis, Mark Jones, Ajit Roy, Brendan John O'Toole (UNLV)

Use of a Boron Loaded Scintillator for Microdosimetry in BNCT, Don-Soo Kim, Gunter H. R. Kegel, James J. Egan, David J. DeSimone, Carlos F Roldan (Radiation Laboratory)

Neutronics of Fully Decoupled, Partially Coupled, and Fully Coupled Liquid H2 Moderators, Gary J. Russell, Eric Pitcher, Guenter Muhrer (LANL)

Measurements of Secondary Neutron Dose from 18 MV IMRT, Rebecca M Howell, Michele Sutton Ferenci, Joseph Y. Ting, Lawrence W. Davis (Emory Univ), Nolan E. Hertel (Georgia Tech)

Safety Aspects of Heavy Metal-Cooled Accelerator-Driven Systems, Johan Carlsson (Joint Research Centre of the European Commission), Hartmut Ulrich Wider (Institute for Energy)

Study of Geometry Effects on Local Corrosion, Yitung Chen (Nevada Center for Advanced Computational Methods)

A Neutron Detection System for Electron Accelerators, Panakkal K. Job, Julie M. Alderman (ANL)

Estimates of DPA, Gas Production, and Neutron Flux in ATW, Albert L. Hanson, Hans Ludewig, Michael Todosow, Alexander N. Mallen (BNL)

Cross Sections for Nuclide Production in 1 GeV Proton-Irradiated 208Pb and 0.8 GeV Proton-Irradiated 197Au, Yu. Titarenko, V. Batyaev, E. Karpikhin, V. Zhivun, A. Koldobsky, R. Mulambetov, S. Mulambetova, K. Lipatov (Institute for Theoretical and Experimental Physics), S. Mashnik, Richard Prael (LANL), K. Gudima, M. Baznat (Institute of Applied Physics)

Fusion Material Irradiation Conditions in IFMIF and ESS, A. Moeslang, P. Vladimirov (FzK–Germany)

TUESDAY, JUNE 3, 2003, 8:00 A.M.

Rare Isotope Accelerator and Radioactive Beam Facilities—I.

Session Organizer: Gerald Nolen (ANL)

Design Features of the BigRIPS Separator at RIKEN, T. Kubo, K. Kusaka, Y. Mizoi, A. Yoshida, K. Yoshida (RIKEN)

Design Study of Acceleration and Utilization of High-Power Beams in the RIA Facility, Petr N. Ostroumov, Vladislav N. Aseev, Jerry Nolen (ANL)

Science Based Stockpile Stewardship and RIA, Larry Ahle, Lee A. Bernstein (LLNL)

Neutron Studies Below 1 MeV at RIA, Rene Reifarth, Robert C. Haight (LANL), Franz Kaeppeler (FzK–Germany), David J. Vieira (LANL)

The CEM2k and LAQGSM Codes as Event Generators for RIA Applications, Stepan G. Mashnik (LANL), Konstantin K. Gudima (Institute of Applied Physics), Richard Prael (LANL)

Preliminary Study of Radiation Issues at the Rare Isotope Accelerator, Reginald Martin Ronningen, Albert Fontenot Zeller (Michigan State Univ)

Preliminary Assessment of Ground-Water Activation for RIA, Itacil Chiari Gomes (I.C.Gomes Consulting & Investment Inc.), Jerry Nolen (ANL)

The Super-FRS Project at GSI, Martin Winkler (GSI)

Codes and Models. *Session Organizer:* Detlef Filges (FzK–Germany)

Three-Dimensional Automatic Variance Reduction with Simultaneously Estimated Importance Functions for High-Energy Neutron Source Facility Design, Isao Murata (Forschungszentrum Juelich), Detlef Filges (FzK–Germany), Frank Goldenbaum, Guenter Sterzenbach, Hartwig Schaal (Forschungszentrum Juelich)

Atomistic Modeling of the Hydrogen Bubbles in the Fe System, Michael James, Srinivasan Srivilliputhur, Michael Baskes, Stuart Maloy (LANL)

A Comprehensive Comparison of the INCL4-ABLA Spallation Model with Recent Experimental Data, Alan Boudard, Jean-Christophe David, Laurent Donadille, Sylvie Leray, Claude Volant (CEA–France), Joseph Cugnon (Universite de Liege)

Recent Progress of the Liege Intanuclear Cascade Model, Joseph Cugnon (Univ of Liège), Thierry Aoust (SCK CEN), Bruno Van den Bossche, Pierre Henrotte (Univ of Liège)

Kinetic Models on Corrosion and Precipitation in Lead-Bismuth Eutectic Flow Loop, Jinsuo Zhang, Ning Li (LANL)

MCNPX vs. DORT for SNS Shielding Design Studies, Irina Popova (ORNL)

MCNPX Advances for Accelerator Applications, John S Hendricks, Gregg W. McKinney, Laurie S Waters (LANL), Franz X Gallmeier (ORNL)

A TRAC Model of the Los Alamos National Laboratory DELTA Loop Facility, James F. Lime, Jinsuo Zhang (LANL)

High-Power Accelerator Operations—I. *Session Organizer:* Paul Lisowski (LANL)

Experience with Spallation Neutron Sources, John Carpenter (ANL), invited

5 Years of Operation and Improvement of the Neutron Spallation Source SINQ, Hajo Heyck (Paul Scherrer Institute–Switzerland)

LANSCE High Power Operations and Maintenance Experience, Kevin W. Jones, Paul W. Lisowski (LANL)

LANSCE Short-Pulse Spallation Target Operation, Joey B Donahue, Michael J Baumgartner, Richard D Werbeck (LANL)

Measurement and Simulation of Induced Activity at the CERN-EU High Energy Reference Field Facility, Markus Brugger, Yann Donjoux, Angela Nathalia Mitaroff, Stefan Roesler (CERN)

Demonstrating Compliance with Regulatory Activity Limits During Initial SNS Operations, David Freeman, Erik Iverson (SNS/ORNL), Phillip Ferguson (ORNL)

LANSCE Short-Pulse Spallation Target Change, Michael J Baumgartner, Joey B Donahue, Richard D Werbeck (LANL)

The Radiation Environment for the Replacement Scenarios of the SNS Inner Plug and the Proton Beam Window Insert, Franz Gallmeier, Igor Remec (ORNL)

TUESDAY, JUNE 3, 2003, 1:00 P.M.

Rare Isotope Accelerator and Radioactive Beam Facilities—II. *Session Organizer:* Itacil Gomes (ANL)

The SPIRAL-II / LINAG-I Project at GANIL, Antonio C.C. Villari, W. Mittig (GANIL)

Radioactive Ion Beam Production and Development at the HRIBF, Daniel W. Stracener, James R. Beene, Darryl T. Dowling, Raymond C. Juras, Martha J. Meigs, Paul E. Mueller, B. Alan Tatum (ORNL)

Remote Target Handling Experience at the TRIUMF-ISAC Radioactive Ion Beams Facility, Clive R. Mark (TRIUMF Meson Research Facility)

Update from the "Radiochemistry at RIA" Symposium Held March 27, 2003 at the 225th American Chemical Society National Meeting in New Orleans, LA, Mark Stoyer (LLNL), Paul F. Mantica (Michigan State Univ)

Engineering and Safety Issues of Lithium Targets and Film Strippers, Claude B. Reed, Jerry Nolen, James R. Specht, Vince J. Novick (ANL)

Measurements of the Thermal Conductivity of Uranium Carbide Samples by a New Electron Bombardment Method, John P. Greene, Maria Petra, Tatiana A. Burtseva, Jerry Nolen (ANL)

Recent Progress in Developing ISOL Beams with Challenging Physical-Chemical Properties, Angélique Joinet (Institut de Physique Nucléaire d'Orsay)

Review of Isotope Separation Techniques, Jeff W. Eerkens, William Howard Miller (Univ of Missouri, Columbia)

High-Power Spallation Target Design. *Session Organizer:* Anthony Gabriel (ORNL)

High Power Spallation Target Design for Accelerator-Driven Waste Transmutation, W. David Pointer, Joseph E. Herceg, Jordi Roglans-Ribas, Yousry Gohar (ANL)

Evaluation of the Spallation Target Design Characteristics for the Triga Accelerator-Driven Experiment (TRADE), Fabrizio Pisacane (ENEA), Yacine Kadi (CERN), Giancarlo Bianchini, Nunzio Burgio, Mario Carta, Antonio D'Angelo, Alfonso Santagata (ENEA), Adonai Herrera-Martinez, Luca Zanini (CERN), Stefano Monti (ENEA), Massimo Salvatores (CEA–France/ ANL)

Final Design, Performance Estimation and Safety Analysis of the MEGAPIE Target System, Friedrich Groeschel (Paul Scherrer Institut–Switzerland), Arnaud Cadiou (Ecole des Mines), Concetta Fazio (FzK–Germany), Thomas Kirchner (Ecole des Mines), Joachim Knebel (FzK–Germany), Guy Laffont (CEA/Cadarache–France), Brian Smith, Knud Thomsen (Paul Scherrer Institut–Switzerland)

Performance of a Clad Tungsten-Rod Spallation-Neutron-Source Target, Walter Frank Sommer, Stuart Andrew Maloy (LANL), McIntyre Louthan (SRTC), Gordon Willcutt (LANL), Phillip Ferguson (ORNL), Michael R. James (LANL)

Development of a Be-Sleeved Tungsten Target for Neutron Production, Ernst Ingo Esch, Stephen A Wender (LANL)

Engineering Work for the ESS Target Stations, Guenter Hansen (Forschungszentrum Juelich)

SNS Target Dynamic Stress from Proton Pulse, Bernie W. Riemer, John R Haines (ORNL), Kurt J Moesslacher (Northrop Grumman), Mark W Wendell (ORNL)

Calculations of Radiation Damage at SINQ Target 5, Wei Lu, Monroe S. Wechsler (NCSU), Yong Dai (Paul Scherrer Institute–Switzerland)

Neutronics Calculations

Source Trip Effects on Transient ADS Behaviour, Ron Dagan, Cornelis Broeders, Dankward Struwe (FzK–Germany)

Dynamics of Accelerator-Driven Systems by the Quasi-Static Method, Piero Ravetto, Alessandro Amione, Matteo M. Rostagno (Politecnico di Torino), M. Carta, G. Bianchini, Antonio D'Angelo (ENEA), Sandra Dulla (Politecnico Di Torino)

Impact of ABNS Moderator Assembly Geometry on BNCT Neutron Field, Behrooz Khorsandi, Thomas E. Blue, Chenguang Li, Andrew Hawk (Ohio State)

The Neutronic Performance of the Target-Moderator-Reflector System for the Short and Long Pulse Target Stations of ESS, Detlef Filges, Frank Goldenbaum, Ralf Dieter Neef, Kay Nuenighoff, Eugenia Senitchewa, Christoph Pohl (Forschungszentrum Juelich)

Neutronic Characterisation of the High Flux Test Module of the International Fusion Material Irradiation Facility, Stanislav Simakov, Ulrich Fischer, Volker Heinzel, Anton Möslang (FzK–Germany)

Coolant Void Worth in Accelerator-Driven Transuranium and Minor Actinide Burners, Kamil Tucek, Janne Wallenius, Waclaw Gudowski (RIT–Sweden)

A Novell Concept of Moderating Reflectors with Burnable Absorber Layers for Reactivity Swing Reduction in Small ADS, Jerzy Cetnar, Waclaw Gudowski (RIT–Sweden), Grazyna Domanska (University of Mining and Metallurgy–Poland)

Preliminary Evaluation of Multi-Group Cross Sections for Full Deterministic Coupled Calculations of Accelerator Driven Systems, Flavien Lambert, Won Yang, Ely M. Gelbard, Giuseppe Palmiotti (ANL)

WEDNESDAY, JUNE 4, 2003, 8:30 A.M.

Accelerators for University and Compact Neutron Sources, Medicine, and Food Irradiation

Development of Accelerator-Driven High-Flux Neutron Sources at Idaho State University, Randy Spaulding, Wendland Beezhold, Frank Harmon, Mohamed Reda, Timothy Webb (Idaho State Univ)

Compact Neutron Generator Development at LBNL, Jani P Reijonen, Gerald A. English, Richard B. Firestone, Frederic Gicquel, Michael J. King, Ka-Ngo Leung, Mingshan Sun (LBNL)

A Miniature Accelerator-Driven Gamma Source Concept, Robert W. Garnett, K. C. Dominic Chan, Thomas P. Wangler, Richard L. Wood, Bruce E. Carlsten (LANL)

Electron Acceleration for X-ray Production Using Paired Pyroelectric Crystals, Yaron Danon, Jeffrey Geuther, Bryndol Sones, Frank Saglime (RPI)

Food Irradiation Update 2003, Raymond W. Durante (Durante Associates, Inc.)

Calculation of Secondary Neutron Dose from IMRT with MCNPX, Michele Sutton Ferenci, Rebecca M. Howell, Joseph Y. Ting, Lawrence W. Davis (Emory Univ), Nolan E. Hertel (Georgia Tech)

A New High-Intensity Spallation-Driven Source of Ultracold Neutrons, Alexander Saunders et al. (LANL)

A D-D Fusion Reaction Based Neutron Generator System for Liver Tumor BNCT, Hanna Koivunoro, Tak Pui Lou, Jani Reijonen, Ka Ngo Leung (LBNL)

High-Power Accelerator Operations—II. *Session Organizer:* Daniel Rusthoi (LANL)

Prediction of the Radiation Fields for Commissioning of the SNS Linac, Irina Popova, Franz Gallmeier (ORNL)

Status of the Shielding Design of the SNS Accelerator System, Franz Gallmeier, Irina Popova (ORNL)

Shielding Design for the Front End of the CERN SPL, Marco Silari, Helmut Vincke (CERN)

FLUKA Calculations for the Shielding Design of the SPPS Project at SLAC, Heinz Vincke, Stan Mao, Sayed H. Rokni (Stanford Linear Accelerator Center)

Induced Radioactivity in a 4 MW Target and its Surroundings, Marco Silari (CERN), Stefano Agosteo (Politecnico di Milano), Matteo Magistris, Thomas Otto (CERN)

Simulation of Remnant Dose Rates and Benchmark Measurements at the CERN-EU High Energy Reference Field Facility, Stefan Roesler, Markus Brugger, Yann Donjoux, Angela Nathalia Mitaroff (CERN)

Calculations of Dose Attenuation in Slowly Curving Tunnel Geometries at a High-Energy Proton Accelerator, Helmut Vincke, Graham R. Stevenson (CERN)

The New Experiment Cave of the ASTERIX Instrument, Guenter Muhrer (LANL)

Nuclear Waste Transmutation, Energy Production, Isotope Production and Destruction

Unprotected Transients in a Small Scale Accelerator Driven System, Xue-nong Chen, Tohru Suzuki, Andrei Rineiski, Eva Wiegner, Werner Maschek (FzK–Germany), Michael Flad (D.T.I. GmbH)

On the Importance of Reactivity Feedback Coefficients in ADS Systems, Michael W. Schikorr, Dankward Struwe (FzK–Germany)

On the Use of Existing High Enriched MOX Fuel in an Experimental ADS, Cornelis Broeders (FzK–Germany), Jerzy Cetnar (RIT–Sweden), Ron Dagan (FzK–Germany), Waclaw Gudowsky (RIT–Sweden), Michael Schikorr, Anton Travleev (FzK–Germany)

Thermal Island for Thermal Spectrum Applications in the MYRRHA ADS, Thierry Aoust, Edouard Malambu, Philippe Benoit, Fernand Vermeersch, Hamid Aït Abderrahim, Peter Kupschus (SCK·CEN)

Improving ADS Performance by Using LWRs to Burn Plutonium, Holly Trellue (LANL)

Feasibility of Nuclear Waste Transmutation by Using Electron Accelerator, Yaxi Liu, Man-Sung Yim (NCSU), David McNelis (Univ of North Carolina), Jun Li (NCSU)

Dose-Based Evaluation of Nuclear Waste Transmutation Performance, Jun Li, Man-Sung Yim (NCSU), David Nicholas McNelis (Univ of North Carolina at Chapel Hill)

Cycle Dependent Fuel Inventory Evolution from ATW Fuel Cycle, Ehud Greenspan (Univ of California, Berkeley)

WEDNESDAY, JUNE 4, 2003, 1:00 P.M.

Systems Engineering and Integration

Proton Source Efficiency for Different Inert Matrix Fuels in ADS, Per Seltborg, Jan Wallenius (RIT–Sweden)

Potential Applications of Photonuclear Processes: Renewed Interest in Electron Driven Systems, Danas Ridikas (CEA Saclay–France)

The TRADE Project: First Results of the Preliminary Experimental Program, Roberto Rosa, Mario Carta (ENEA - Italian Agency for New Technologies, Energy and the Environment), George Imel (ANL), Chistian Jammes, Hervé Philibert (CEA)

XADS Flowblockage Accidents Analyzed by Means of RELAP5/PARCS, Fulvio Mattioda, Paride Meloni (ENEA)

Pre-Conceptual Design of the Fuels and Materials Test Station, Eric Pitcher, Michael Cappiello (LANL)

Performance of Transmutation Assemblies with Moderated Neutron Spectrum in the Gas-Cooled XADS, Daniel Westlén, Jerzy Cetnar, Waclaw Gudowski (RIT–Sweden)

Reference Core Design for a European Gas Cooled Experimental ADS, Jerzy Cetnar (RIT–Sweden), Julian Murgatroyd (NNC), Cornelis Broeders (KfK)

Use of the LEDA Facility as an ADS High-Power Accelerator Test Bed, Richard Sheffield (LANL)

Experiments, Data and Analysis. *Session Organizer:* Eric Pitcher (LANL)

Neutron-Induced Hydrogen and Helium Production from Threshold to 100 MeV, Robert Haight (LANL)

The Test Facility JESSICA for an Advanced Cold Moderator System, H. Stelzer (Forschungszentrum Juelich)

Experimental Investigations of Advanced Cold Moderators at JESSICA at COSY-Juelich and Comparisons with MCNPX Simulations, Kay Nuenighoff (Forschungszentrum Juelich)

The PISA Experiment: Spallation Products Identified by Bragg Curve Spectroscopy, Frank Goldenbaum (Forschungszentrum Juelich)

Monte Carlo Calculations for the MUSE-4 Sub-Critical Configuration, Nadia Messaoudi, Edouard Malambu (SCK/CEN)

Space-Time Correction in Reactivity Determination for Subcritical Systems, Viktoriya V. Kulik, John C. Lee (Univ of Michigan)

Neutron Leakage from a Thick Lead-Bismuth Spallation Target, Eric Pitcher (LANL), Rhonda Karen Corzine (Georgia Tech), George Morgan (LANL), Raymond Klann (ANL), Michael James, Michael Paciotti (LANL)

Utilizing the Oak Ridge Electron Linear Accelerator Facility for Benchmarking Neutron Thermalization in Moderators, Tong Zhou, Ayman I. Hawari, Bernard W. Wehring, Iyad I. Al-Qasir, Victor H. Gillette (NCSU), Felix C. Difilippo, John-Paul Renier (ORNL)

Materials

The Use of Impedance Spectroscopy to Measure Lead-Bismuth Corrosion, Alan Michael Bolind, James Stubbins (Univ of Illinois)

The Behaviours of Martensitic Steels After Irradiation in SINQ Target-3, Yong Dai (Paul Scherrer Institute–Switzerland)

Assessment of Materials for Accelerator Applications using Proton Irradiation Coupled with Post-Irradiation Microstructure Analysis and Corrosion Experiments, Gary S. Was, Jeremy T. Busby (Univ of Michigan), Todd Allen, Jian Gan (ANL), Ning Li, Stuart Maloy (LANL)

Post Irradiation Tensile and Fatigue Experiment in JPCA, Kenji Kikuchi, Shigeru Saito (JAERI–Japan)

Cryogenic Measurements of Radiation Damage in Metals by GeV-Protons, G. A. Greene, C. L. Snead, C. C. Finfrock, A. L. Hanson (BNL), M. R. James, W. F. Sommer (LANL)

Environment-Induced Degradation of Spallation Target Materials, Ajit K. Roy, Ramprashad Prabhakaran, Mohammad K. Hossain, Sudheer Sama, Brendan J. O'Toole (UNLV)

Applications of Electrons Linacs in Defects and Stress Measurements, Farida A. Selim, D. P. Wells, J. F. Harmon, J. Kwoffie (Idaho State Univ), A. K. Roy (Univ of Nevada)

The High Temperature Mechanical Properties of Ferritic-Martensitic, Austenitic Steels and Tantalum after Irradiation in a 800 MeV Proton Beam, Stuart Maloy, Michael James, Tobias Romero (LANL), Mychailo Toloczko (PNNL)

THURSDAY, JUNE 5, 2003, 8:30 A.M.

Global Safeguards, Security, and Radiography. *Session Organizer:* Bojan Petrovic (Westinghouse)

Recent Advances in Neutron Generator Technology, John R. Bayless, Craig P. Burkhart, Rod Greaves (First Point Scientific, Inc.), invited

A Compact Layout for a 50 GeV Proton Radiography Facility, Filippo Neri, Peter Walstrom, Tom Mottershead (LANL)

Evaluation of UXO Discrimination Using PELAN, Phillip Womble, Jon Paschal, Kirk Cantrell, Michael Belbot, Lindsay Hopper (Western Kentucky Univ), invited

IEC-Based Neutron Generator for Security Inspection System, Linchun Wu, George H. Miley (University of Illinois)

Proliferation Resistance Assessment Method for Analyzing ATW Fuel Cycles, William S. Charlton, Ryan F. LeBouf, Sukesh Aghara (Univ of Texas, Austin)

PGAA/NAA Analysis with the LBNL D+D Neutron Generator, Richard B. Firestone, Gerald English, Dale L. Perry (LBNL)

Laser-Compton Scattering for an Intense Monochromatic X-ray Source, Khalid Chouffani (Idaho Accelerator Center), Doug Wells (Idaho State Univ), Frank Harmon (Idaho Accelerator Center), James Jones (INEEL)

Electron Radiography, Frank Merrill, Christopher Morris, Alexander Saunders (LANL)

Nuclear Data—Memorial Session in Honor of Dr. Kazuo Shin. *Session Organizer:* Laurie Waters (LANL)

Measurements of Photo-Neutron Yields from Thick Targets Irradiated by 2 GeV Electrons at PAL, Syuichi Ban, Toshiya Sanami, Kazutoshi Takahashi (KEK), Hee-Seock Lee (Pohang Accelerator Laboratory), Tatsuhiko Sato (JAERI–Japan), Satoshi Maetaki, Kazuo Shin (Kyoto Univ), invited

Shielding Experiments and Analyses on Proton Accelerator Facility at TIARA, Hiroshi Nakashima (JAERI–Japan), invited

148Gd Production Cross Section Measurements for Accelerator Target Facilities, Karen Corzine, Matthew J. Devlin, Eric J. Pitcher (LANL), Nolan E. Hertel (Georgia Tech), Stepan Mashnik (LANL)

Proton-Induced Fission Cross Section Calculation with the LANL Codes CEM2k+GEM2 and LAQGSM+GEM2, Mircea Baznat, Konstantin Gudima (Institute of Applied Physics), Stepan Mashnik (LANL)

Inelastic Neutron Scattering on Silicon from 4 to 20 MeV at Figaro, Dimitri Rochman, Robert Haight, John M. O'Donnell, Matthew Devlin (LANL)

Neutron-Induced Light-Charged Particle Production (En=25-65 MeV) on Elements of ADS-Interest, Jean-Pierre Meulders, Erwin Raeymackers, Isabelle Slypen, Sylvie Benck (Institut de Physique Nucléaire - Université catholique de Louvain), Ninel Nica, Valentin Corcalciuc (Institute of Atomic Physics)

Nuclear Fission Data for Transmutation Measurements Using Fast Ionization Chamber on the High-Resolution Neutron Time-of-Flight Facility at CERN, Paolo Cennini (CERN)

Neutron Scattering Cross Sections for Er via the (n,n'γ) Reaction, Thomas M. McKittrick, James J. Egan, Gunter H. R. Kegel, David J. DeSimone, Afrim Alimeti, Steven E. Tremblay, Chuncheng Ji (Radiation Laboratory)

Target Engineering, Subcritical Assembly Design, and Long-Lived Fission Product Transmutation

Optimisation of the High Flux Test Module Design for the IFMIF Project., Serguei Gordeev, Volker Heinzel, Karl Schleiziek, Victor Slobodtchouk, Erwin Stratmanns (FzK–Germany)

Irradiation and Materials Test Program at the Neutron Spallation Source SINQ, Werner Wagner, Yong Dai (Paul Scherrer Institute–Switzerland)

Benchmarking Dynamic Strain Predictions of Pulsed Mercury Spallation Target Vessels, Bernie W. Riemer, John R. Haines (ORNL), Kurt J Moesslacher (Northrup Grumman)

Target Dynamic Thermal Performance Analysis for an ABNS for BNCT, Thomas E. Blue, Behrooz Khorsandi (Ohio State)

Chemical Composition Modifications and DPA Induced by Spallation Residues in ADS Windows, Carmen Villagrasa, Alan Boudard, Jean-Christophe David, Laurent Donadille, Jean-Eric Ducret, Beatriz Fernandez, Sylvie Leray, Claude Volant (CEA–France), Collaboration S230 (GSI)

Activity and Chemical Composition Modifications Induced by Spallation Residues in Pb and Pb-Bi Targets, Laurent Donadille, Alain Boudard, Jean-Christophe David, Sylvie Leray, Claude Volant (CEA–France)

Design Analysis of the Spallation Target for the European Experimental ADS, Xu Cheng (FzK–Germany)

Preliminary Thermohydraulic Calculations of the European Spallation Source Test Module, Victor Slobodtchouk, Serguei Gordeev, Volker Heinzel (FzK–Germany)

Preparing for the Nuclear Engineering Professional Engineering Exam

Sunday, June 1, 2003 • 9:00 a.m. - 5:00 p.m.
Location: Pacific 1

Workshop Organizer:
Dr. Robert Busch, Director, Nuclear Engineering Laboratory, University of New Mexico

Purpose of Workshop:
This course is designed for individuals who have passed the Fundamentals of Engineering exam (formerly the EIT exam) and who are preparing for the Professional Engineering Exam (PE exam) in Nuclear Engineering. Instructors will provide details on registration and how it differs from state to state, plus an overview of the examination formats. The six basic skill areas, neutronics, instrumentation and measurements, nuclear power shielding, nuclear materials and fuels and radioactive waste will be discussed in details. For each skill area, the instructor will describe topics and the skills to be tested within each.

Examples of questions will be presented in depth, after which students will work other typical questions on their own. Instructors will provide assistance, then review solutions with the group. Students will be provided a sample exam and list of recommended resources for continued study.

Workshop Outline:

Introduction	Robert Busch, University of New Mexico
Shielding	Charles Sparrow, Mississippi State University
Radioactive Waste Management	Dan Bullen, Iowa State University
Nuclear Power Skills	Alan Levin, US/NRC
Fuel Cycle	Dale Lancaster, NuclearConsultants.com
PRA	Gerald Loignon, South Carolina Electric and Gas
Neutronics Skills	T/B/D
Instrumentation and Measurement Skills Area	T/B/D

A Brief History of San Diego

Information gathered from the *Lonely Planet* Guide to San Diego

Although human occupation of the San Diego area goes a long way back, very few sites in the county are genuinely older than a century. The area's long period of Native American habitation left very few tangible remains, and despite an abundance of Spanish place names and Mission-style architecture, only half a dozen structures in the county actually date from the periods of Spanish and Mexican rule.

Juan Rodríguez Cabrillo's expedition made the first European contact with California in 1542, and during that visit his ships sat out a storm in the San Diego Bay. The next European to lay eyes on San Diego was Sebastián Vizcaíno, who entered the bay in 1602 on the feast day of San Diego de Alcalà and named the place accordingly. When the Spanish finally decided to occupy Alta California, Father Junípero Serra founded the first of the California missions on the hill now known as the Presidio. Other missions were later established in the San Diego area, including San Luis Rey Francia in 1798 and the asistencias (satellite missions) of San Antonio de Pala (1815) and Santa Ysabel (1818). After the breakup of the missions in 1833, San Diego remained a ramshackle village with only a few hundred residents.

The 1849 Gold Rush bypassed San Diego, as did the first rail link to Southern California. Eventually, several foresighted financiers recognized the city's potential as a port, and in 1867 San Francisco speculator and businessman Alonzo E Horton acquired 960 acres (385ha) of waterfront land and promoted it as 'New Town.' It was not the first such attempt, but this time the new subdivision really took off, especially after an 1872 fire devastated much of the original settlement.

The discovery of gold in the hills east of San Diego gave birth to a frenetic mining boom, but it was played out by 1874 - the town of Julian is one of the few surviving gold mining settlements. In the years following the gold bust, the population fell by half to 2000, and despite the efforts of the city's boosters, San Diego never did acquire an industrial base during the 19th century. The main economic activity was in real estate speculation, which went through several cycles of boom and bust.

After San Francisco hosted 1914 the Panama-Pacific International Exposition, San Diego - not to be ignored - held one of its own, the Panama-California Exposition, which ran for most of 1915 and 1916. In an effort to foster a distinctive image, the exposition buildings were consciously designed with a romantic Spanish-Mexican style. Developers, architects and the public took to this fashion with enthusiasm, and today the town's Mediterranean style, Mission architecture and Spanish street names derive more from this than from its actual heritage as a small and remote colonial outpost.

With the arrival in the 1920s and 1930s of the aviation and maritime industries, San Diego's economy finally got its jumpstart. Steady revenue from naval and military bases helped San Diego weather the Great Depression, along with WPA projects like San Diego State University and the race track at Del Mar. And in 1935, as the Depression waned, San Diego staged its second big event, the California-Pacific Exposition, which saw even more Hispanic architecture appear in Balboa Park.

Following the bombing of Pearl Harbor, the headquarters of the US Pacific Fleet was moved to San Diego. The boom in wartime activity transformed the city - vast tracts of instant housing appeared; public spaces were turned into training camps, storage depots and hospitals; and the population doubled in a few years. The city's wartime role and the associated publicity more than anything else put San Diego on the American map. Post-war, the naval and military presence provided an expanding core of activity, employing up to a quarter of the workforce.

The climate and the seafront location have been the other major factors in the city's growth. A revitalized downtown area and recreation facilities like Mission Bay have helped attract visitors, who now contribute a big slice of the county's income. Education and research (especially in biotechnology) are also major activities, while the San Diego Padres baseball team and the San Diego Chargers football team have both had brushes with championships in recent years.

Effective Management of Risk: Supporting the Nuclear Renaissance

Sunday, June 1, 2003 • 8:30 a.m. - 5:00 p.m.
Location: Pacific 3

Workshop Organizer:
Dr. Carolyn D. Heising, *Industrial, Mechanical and Nuclear Engineering, Iowa State University*

Workshop Outline:

Time	*Presentation*	*Speaker*
8:30 AM	Introduction	Dr. Carolyn D. Heising, *Industrial, Mechanical and Nuclear Engineering, Iowa State University*
9:00 AM	"Risk Analysis: Applications to Reactor Regulation"	Dr Mark Reinhart, *Chief, Licensing Section, Probabilistic Safety Assessment Branch, Division of Systems and Safety Analysis, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C.*
10:00 AM	"Nuclear Security and Risk Analysis"	Mr. John Gaertner, *Technical Specialist, Science and Technology Department, Electric Power Research Institute (EPRI), Charlotte, NC*
11:00 AM	"Risk Analysis: Applications for Nuclear Security and Counter Terrorism"	Dr. Eric V. Steinfelds, *Research Associate, Nuclear Engineering, University of Missouri, Columbia, MO* and Dr. Carolyn D. Heising, *Industrial, Mechanical and Nuclear Engineering, Iowa State University*
12:00 P.M.	Lunch Break *(poolside at expense of attendees)*	
1:30 PM	"Analyzing the Risks Associated with Cyberterrorism"	Dr. Stephen Arndt, *U.S. Nuclear Regulatory Commission, Washington, D.C.*
2:30 PM	"Nuclear Plant Decision Making Utilizing RCM"	Mr. Neil Bloom, *Supervisor, Reliability Centered Maintenance and Preventative Maintenance Programs, Southern California Edison, SONGS Plant, San Clemente, CA*
3:30 PM	Panel Discussion *(All speakers)*	

Criticality Alarm Systems

Thursday, June 5, 2003 • 8:30 a.m. - 5:00 p.m.
Location: Royal Palm III

Sponsored by:
NCSD

Workshop Organizer:
Valerie Putnam, INEEL

Workshop Purpose:
Criticality Alarm Systems (CASs) are designed to detect a nuclear criticality accident and produce an immediate alarm to initiate personnel protective actions. This one day workshop provides CAS technical and regulatory overviews. Topics range from determining if a CAS is needed to determining if a CAS meets current standards to learning lessons from others experiences. U.S. requirements, methodologies, and experiences are the primary focus, but international issues and information are included. The workshop notebook parallels presentations and include much supplemental information with copies of U.S. requirement and guidance documents.

Workshop Outline:

Time	*Presentation*	*Speaker*
8:30 a.m.	*Introductory Remarks*	
8:45 a.m.	*Requirements and Guidance* National and international consensus standards; USDOE orders; USNRC regulations, guidance, information, and tools; OSHA regulations; and requirement issues from regulator and implementer viewpoints.	Valerie Putman, INEEL
10:00 a.m.	*Instruments* Detector types, design trends, and initial and periodic testing and calibration issues.	John W. McMahan, Westinghouse Savannah River Company
11:00 a.m.	*Computational Issues - Bases (Criticality Accidents)* Historical process accidents and theoretical accidents. Includes - the maximum accident of concern, which affects decisions to install a CAS and decisions regarding evacuation radius, and - the minimum accident of concern, which affects decisions on where to install CAS detectors and set alarm trip points.	Bill L. Lee, Jr., BWXT Y-12, National Security Complex
Noon	*Lunch*	
1:00 p.m.	*Computational Issues - Detector Locations and Evacuation Boundaries* Hand-calculations and handbooks, deterministic and Monte Carlo computer codes, and method validation.	Bill L. Lee, Jr., BWXT Y-12, National Security Complex
3:00 p.m.	*Experience and Lessons-Learned* Selected cases, trends, and open discussion	Valerie Putman, INEEL
5:00 p.m. (or earlier)	*Workshop Adjourns*	

Advanced Gas Reactor Technology Course – 2 Day Workshop

Thursday, June 5, 2003 • 8:30 a.m. - 5:30 p.m.
Friday, June 6, 2003 • 8:30 a.m. - 5:00 p.m.
Location: Garden Salon I and II

Course Leader:
Dr. Madeline Feltus is the Senior Advisor for Research in the Office of Nuclear Energy Science and Technology in the Department of Energy. She has developed and organized the DOE gas reactor technology course and participated in other ANS course programs. She has participated in gas reactor research programs and international gas reactor technology efforts.

Course Instructors:
Mr. Syd Ball, Manager of ORNL GT-MHR Program
Dr. Timothy Burchell, Group Leader, Carbon and Ins. Material Technology, ORNL
Mr. Donald McEachern, Manager, Fuels Program, General Atomics
Dr. Robert Morris, Senior Researcher, ORNL
Mr. Larry Parme, Licensing Manager, General Atomics
Mr. Scott Penfield, Jr., Principal, Technology Insights and Past Chair, Chattanooga and San Diego Sections
Mr. Ted Quinn, Consultant, General Atomics and Past President, ANS
Dr. Arkal Shenoy, Director, Gas Reactor Program, General Atomics

Workshop Outline:

Thursday, June 5

Course Introduction, Objectives & Agenda overview	Feltus/Ball
History and Background of Gas Reactors	Feltus
PBMR Overview	Feltus/Ball
Lunch (on your own)	
GT-MHR Overview	Shenoy
Gas Reactor Power Conversion Systems	Penfield
Core Thermal-hydraulics	Ball
Core Reactor Physics	Feltus
Adjourn	

Friday, June, 6

Reactor System, Structures, Seismic, High Temperature Materials	Shenoy
Fuel Design, Manufacturing, and Performance: General Behavior of Fission Product Groups, Fuel Failure Mechanisms, Fuel specs., design and manufacturing, Fission Products release: PIE methods and tests Fuel behavior prediction and models; Fuel criteria for inherently safe systems	McEachern/Morris
Graphite Issues: Oxidation, Irradiation, Air Ingress	Burchell
Lunch (on your own)	
I&C Technology for Advanced Reactors – Safety Margins	Quinn
Safety and Licensing: Accident selection Proliferation issues Containment/Confinement Safety codes, analysis methods	Parme/Ball
Question and Answer Period, Wrap-up	Feltus/Ball
Adjourn	

DOE Nuclear Criticality Safety Program

Friday, June 6, 8:00 A.M. - 4:00 P.M.
Royal Palm I, II, and III

Purpose:

The US Department of Energy (DOE) Nuclear Criticality Safety Program (NCSP) was initiated in response to DNFSB Recommendation 97-2, "Continuation of Criticality Safety". The NCSP is a comprehensive program that integrates the need to maintain the US criticality safety infrastructure with effective support for criticality safety programs throughout the DOE complex. Two groups have important roles in the NCSP, and this session will focus on their recent activities. In the morning session, following remarks by Program management and the DNFSB staff, the Criticality Safety Coordinating Team (CSCT) will discuss several current issues. Following the CSCT presentations, the End-Users Group will organize the rest of the day as a forum to discuss the relationship between criticality safety and the entire Documented Safety Analysis (DSA) process. This session is open to anyone interested in a discussion of criticality safety from the practitioners point of view. This session, while not part of the official ANS program, has been arranged through the courtesy of the ANS Headquarters staff. While the NCSP and the DSA process are specific to the DOE, the interaction between criticality safety experts and experts in other safety areas must be faced within other organizations, both nationally and internationally. In addition to DOE and contractor personnel, international, NRC and licensee criticality safety personnel are encouraged to attend.

Program:

8:00 a.m.	Greetings and Introduction, NCSP/CSSG Status (Mike Thompson, Jerry McKamy, Adolf Garcia)
8:30 a.m.	DNFSB Staff (Joe Roarty) DNFSB Facility Representative (Tom Burns)
9:15 a.m.	Break
9:30 a.m.	Criticality Safety – Comments from DOE-EH (Beverly Cook, invited)
9:45 a.m.	CSCT (Jerry McKamy, Robert Wilson) 1. Oak Ridge Model for Integrating Criticality Incredibility Arguments and DSAs (Kevin Reynolds) 2. Status of Criticality Safety Self-Improvement Plans That Were Initiated under the Deputy Secretary's Initiative in 1999 (Ed Kendall) 3. Summary of CSCT Activities (Jerry McKamy)
10:15 a.m.	DSA Needs from Criticality Safety (Richard Stark, Brad Evans)
11:00 a.m.	Endusers – Recap of Recent Enduser Initiatives (Kevin Carroll/Marc Rosser)
11:45 a.m.	Lunch
1:00 p.m.	Endusers: NCS and DSA Practical Interactive Walkthrough (Bruce Wilson)
2:20 p.m.	Break
2:30 p.m.	Endusers: NCS and DSA Practical Interactive Walkthrough - Los Alamos Plutonium Facility (Tom McLaughlin)
3:45 p.m.	Open Discussion (Adolf Garcia)
4:00 p.m.	Adjournment (Adolf Garcia)

COMMITTEE MEETINGS

NATIONAL COMMITTEES

Accreditation Policies & Procedures
Sunday, 5:00 p.m. - 7:00 p.m.
Location: Royal Palm II

Board of Directors
Wednesday, 4:00 p.m. - 6:00 p.m.
Location: Le Chanteclair

Board of Directors
Thursday, 8:00 a.m. - 5:00 p.m.
Location: Le Chanteclair

Book Publishing
Sunday, 11:00 a.m. - 12:00 p.m.
Location: Royal Palm III

Business Meeting
Monday, 4:00 p.m. - 6:00 p.m.
Location: Golden West

Bylaws & Rules
Sunday, 1:30 p.m. - 4:00 p.m.
Location: Royal Palm II

Executive Conference Review
Sunday, 1:00 p.m. - 3:00 p.m.
Location: Royal Palm I

Finance
Tuesday, 4:00 p.m. - 7:00 p.m.
Location: Eaton

Honors & Awards
Monday, 4:00 p.m. - 7:00 p.m.
Location: Royal Palm II

International
Tuesday, 4:00 p.m. - 7:00 p.m.
Location: Golden West

Local Sections/Workshop
Sunday, 8:00 a.m. - 12:00 p.m.
Location: Golden West

Meetings, Proceedings & Transactions
Monday, 7:30 a.m. - 8:30 a.m.
Location: Brittany

Membership
Sunday, 11:00 a.m. - 1:00 p.m.
Location: Royal Palm IV

NEED
Sunday, 7:30 p.m. - 9:30 p.m.
Location: Royal Palm II

***Nuclear News* Editorial Advisory**
Sunday, 4:00 p.m. - 5:30 p.m.
Location: Stratford

Planning
Sunday, 2:00 p.m. - 6:00 p.m.
Location: Sunset

Policies & Procedures/Quality Improvement (PPQI)
Sunday, 2:00 p.m. - 4:00 p.m.
Location: Royal Palm III

President's Meeting with Committee Chairs
Sunday, 9:00 a.m. - 10:00 a.m.
Location: California

President's Meeting with Division Chairs
Sunday, 10:00 a.m. - 12:00 p.m.
Location: California

Professional Development Coordination
Thursday, 7:00 a.m. - 8:00 a.m.
Location: Ascot

Professional Divisions
Tuesday, 4:00 p.m. - 7:00 p.m.
Location: California

Professional Engineering Exam
Sunday, 3:00 p.m. - 6:00 p.m.
Location: Towne

Professional Women in ANS
Monday, 11:30 a.m. - 1:00 p.m.
Location: Brittany

Program (NPC)
Wednesday, 4:00 p.m. - 7:00 p.m.
Location: California

Public Information
Monday, 4:00 p.m. - 6:00 p.m.
Location: Sunset

Public Policy
Wednesday, 4:00 p.m. - 6:00 p.m.
Location: Ascot

Publications Steering
Monday, 4:00 p.m. - 6:00 p.m.
Location: Galeria Salon I

***Radwaste Solutions* Editorial Advisory**
Monday, 7:00 a.m. - 8:30 a.m.
Location: Ascot

Screening & International (NPC)
Monday, 4:00 p.m. - 6:00 p.m.
Location: California

Scholarship Policies and Procedures
Tuesday, 4:00 p.m. - 6:00 p.m.
Location: Galeria Salon I

Student Sections
Sunday, 12:00 p.m. - 2:00 p.m.
Location: Sunset

Technical Journals
Sunday, 1:00 p.m. - 3:30 p.m.
Location: Pacific 5

SPECIAL COMMITTEES

Business Practices
Sunday, 11:00 a.m. - 12:00 p.m.
Location: Royal Palm III

ETHICS
Sunday, 8:00 p.m. - 10:00 p.m.
Location: Royal Palm IV

New Construction
Monday, 4:00 p.m. - 7:00 p.m.
Location: Pacific 2

Non-Proliferation
Monday, 5:00 p.m. - 7:00 p.m.
Location: Towne

Power Generation Sector Outreach
Sunday, 11:30 a.m. - 1:00 p.m.
Location: Royal Palm VI

Work Force Issues
Sunday, 12:00 p.m. - 1:30 p.m.
Location: Royal Palm II

OTHER COMMITTEES

ANFM - III Topical Meeting Organizing Committee
Tuesday, 4:00 p.m. - 6:00 p.m.
Location: Terrace Pavilion

CNF
Monday, 7:30 p.m. - 10:00 p.m.
Location: Eaton

Eagle Alliance Board of Directors
Sunday, 1:00 p.m. - 3:30 p.m.
Location: Dover

Mathematics & Computation/Reactor Physics/Radiation Protection & Shielding Joint Benchmark Meeting
Sunday, 11:00 a.m. - 1:00 p.m.
Location: Dover

NEDHO
Monday, 4:30 p.m. - 6:00 p.m.
Location: Eaton

PNC
Sunday, 8:00 a.m. - 5:00 p.m.
Location: San Diego Room

UWC 2003 Planning Committee
Sunday, 10:00 a.m. - 11:30 a.m.
Location: Royal Palm II

COMMITTEE MEETINGS

DIVISION COMMITTEES

Accelerator Applications
Executive
Monday, 11:30 a.m. - 1:00 p.m.
Location: Ascot

Program/Membership
Sunday, 7:30 p.m. - 9:30 p.m.
Location: Sunset

Aerospace Nuclear Science & Technologies
Sunday, 10:00 a.m. - 12:00 p.m.
Location: Stratford

Biology & Medicine
Committee of the Whole
Sunday, 4:00 p.m. - 5:30 p.m.
Location: Royal Palm VI

Decommissioning, Decontamination & Reutilization
Committee Meeting
Sunday, 1:00 p.m. - 5:30 p.m.
Location: Golden West

Education & Training
Alpha Nu Sigma
Sunday, 11:00 a.m. - 12:00 p.m.
Location: Pacific 7

Executive/Membership/Honors & Awards
Sunday, 1:30 p.m. - 4:00 p.m.
Location: Pacific 6

Program
Sunday, 10:30 a.m. - 12:00 p.m.
Location: Pacific 6

University/Industry Relations
Sunday, 9:30 a.m. - 10:30 a.m.
Location: Pacific 6

Environmental Sciences
Executive
Sunday, 10:00 a.m. - 2:30 p.m.
Location: Towne

Program
Sunday, 8:30 a.m. - 10:00 a.m.
Location: Towne

Fuel Cycle & Waste Management
Executive
Sunday, 3:30 p.m. - 5:30 p.m.
Location: Royal Palm I

Program
Sunday, 1:30 p.m. - 3:30 p.m.
Location: Royal Palm I

Technical Operating Committees
Sunday, 12:00 p.m. - 1:30 p.m.
Location: Royal Palm I

Fusion Energy
Executive
Sunday, 3:00 p.m. - 5:00 p.m.
Location: Dover

Human Factors
Executive/Program
Monday, 4:30 p.m. - 6:30 p.m.
Location: Clarendon

Isotopes & Radiation
Executive
Sunday, 2:30 p.m. - 4:00 p.m.
Location: Pacific 7

Joint Program Committee - I&R & BM
Sunday, 1:30 p.m. - 2:30 p.m.
Location: Pacific 7

Materials Science & Technology
Executive
Monday, 7:00 p.m. - 9:00 p.m.
Location: Ascot

Mathematics & Computation
Executive
Sunday, 2:00 p.m. - 4:00 p.m.
Location: Royal Palm VI

Program
Sunday, 1:00 p.m. - 2:00 p.m.
Location: Royal Palm VI

Nuclear Criticality Safety
Education
Sunday, 10:00 a.m. - 11:00 a.m.
Location: Royal Palm V

Executive
Sunday, 3:00 p.m. - 5:30 p.m.
Location: Royal Palm V

Program
Sunday, 1:00 p.m. - 3:00 p.m.
Location: Royal Palm V

Nuclear Installation Safety
Executive
Monday, 5:00 p.m. - 8:00 p.m.
Location: Brittany

Program
Sunday, 7:30 p.m. - 11:00 p.m.
Location: Royal Palm III

Operations & Power
Executive
Sunday, 3:30 p.m. - 6:00 p.m.
Location: Royal Palm IV

Program
Sunday, 1:00 p.m. - 3:30 p.m.
Location: Royal Palm IV

Radiation Protection & Shielding
Executive
Monday, 5:00 p.m. - 7:00 p.m.
Location: Ascot

Program
Monday, 4:00 p.m. - 5:00 p.m.
Location: Ascot

Reactor Physics
Executive
Sunday, 4:00 p.m. - 6:00 p.m.
Location: Sunrise

Goals & Planning
Sunday, 12:00 p.m. - 2:00 p.m.
Location: Sunrise

Program
Sunday, 2:00 p.m. - 4:00 p.m.
Location: Sunrise

Robotics and Remote Systems
Executive
Sunday, 11:00 a.m. - 3:00 p.m.
Location: Pacific 4

Thermal Hydraulics
Executive
Sunday, 5:00 p.m. - 7:00 p.m.
Location: Pacific 4

Honors & Awards
Tuesday, 5:00 p.m. - 7:00 p.m.
Location: Brittany

Program
Sunday, 3:00 p.m. - 5:00 p.m.
Location: Pacific 4

STANDARDS COMMITTEES

ANSI/ANS 8.23
Tuesday, 4:00 p.m. - 6:00 p.m.
Location: Galeria Salon II

ANS 5.1
Sunday, 8:00 p.m. - 9:00 p.m.
Location: Towne

ANS 8.1
Tuesday, 7:00 a.m. - 8:30 a.m.
Location: Brittany

ANS 8.3 Working Group
Sunday, 8:00 a.m. - 2:00 p.m.
Location: Ascot

ANS 8.12 Working Group
Monday, 7:30 a.m. - 8:30 a.m.
Location: Clarendon

ANS 8.21
Tuesday, 7:00 a.m. - 8:00 a.m.
Location: Clarendon

ANS 8.21
Wednesday, 7:00 a.m. - 8:00 a.m.
Location: Eaton

ANS 8.24
Sunday, 10:00 a.m. - 12:00 p.m.
Location: Sunset

ANS 8.25
Tuesday, 4:00 p.m. - 7:00 p.m.
Location: Ascot

ANS 8.26
Wednesday, 7:00 a.m. - 8:30 a.m.
Location: Eaton

ANS 10.4 Working Group
Tuesday, 5:00 p.m. - 7:00 p.m.
Location: Clarendon

ANS 19
Reactor Physics Standard
Monday, 8:30 a.m. - 10:30 a.m.
Location: Eaton

ANS 19.6.1
Saturday, 8:30 a.m. - 5:30 p.m.
Location: Royal Palm VI

ANS 19.6.1
Sunday, 10:00 a.m. - 12:00 p.m.
Location: Sunrise

ANS 51.1/52.1
Tuesday, 8:00 a.m. - 5:00 p.m.
Location: Clarendon

ANS 58.23, Fire PRA
Wednesday, 11:30 a.m. - 2:00 p.m.
Location: Clarendon

NFSC Standards
Monday, 10:00 a.m. - 5:00 p.m.
Location: Fairfield

NFSC Subcommittee - Decontamination & Site Remediation
Tuesday, 7:00 a.m. - 8:30 a.m.
Location: Ascot

NTAG
Wednesday, 9:00 a.m. - 12:00 p.m.
Location: Ascot

Risc
Wednesday, 4:00 p.m. - 7:00 p.m.
Location: Brittany Room

Standards Steering
Tuesday, 9:00 a.m. - 4:00 p.m.
Location: Fairfield

Note: This is a PRELIMINARY listing. Time and locations are subject to change. The Official Program, distributed at the meeting, will contain the final meeting schedule.

2003 ANS/ENS International Winter Meeting
with cooperation from NEI

Embedded Topical Meeting: GLOBAL 2003
"Advanced Nuclear Energy Systems and Fuel Cycles"

and the Nuclear Technology Expo

November 16-20, 2003

New Orleans, Louisiana

Hyatt Regency New Orleans

ANS General Chair:
John R. McGaha, Entergy Nuclear

ENS General Co-Chair:
Andrej Stritar, Nuclear Safety Administration, Slovenia

Assistant General Chair:
Kelle Barfield, Entergy Nuclear

ANS Technical Program Co-Chair:
Maurice J. Ades, Westinghouse Savannah River Co.

ENS Technical Program Co-Chair:
Bertrand Barre, COGEMA–France

Assistant Technical Program Co-Chairs:
Robert P. Addis, Westinghouse Savannah River Co.
Mark DeHart, Oak Ridge National Laboratory
Jan VanErp, Consultant

For more information, call the ANS Meetings Department at 708/579-8287 or email meetings@ans.org.

MENTOR FORM

The Mentoring Program is a unique opportunity for Mentors to invest in the future by connecting with the next shooting stars (new members, first-time meeting attendees, and student members) of the nuclear industry. It's a chance for those new to the profession to connect with "those in the know;" experienced professionals with real-world knowledge to share.

What are the benefits for Mentors and Protégés?

Mentors
· Influence the future
· Keep up to date
· Leave a legacy

Protégés
· Fast track a career
· Get individual attention
· Build a professional relationship

If you are the next shooting star of the nuclear industry or you wish to catch a shooting star, sign up today to participate in the ANS Mentoring Program. You'll be given information to guide you and support from previous program participants. Of course, you'll be connected with someone whose interests match your own with the potential for lifelong learning and friendship.

Yes. I want to be a: _____Mentor _____Protégé

(Please print all information)

Name

Company or School

Address City / State / Zip

Phone Fax Email

Professional Interests:

Please list the Divisions and Committees of which you are, or would like to be, a member:

Please mail, fax, or email this form by October 31, 2002 to:

Membership Department
American Nuclear Society
555 N. Kensington Avenue
La Grange Park, IL 60526
Phone: 800-323-3044 Fax: 708-579-8295 Email: sbraland@ans.org

ADVANCE REGISTRATION FORM

AMERICAN NUCLEAR SOCIETY: 2003 ANNUAL MEETING

"THE NUCLEAR TECHNOLOGY EXPANSION - UNLIMITED OPPORTUNITIES"

EMBEDDED TOPICAL MEETING: "DECOMMISSIONING AND SPENT-FUEL MANAGEMENT"
EMBEDDED TOPICAL MEETING: "RISK MANAGEMENT: NOW MORE THAN EVER"
EMBEDDED TOPICAL MEETING: "ACCELERATOR APPLICATIONS OF NUCLEAR TECHNOLOGY (ACCAPP03)"

JUNE 1-5, 2003 • TOWN AND COUNTRY RESORT & CONVENTION CENTER • SAN DIEGO, CA

FILL OUT COMPLETELY - PLEASE PRINT

ANS ID #: _____

FIRST NAME/MIDDLE INITIAL: _____ LAST NAME: _____

JOB TITLE: _____ COMPANY/AFFILIATION: _____

STREET ADDRESS: _____ ❒ COMPANY OR ❒ HOME

CITY/STATE/ZIP CODE: _____ COUNTRY: _____

TELEPHONE: _____ FACSIMILE: _____ EMAIL: _____

ANS MEMBERS, PLEASE CHECK IF THIS IS YOUR: ❒ NEW ADDRESS (WILL CHANGE MEMBER RECORD) OR ❒ MEETING REGISTRATION ADDRESS ONLY

PLEASE INDICATE: ❒ ANS NATIONAL INDIVIDUAL MEMBER ❒ ANS FELLOW ❒ EMERITUS MEMBER ❒ STUDENT
❒ NON-MEMBER ❒ NON-MEMBER INVITED SPEAKER ❒ ORGANIZATION MEMBER REPRESENTATIVE
❒ SPECIAL ACCOMMODATION REQUIRED TO FULLY PARTICIPATE (40)
❒ ANS LOCAL SECTION MEMBER (ANS LOCAL SECTION MEMBERS WHO ARE NOT NATIONAL MEMBERS, DO NOT QUALIFY FOR ANS MEMBER RATE.)

INDIVIDUAL CONFERENCE REGISTRATION – PREREGISTRATION DEADLINE FOR REDUCED FEE IS MAY 9, 2003

	Fees Paid By May 9, 2003		Fees Paid After May 9, 2003	
	ANS National Member	**Non-Member***	**ANS National Member**	**Non-Member***
Full ANS & Topical Meetings Includes 1 ticket to President's Reception	[01] ❒ $575	[02] ❒ $725	[09] ❒ $650	[10] ❒ $800
One Day Attendance **Circle One:** Mon Tues Wed Thur Does not include ticket to President's Reception or other events	[03] ❒ $435	[04] ❒ $585	[11] ❒ $510	[12] ❒ $660
Student Does not include ticket to President's Reception or other events	[05] ❒ $70	[06] ❒ $120	[13] ❒ $95	[14] ❒ $145
ANS Emeritus Member Does not include ticket to President's Reception or other events	[07] ❒ $70	N/A	[15] ❒ $95	N/A
Spouse/Guest (Includes 1 ticket to President's Reception & admittance to the Spouse/Guest Hospitality Room only - Does not include technical sessions or other events.)	[08] ❒ $90	N/A	[16] ❒ $115	N/A

Please Supply Spouse/Guest Name: _____

Please register on-site after Wednesday, May 28, 2003.

MEETING PUBLICATIONS

Choose only ONE with registration:

[41] ❒ TRANSACTIONS (VOLUME 88) CONTAINS SUMMARIES FROM THE ANS ANNUAL MEETING AND FROM THE EMBEDDED TOPICAL MEETINGS - "DECOMMISSIONING AND USED FUEL MANAGEMENT" AND "RISK MANAGEMENT: NOW MORE THAN EVER" (CD-ROM) $_____

[42] ❒ ABSTRACT BOOK & CD-ROM* - "ACCELERATOR APPLICATIONS OF NUCLEAR TECHNOLOGY" $_____

** CD-ROM OF FULL PAPER PROCEEDINGS TO BE PUBLISHED AFTER THE MEETING BY 12/03*

Additional Purchases (available at these special reduced prices on this registration form and at the ANS registration desk only!):

[43] ❒ I ALSO WANT TO PURCHASE AN ADDITIONAL COPY OF THE ANS TRANSACTIONS ON CD-ROM FOR $75 $_____

[44] ❒ I ALSO WANT TO PURCHASE AN ADDITIONAL COPY OF THE ABSTRACT BOOK: "ACCELERATOR APPLICATIONS OF NUCLEAR TECHNOLOGY" FOR $40 $_____

[45] ❒ I ALSO WANT TO PURCHASE A PRINTED COPY OF THE ANS TRANSACTIONS FOR $20.00 $_____

[46] ❒ I ALSO WANT TO PURCHASE AN ADDITIONAL COPY OF THE FULL PAPER PROCEEDINGS - "ACCELERATOR APPLICATIONS OF NUCLEAR TECHNOLOGY" FOR $75 $_____

** CD-ROM OF FULL PAPERS TO BE PUBLISHED AFTER THE MEETING BY 12/03*

CONTINUED ON THE NEXT PAGE. PLEASE RETURN BOTH PAGES WITH PAYMENT.

NAME: _____

***ATTENTION NON-MEMBER REGISTRANTS:** NON-MEMBER FEE ENTITLES YOU TO A ONE-TIME FREE MEMBERSHIP IN THE AMERICAN NUCLEAR SOCIETY (JUL-DEC 2003). YOU MUST FIRST FILL OUT A MEMBERSHIP APPLICATION. AFTER YOUR APPLICATION IS PROCESSED, YOU WILL BE SENT A MEMBERSHIP CARD AND NUCLEAR NEWS MAGAZINE, BEGINNING YOUR BENEFITS. NON-U.S. RESIDENTS WILL NEED TO PAY $52 FOR NUCLEAR NEWS POSTAGE. THIS OFFER DOES NOT APPLY TO THOSE REGISTERED FOR WORKSHOPS ONLY. FREE MEMBERSHIP AVAILABLE TO NON-MEMBERS ONLY (CANNOT BE USED FOR MEMBERSHIP RENEWAL).

[75] ❒ I WANT TO BE A MEMBER OF ANS. MY MEMBERSHIP BENEFITS WILL BE IN EFFECT FROM DATE OF PROCESSED APPLICATION THROUGH DECEMBER, 2003.

[76] ❒ I DO NOT WANT TO BE A MEMBER OF ANS.

SPECIAL EVENTS AND TOURS

SUNDAY, JUNE 1, 2003

ADDITIONAL TICKETS FOR ANS PRESIDENT'S RECEPTION — [21] # OF TICKETS ___ @ $45 EACH = $_____

MONDAY, JUNE 2, 2003

SPOUSE/GUEST TOUR: SAN DIEGO SEA AND LAND ADVENTURE — [22] # OF TICKETS ___ @ $39 EACH = $_____

OPERATIONS & POWER DIVISION LUNCHEON — [23] # OF TICKETS ___ @ $40 EACH = $_____

DDR & FCWM DIVISIONS LUNCHEON — [24] # OF TICKETS ___ @ $40 EACH = $_____

EVENING AT SEA WORLD — [25] # OF TICKETS ___ @ $45 EACH = $_____

TUESDAY, JUNE 3, 2003

HONORS AND AWARDS LUNCHEON — [26] # OF TICKETS ___ @ $40 EACH = $_____

SPOUSE/GUEST TOUR: TEMECULA GRAPELINE TOUR AND LUNCH — [27] # OF TICKETS ___ @ $42 EACH = $_____

DINNER CRUISE ON THE HORNBLOWER — [28] # OF TICKETS ___ @ $45 EACH = $_____

WEDNESDAY, JUNE 4, 2003

NUCLEAR INSTALLATIONS SAFETY DIVISION LUNCHEON — [29] # OF TICKETS ___ @ $40 EACH = $_____

TECHNICAL TOUR: ARCHIMEDES TECHNOLOGY FILTER DEMONSTRATION, SAN DIEGO GAMMA KNIFE CENTER, AND GENERAL ATOMIC'S D III-D NATIONAL FUSION FACILITY — [30] # OF TICKETS ___ @ $35 EACH = $_____

MULTI-DIVISION BUFFET DINNER AT BARONA VALLEY RANCH CASINO — [31] # OF TICKETS ___ @ $18 EACH = $_____

ANS PROFESSIONAL DEVELOPMENT WORKSHOP REGISTRATION

REGISTRATION FOR THE ANS PROFESSIONAL DEVELOPMENT WORKSHOPS IS SEPARATE FROM, AND IN ADDITION TO, THE 2003 ANNUAL MEETING. IF ATTENDING BOTH, A WORKSHOP AND THE ANNUAL MEETING, YOU MUST REGISTER AND PAY FOR THEM BOTH. REGISTRATION FOR THE WORKSHOPS INCLUDES COPIES OF AVAILABLE PAPERS AND MATERIALS. **PLEASE REGISTER EARLY, SPACE IS LIMITED!**

WORKSHOP #1: "PREPARING FOR THE NUCLEAR ENGINEERING PROFESSIONAL ENGINEERING EXAM" - SUNDAY, JUNE 1, 2003
ANS NAT'L MEMBER [50] ❒ @ $400 NON-MEMBER [51] ❒ @ $500

WORKSHOP #2: "EFFECTIVE MANAGEMENT OF RISK: SUPPORTING THE NUCLEAR RENAISSANCE" - SUNDAY, JUNE 1, 2003
ANS NAT'L MEMBER [52] ❒ @ $400 NON-MEMBER [53] ❒ @ $500

WORKSHOP #3: "CRITICALITY ALARM SYSTEMS" - THURSDAY, JUNE 5, 2003
ANS NAT'L MEMBER [54] ❒ @ $400 NON-MEMBER [55] ❒ @ $500

WORKSHOP #4: "ADVANCED GAS REACTOR TECHNOLOGY COURSE" (2 DAY WORKSHOP) - THURSDAY, JUNE 5, 2003 AND FRIDAY, JUNE 6, 2003
ANS NAT'L MEMBER [56] ❒ @ $450 NON-MEMBER [57] ❒ @ $550

GRAND TOTAL AND FORM OF PAYMENT FOR MEETINGS, TOURS AND WORKSHOPS

TOTAL OF ALL FUNCTIONS AND EVENTS — GRAND TOTAL $_____

METHOD OF PAYMENT

❒ CHECK ❒ AMERICAN EXPRESS ❒ VISA ❒ MASTERCARD ❒ DINERS CLUB ❒ WIRE TRANSFER

CREDIT CARD NUMBER: _____ EXP. DATE: _____

CARDHOLDER'S SIGNATURE: _____

PRINT CARDHOLDER'S NAME IF DIFFERENT THAN REGISTRANT

PLEASE REGISTER ON-SITE AFTER WEDNESDAY, MAY 28, 2003.

MAKE CHECKS PAYABLE TO ANS IN U.S. FUNDS AND MAIL TO ANS, P.O. BOX 97781, CHICAGO, IL 60678-7781. CREDIT CARD REGISTRATIONS MAY BE FAXED TO 708/579-8314. DO NOT MAIL REGISTRATIONS WHICH HAVE BEEN FAXED. REGISTRATION CANCELLATIONS MUST BE MADE IN WRITING PRIOR TO MAY 9TH IN ORDER TO RECEIVE A REFUND MINUS A $75 PROCESSING FEE. SPECIAL EVENT AND TOUR TICKETS WILL BE REFUNDED IN FULL IF CANCELLATION REQUEST IS RECEIVED BY MAY 9TH. MEETING REGISTRATIONS, SPECIAL EVENT AND TOUR TICKETS CANCELED AFTER MAY 9TH WILL NOT BE REFUNDED; HOWEVER,YOU MAY SEND A SUBSTITUTE. PLEASE CONTACT THE ANS REGISTRAR AT TELEPHONE NUMBER: 708/579-8316 OR EMAIL: registrar@ans.org WITH ANY QUESTIONS.

TECHNICAL TOUR FORM: ARCHIMEDES TECHNOLOGY FILTER DEMONSTRATION, SAN DIEGO GAMMA KNIFE CENTER, AND GENERAL ATOMIC'S D III-D NATIONAL FUSION FACILITY

AMERICAN NUCLEAR SOCIETY: 2003 ANNUAL MEETING

"THE NUCLEAR TECHNOLOGY EXPANSION - UNLIMITED OPPORTUNITIES"

JUNE 1-5, 2003 • TOWN AND COUNTRY RESORT & CONVENTION CENTER • SAN DIEGO, CA

TECHNICAL TOUR: ARCHIMEDES TECHNOLOGY FILTER DEMONSTRATION, SAN DIEGO GAMMA KNIFE CENTER, AND GENERAL ATOMIC'S D III-D NATIONAL FUSION FACILITY

(WEDNESDAY, JUNE 4, 2003)

PLEASE PRINT – PLEASE NOTE THAT YOU MUST BE REGISTERED FOR THE 2003 ANS ANNUAL MEETING TO PARTICIPATE IN THE TECHNICAL TOUR TO THE ARCHIMEDES TECHNOLOGY FILTER DEMONSTRATION, SAN DIEGO GAMMA KNIFE CENTER, AND GENERAL ATOMIC'S D III-D NATIONAL FUSION FACILITY. NO EXCEPTIONS.

First Name/Middle Initial: _____ Last Name: _____

Telephone (Daytime): _____ Fax: _____ Email: _____

Do you have any special needs that must be accommodated for you to participate fully in the tour? If so, please specify:

_____

_____

Date of Birth: _____ Age: _____ ❒ Male ❒ Female

Social Security Number: _____

Employer's Name: _____

Employer's Address: _____

_____

NON-U.S. CITIZENS PLEASE COMPLETE THE FOLLOWING: (PLEASE PRINT)

Country of Citizenship: _____ PRA # (Green Card): _____

Passport #: _____ Expiration Date: _____

Visa Type: _____ Expiration Date: _____

NOTE TO ALL: YOU WILL BE REQUIRED TO PRESENT YOUR PHOTO IDENTIFICATION (PASSPORT OR GREEN CARD FOR NON-U.S. CITIZENS; DRIVER'S LICENSE FOR U.S. CITIZENS) BEFORE THE START OF THE TOURS. TOUR ATTENDANCE BY NON-U.S. CITIZENS MAY BE RESTRICTED BY THE HOST ORGANIZATIONS.

MAIL OR FAX THIS COMPLETED FORM WITH YOUR ADVANCE MEETING REGISTRATION FORM, NO LATER THAN MAY 9TH, 2003, TO:

AMERICAN NUCLEAR SOCIETY
ANS REGISTRAR
P.O. BOX 97781
CHICAGO, IL 60678-7781

FAX: 708/579-8314

HOTEL RESERVATION FORM

TOWN AND COUNTRY RESORT & CONVENTION CENTER, SAN DIEGO, CA

ANS 2003 ANNUAL MEETING
June 1-5, 2003

RESERVATION DEADLINE: MAY 9, 2003

HOTEL TELEPHONE - MAIN LINE: 619-291-7131
ADVANCE RESERVATIONS: 800-772-8527
RESERVATIONS FAX: 619-291-3584

FOR RESERVATIONS, EITHER CALL OR SEND THIS FORM DIRECTLY TO THE HOTEL – DO NOT SEND THIS FORM TO THE AMERICAN NUCLEAR SOCIETY

PLEASE PRINT OR TYPE

GUEST NAMES(S): _____

COMPANY: _____

MAILING ADDRESS: _____

CITY/STATE/ZIP: _____ COUNTRY: _____

TELEPHONE: _____ FACSIMILE: _____

ARRIVAL DATE: _____ DEPARTURE DATE: _____

PREFERRED ACCOMMODATIONS

Special Request	Room Type	Single	Double
❒ SMOKING	❒ GARDEN ROOM	❒ $112.00	❒ $127.00
❒ NON-SMOKING	❒ REGENCY TOWER/COURTYARD	❒ $127.00	❒ $147.00
❒ HANDICAP ACCESSIBLE	❒ ROYAL PALM TOWER/TERRACE	❒ $142.00	❒ $162.00
❒ GOVERNMENT PER DIEM ROOM RATE			

ADDITIONAL SPECIAL REQUESTS: _____

CHECK-IN TIME IS 3:00 P.M. • CHECK-OUT TIME IS 11:00 A.M. EXPECTED ARRIVAL TIME: _____

METHOD OF PAYMENT

CHECK # _____

CREDIT CARD

❒ AMERICAN EXPRESS ❒ VISA ❒ MASTER CARD ❒ DINERS CLUB ❒ DISCOVER

CREDIT CARD NUMBER: _____ EXPIRATION DATE: _____

CARDHOLDER'S NAME: _____ DEPOSIT AMOUNT: _____

CARDHOLDER'S SIGNATURE: _____

*ROOMS ARE SUBJECT TO 10.5% TAX, SUBJECT TO CHANGE WITHOUT NOTICE. ONE NIGHT'S DEPOSIT OR CREDIT CARD INFORMATION MUST ACCOMPANY RESERVATION TO GUARANTEE ROOM. (ONE NIGHT WILL BE BILLED TO YOUR CREDIT CARD.) RESERVATIONS MUST BE MADE BY MAY 9, 2003. AFTER THIS DATE, RESERVATIONS ARE SUBJECT TO AVAILABILITY. DEPOSITS ARE REFUNDABLE IF RESERVATION IS CANCELLED 48 HOURS IN ADVANCE. NOTE: RESERVE YOUR ROOM EARLY. YOU WILL RECEIVE WRITTEN CONFIRMATION OF YOUR RESERVATION FROM THE HOTEL.

PLEASE NOTE: RESERVE YOUR ROOM EARLY! RESERVATIONS MUST BE MADE BY MAY 9, 2003.

- RESERVATIONS RECEIVED AFTER THE DEADLINE DATE WILL BE SUBJECT TO AVAILABILITY AND WILL BE CHARGED AT THE HOTEL'S PREVAILING ROOM RATE.
- YOUR DEPOSIT GUARANTEES YOUR ROOM. PLEASE TELEPHONE CHANGES TO OUR RESERVATION DEPARTMENT AT 800-772-8527.
- CHECK-OUT TIME IS 11:00 A.M., CHECK-IN TIME IS 3:00 P.M.
- ALL RATES ARE SUBJECT TO CURRENT OCCUPANCY TAX.

our most sincere **thanks** to the

following contributing organizations for their support

ANS 2003 Annual Meeting

Bechtel Power Corporation

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CTR Technical Services, Inc.

The Detroit Edison Company, Fermi 2

Dominion Generation

Electric Motor & Contracting Co., Inc.

Electric Power Research Institute (EPRI)

EXCEL Services Corporation

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Progress Energy

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thank you