#### A PROPOSAL

# IDAHO SECTION AND NORTHERN CALIFORNIA SECTION OF THE AMERICAN NUCLEAR SOCIETY AND THE FUSION ENGINEERING DIVISION OF THE ATOMIC ENERGY SOCIETY OF JAPAN

for the

#### Fourteenth Topical Meeting on the Technology of Fusion Energy

#### October, 2000

The Idaho Section of the American Nuclear Society (IANS), in cooperation with the Northern California Section of the American Nuclear Society (NORCAL) and the Fusion Engineering Division of the Atomic Energy Society of Japan (AESJ), is pleased to submit a proposal for the Fourteenth Topical Meeting on the Technology of Fusion Energy sponsored by the Fusion Energy Division (FED). We believe that our individual histories of organizing numerous successful topical meetings will assure that with merged talents and support, the meeting will be technically and financially successful.

Our vision is that this meeting will be a forum for sharing ideas relevant to inertial and magnetic confinement fusion energy research, both current and for the 21<sup>st</sup> century. We believe that this series of topical meetings provides a vital service in bringing the inertial and magnetic fusion research communities together. Participants will report on their current work as well as present ideas for future work.

Our plan is to make extensive use of the Internet in organizing the meeting, collecting material, and publishing results. We plan to establish a Web site with meeting information and on-line registration capability. We will strongly encourage authors to submit their papers electronically with a supplementary registration fee for those not doing so. All paper reviews will be performed electronically. That is, papers will be transmitted electronically to reviewers, and reviewers will be asked to return comments to the organizing committee electronically. This will eliminate the need to meet physically to organize the meeting. Following the meeting, peer reviews will also be conducted electronically to the maximum extent possible. Returned comments will then be forwarded electronically to the authors after appropriate review to ensure there is no author traceability to the reviewers. Proceedings will be considered for availability electronically in compact disk format, but the present plan is for publication in a special issue of *Fusion Technology*.

<sup>&</sup>lt;sup>1</sup> Manual markup of manuscript will still be allowed, but electronic markup is preferred.

We have not yet fixed the date of the proposed meeting, but our preference is early to mid October, 2000 when hotel rates are attractive and there is still a wide range of extra-curricular activities available near the meeting site.

#### 1. General Chair

We propose that Prof. T. K. Fowler, recently retired from the University of California, Berkeley serve as Honorary General Chair, and Dr. Glen R. Longhurst of the Idaho National Engineering and Environmental Laboratory (INEEL) serve as General Chair, and Prof. Satoru Tanaka of Tokyo University as Vice General Chair for this meeting.

#### Honorary General Chair - Prof. Ken Fowler

Prof. T. Kenneth Fowler received his PhD from the University of Wisconsin in Physics in 1957. He joined Oak Ridge National Laboratory, where he was a leader of the Plasma Theory Group until 1965. He then moved to General Atomics, where he was appointed head of the Plasma Physics Division in 1967. He transferred to Lawrence Livermore National Laboratory where he served from 1970 to 1987 as Associate Director for Magnetic Fusion Energy. He became chairman of the Department of Nuclear Engineering at the University of California, Berkeley in 1988, and he served in that capacity until his retirement in 1997. He is the author of numerous publication including a recent book, The Quest for Fusion (Johns Hopkins University Press, 1997).

Prof. Fowler has numerous memberships and awards including the Fusion Power Associates Leadership Award for 1983 and election to the National Academy of Sciences in 1987. He ha been a Fellow of the American Physical Society since 1970. His research interests include plasma physics applications to magnetic fusion energy, theoretical plasma physics, weapons effects at high altitudes, nuclear reactions theory, and scattering theory.

#### General Chair – Dr. Glen Longhurst

Dr. Glen R. Longhurst has served since 1994 as the manager of the Fusion Safety Program at the INEEL. He is a registered professional engineer in Idaho, a member of the IANS, and has been active in fusion since 1978, concentrating mainly in areas of tritium and beryllium safety research.

Dr. Longhurst is presently a member of an International Atomic Energy Agency (IAEA) Coordinated Research Program on Plasma Material Interaction Data for Mixed Plasma-Facing Materials in Fusion Reactors. He also serves on an ad hoc committee for

the development of ANSI consensus standards for tritium monitoring. He was executive agent for the Fusion Safety Steering Committee, a team of 52 experts from the US Department of Energy (DOE) and other institutions which recently completed two DOE standards on the safety of magnetic fusion facilities, DOE-STD-6002-96 and DOE-STD-6003-96. He served on a special DOE Technical Evaluation Panel on the Use of Beryllium for ITER Plasma Facing Components and Breeder Materials. He also participated in the conceptual design of the Tritium Management System for the HYLIFE-II Inertial Fusion Reactor, a design study led by Dr. Ralph Moir of LLNL, involving experts from DOE laboratories and universities.

He served as Publication Chair for the 8<sup>th</sup> ANS Topical Meeting on the Technology of Fusion Energy, October 9-13, 1988, Salt Lake City, Utah. He was a member of the technical program committees for the 5<sup>th</sup> ANS Topical Meeting on Tritium Technology in Fission, Fusion, and Isotopic Applications, May 28 – June 3, 1995, Belgirate, Italy and for the ANS Topical Meetings on the Technology of Fusion Energy in Reno, NV, June 1996, and in Nashville, TN, June 1998. He served also as publications chair and proceedings editor for the IAEA Technical Committee Meeting on Developments in Fusion Safety, June, 1993, Toronto, Canada. He is a charter member of the international organizing committee for the IAEA International Workshops on Beryllium Technology for Fusion and was the general chair for the 2<sup>nd</sup> meeting in that series held September 6-8, 1995 at Jackson Lake Lodge, WY.

#### Vice General Chair - Prof. Satoru Tanaka

Prof. Satoru Tanaka is a professor at the Department of Quantum Engineering and Systems Science of the University of Tokyo. He received a PhD from the University of Tokyo in 1977. Since 1977 he has been working as a research associate, associate professor and currently as professor. He has been active in fusion engineering since 1977, mainly in areas of blanket engineering, tritium processing, plasma/wall interaction and safety. Now he is a lead person in blanket engineering and tritium processing/safety in Japan.

He is presently a member of ITER/EDA Technology Evaluation Committee in Japan. He has been a member of the ITER/EDA review committee in Japan, and the chairman of the safety subgroup. He also served as a member of ITER Test Blanket Working Group (TBWG).

He has been a member of the Atomic Energy Society of Japan for over 20 years. He acted as a member of the Journal Editing Committee and Planning Committee of the Society. He also served as the Chairman or a member of many Special Research Committees of the Society, including the Blanket Material and Safety Research

Committee. He is the author of over 50 peer-reviewed publications. Currently he is a vice chairman of the Fusion Engineering Division of the Atomic Energy Society of Japan.

Prof. Tanaka was the Symposium Secretary and the Chair of the Local Organizing Committee of the Fourth International Symposium of Fusion Nuclear Technology (ISFNT-4), which was held in Tokyo in April 1997. He also served as a member of the Technical Program Committee of the ISFNT series and many international conferences such as the International Conference on Fusion Reactor Materials and the Tritium Topical Meeting.

## 2. <u>Technical Program Chair</u>

We propose that Dr. David A. Petti of the Idaho National Engineering and Environmental Laboratory serve as Technical Program Chair for this meeting with Dr. Wayne Meier of Lawrence Livermore National Laboratory (LLNL) and Dr. Yasushi Seki of the Japan Atomic Energy Research Institute (JAERI) as Assistant Technical Program Chairs.

#### Technical Program Chair - <u>Dr.David Petti</u>

Dr. David A. Petti has been a member of the Fusion Safety Program at the INEEL since 1993. Prior to that time he worked on a number of nuclear materials and fission reactor safety programs at the laboratory. He is currently the Task Area Leader for Safety and Standards in the DOE-OFES Virtual Laboratory for Technology.

Dave was the technical leader responsible for safety activities in the US in the International Thermonuclear Experimental Reactor (ITER) Engineering Design Activities (EDA). He was also a lead author of the two recently completed DOE standards on the safety of magnetic fusion facilities, DOE-STD-600296 and DOE-STD-6003-96. He has served on the Fusion Energy Science Advisory Committee (FESAC) subcommittee tasked to review the fusion materials program and the ITER Special Review Group tasked to develop site requirements for ITER. He also served as a technical expert in fusion safety and environmental issues at the ITER Technical Advisory Committee (TAC) meetings during the ITER EDA.

Dave has been a member of the American Nuclear Society for over 13 years. He is the author of over 30 peer-reviewed publications and 20 national and international conference proceedings in the areas of fusion safety, nuclear materials behavior, and fission reactor safety.

Dr. Wayne Meier has been involved in various aspects of Inertial Fusion Energy (IFE) research for over 20 years. He is a member of the Inertial Confinement Fusion (ICF) Applications Group in the ICF Program at Lawrence Livermore National Laboratory. Dr. Meier was project manager at Schafer Corporation for the DOE sponsored studies that produced the Sombrero and Osiris power plant designs. His current interests are in systems modeling and analysis and R&D planning for both heavy ion and laser driven IFE. Dr. Meier has been a member of the ANS since 1976 and is a past member of the Fusion Energy Division executive committee. Dr. Meier received his Ph.D. in nuclear engineering from the University of California, Berkeley.

## Assistant Technical Program Chair - Dr. Yasushi Seki

Dr. Seki serves as Deputy Director, Department of Fusion Engineering Research, Naka Fusion Research Establishment, Japan Atomic Energy Research Institute, Nakamachi, Ibaraki-ken, Japan. He received a BS in Nuclear Engineering, 1967 and Dr. Eng. Nuclear Engineering, 1977, at the University of Tokyo, Japan. He was a Visiting Scientist in the Neutron Physics Division, Oak Ridge National Laboratory 1977-1978. He has worked in the areas of fast breeder reactor nuclear design, fusion reactor nuclear design and fusion safety analysis. Currently, he is in charge of fusion power reactor design and fusion safety related code development. He is a member of the Japan Atomic Energy Society and the Japan Society of Plasma Science and Nuclear Fusion Research. Dr. Seki has been an ANS member since 1978. He serves as a member of the FED Executive Committee (1997-2000), he has chaired several sessions on neutronics, power reactor studies, and environment and safety in topical meetings on fusion energy.

#### 3. Other Local Member Involvement

The IANS, established in 1956, is one of the largest and most active ANS sections. The IANS currently has about 900 members, including employees from two national laboratories, Idaho National Engineering and Environmental Laboratory (INEEL) and Argonne National Laboratory-West (ANL-W), from commercial enterprises, and several universities. Since 1978, the INEEL has been the US DOE Lead Laboratory for Fusion Safety.

NORCAL has about 580 members coming from many branches of the Bay Area nuclear community, including three national laboratories, Lawrence Livermore National Laboratory, Lawrence Berkeley National Laboratory, and Sandia National Laboratories as well as several universities. Members of the IANS and NORCAL are involved in a wide variety of fusion research programs involving the physics, design, and safety aspects of fusion experiments and commercial reactor designs.

Members of these two sections and the Fusion Engineering Division of the AESJ have agreed to serve on the organizing committee (listed below), and more will participate as committee members, authors, and session chairs.

**Honorary General Chair** Ken Fowler\* (UCB Retired)

General Chair Glen Longhurst\* (INEEL)

Vice General Chair Satoru Tanaka (Tokyo University)

**Technical Program Committee Chair** David Petti (INEEL)

Assistant Technical Program Committee Chair Wayne Meier\* (LLNL)

Yasushi Seki (JAERI)

Finance Steve Herring\* (INEEL)

**Registration & Publicity**Jon Carmack (INEEL)

John Commander\* (Consultant)

**Publication** Lee Cadwallader\* (INEEL)

Sandra Brereton\* (LLNL)

**Arrangements** Marie Warnick\* (INEEL)

Student Programs Jeff Latkowski (LLNL)

Foreign Liaison Kathryn McCarthy\* (INEEL)

Guest Program Darla Miller (INEEL)

(Note: \* indicates previous topical meeting organization experience)

## 4. Experience in Organizing and Conducting Topical Meetings

The IANS, NORCAL, and AESJ have sponsored many topical meetings (see IANS list below). All of the meetings have been both technically and financially successful. The most recent meeting hosted by the IANS for the FED was the successful 8<sup>th</sup> Topical Meeting on the Technology of Fusion Energy in 1988 in Salt Lake City.

Over the years, a cadre of meeting officials has been developed with the requisite experience to conduct and host topical meetings. As noted previously, an organizing committee has already been established, and its members are uniquely qualified for each position based on past experience in topical meetings, professional work, and/or local or national ANS involvement. For instance:

Steve Herring, nominated to be Finance Committee Chair, helped organize the 8<sup>th</sup> Topical Meeting on the Technology of Fusion Energy in 1988 in Salt Lake City and was IANS Secretary 1992-93, treasurer 1994-96, and section Vice-Chair/Chairman 1996-97. Steve also served as treasurer of the Global '99 and Safeguards '99 topical meetings.

Jon Carmack, nominated to co-chair registration and publicity has assembled and maintained the INEEL Fusion Safety Program home page and is expert in electronic format communications. He has also served as technical session co-chair of the Safety and Environment session at the 13<sup>th</sup> Topical Meeting on the Technology of Fusion Energy, June 1988, Knoxville, TN.

John Commander, also nominated to co-chair registration and publicity, was nominated to serve as General Chair and did serve as the Program Committee Chair for the IANS in 1994-95 and served as Section Chair in 1996-97. His experience spans more than 45 years in diversified fields of engineering and construction. John is a member of the American Society of Civil Engineers and the National Society of Professional Engineers. He has been an ANS and IANS member since 1986. He is a member of the Fusion Energy, Radiation Protection and Shielding and Robotics and Remote Systems Divisions of ANS.

Lee Cadwallader, nominated to serve as co-chair for publications, served as a member of the Technical Program Committee for the PSA 96 meeting held at Park City, Utah in the fall of 1996. He has done extensive research to gather and publish failure rate data for fusion systems. He is a principal in the IEA Committee on Fusion Safety. He has been an ANS member since 1977 and an IANS member since 1985.

Sandra Brereton, nominated to serve as co-chair for publications, has worked at the Lawrence Livermore National Laboratory for the past 7.5 years, in nuclear safety and safety analysis. For most of her career, she has explored the safety and environmental issues of nuclear fusion. Early on, the focus was in Magnetic Fusion; more recently, she has been working in Inertial Confinement Fusion. She is currently the project leader for preparation of the Final Safety Analysis Report for the National Ignition Facility, an inertial confinement fusion experiment currently under construction at LLNL. She has a Bachelors Degree in Chemical Engineering from the University of Toronto, and a Masters Degree and a Ph.D. in Nuclear Engineering from M.I.T.

Marie Warnick, nominated for Arrangements Chair, is an administrator in the Advanced Nuclear Energy Products Directorate in Lockheed Martin Idaho Technologies Company. She has extensive experience in activities of this type in numerous other meetings.

Jeff Latkowski, nominated to chair Student Programs, is an engineer in the Applied Research Engineering Division at Lawrence Livermore National Laboratory. He received his PhD in 1996 and is a member of the design team and the Environment, Safety, and Health (ES&H) Working Group for the National Ignition Facility for which he calculates prompt and residual doses to workers and the public. He also leads an effort in ES&H assessments for inertial fusion energy. His current research interests include the radiological safety of fusion systems, particle transport and activation calculations and methods.

Kathy McCarthy, nominated to serve as the Foreign Liaison, serves as Department Manager for the Nuclear Engineering Technologies Department at the INEEL. She is a member of the FED Executive Committee and has served on technical committees for the 3<sup>rd</sup> International Symposium on Fusion Nuclear Technology (ISFNT) in Los Angeles, CA in 1994, the 4<sup>th</sup> ISFNT in Tokyo in 1997, the 8<sup>th</sup> International Conference on Fusion Reactor Materials in Sendai, Japan in 1997, and the 13<sup>th</sup> Topical Meeting on the Technology of Fusion Energy at Nashville, TN in 1998. She received the Fusion Power Associates David Rose Award for Excellence in Fusion Engineering in 1994.

# National and Topical Meetings Sponsored by The Idaho Section of the American Nuclear Society

1963	ANS Annual Meeting	Salt Lake City, UT
1965	Reactor Operations	Jackson, WY
1969	Remote Systems Technology	Idaho Falls, ID
1971	Mathematics and Computation	Idaho Falls, ID
1972	Remote Systems Technology	Idaho Falls, ID
1973	Water Reactor Safety	Salt Lake City, UT
1973	Material Science	Jackson, WY
1976	Gaseous Effluents from Chemical Reprocessing	Sun Valley, ID
1977	Thermal Reactor Safety	Sun Valley, ID
1979	Decontamination and Decommissioning	Sun Valley, ID

1980	Advances in Reactor Physics and Shielding	Sun Valley, ID
1981	Safety Aspects of Reactor Fuels	Sun Valley, ID
1982	Irradiation Experiments for Fast, Thermal, and	Salt Lake City, UT
	Fusion Reactor Technologies	
1983	Advances in Reactor Computations	Salt Lake City, UT
1984	Source Term and Fission Product Research	Snowbird, UT
1984	Fuel Reprocessing and Waste Management	Jackson, WY
1985	Nuclear Criticality Safety	Jackson, WY
1986	Nuclear Power Plant Maintenance	Salt Lake City, UT
1987	Artificial Intelligence and Expert Systems in the	Snowbird, UT
	Nuclear Industry	
1988	Nuclear Power Plant Life Extension	Snowbird, UT
1988	Technology of Fusion Energy	Salt Lake City, UT
1988	Reactor Physics	Jackson, WY
1989	Reactor Safety Goals and Objectives (workshop)	Idaho Falls, ID
1990	Fast Reactor Safety	Snowbird, UT
1990	Safety, Status, and Future of Noncommercial	Boise, ID
	Reactors and Irradiation Facilities	
1990	Advances in Human Factors Research on Man-	Salt Lake City, UT
	Computer Interactions: Nuclear and Beyond	
1991	AI '91	Grand Teton N.P., WY
1992	Nuclear Technologies for Space Exploration	Jackson, WY
1992	Spectrum '92	Boise, ID
1992	NURETH-5	Salt Lake City, UT
1994	DOE Spent Nuclear Fuel – Challenges and Initiatives	Salt Lake City, UT
1995	Safeguards Operations Interface	Jackson, WY
1996	ANS Annual Meeting	Reno, NV
1996	PSA '96	Park City, UT

The Northern California Section has also sponsored many successful technical meetings as has the AESJ.

## 5. Allocation of Excess Revenue

We propose that the excess revenue from the meeting be distributed as follows: 50% to national ANS, 25% to the Fusion Energy Division, 12.5% to the IANS, 7.5% to the NORCAL, and 5% to the AESJ. These revenues are used to fund programs such as workshops on teaching nuclear topics (held every summer for teachers of math and science), scholarships for college students in the IANS and NORCAL regions, and endowments established by these sections at nearby universities with nuclear engineering programs.

#### 6. Hotel Costs and Facilities

The proposed meeting location is Park City, Utah. We are currently evaluating materials from several of Park Cities Hotels, but we have in the past had good success with the Olympia Park Hotel & Conference Center. Some of our selection criteria include: room rates within government per diem (currently \$92 from April to November), a ballroom that seats at least 250 people (for plenary sessions and luncheon), smaller meeting rooms for 4 parallel sessions, and a nearby overflow hotel (if necessary). Information on the Olympia Park Hotel & Conference Center appears in the Appendix. Indications are that we will be able to secure room rates consistent with established government per diem policies. The Olympia Park proposal lists hotel rooms for \$85 - \$99 during this season and no charge for the meeting room facilities if we register 150 guests or more. The room rate is down from about \$140 during high-volume periods.

#### 7. Location

Park City is the year-round home and training center for the U.S. Ski Team and also been selected as the venue for events at the 2002 Winter Olympics. It is also a popular destination in summer and fall. There is a free shuttle service within Park City, which will take visitors to 50 local restaurants, 15 bars, and wonderful shopping areas including a factory outlet mall. The city also boasts several theaters that are used for Robert Redford's Sundance Film Festival.

There are numerous outdoor activities in Park City including tennis and racquetball, hot air balloon rides, horseback riding, hiking, biking, water sports at nearby reservoirs, and golf. Both Park City and nearby Deer Valley have gondola and lift rides at the ski areas. Mountain bikes are popular on the ski slopes during fall and summer. Fishing and water sports are accessible on nearby creeks, rivers, and reservoirs. Additionally, there are two championship golf courses in town and three more within 20 minutes. At the proposed fall meeting time, the leaves in the Wasatch Mountains should be at their peak color, and the weather should be dry with high temperatures in the 70s.

Because of the scenic beauty and year-round activities, numerous celebrities including Johnny Carson, Neil Armstrong, and Steve Young have homes in the area.

Although Park City is a mountain resort community, it is located only 40 minutes away from the Salt Lake City (SLC) International Airport via an interstate highway. Transportation is available by private shuttle service or rental cars. The Salt Lake City area is known as the "Crossroads of the West". One-half of the nation's population is within a 2.5-hour flight of the SLC airport, which is served by nine major airlines and is a Delta hub. It offers over 280 incoming flights daily and is easily accessible from U.S. and international cities. More than 60 U.S. and Canadian cities enjoy non-stop service to the SLC International Airport. Shuttle service is available (\$22) from the airport baggage claim area directly to the hotels in Park City.

Because SLC/Park City is a regional metropolitan center, it features all the amenities of a big city, including a wide variety of restaurants, bars, and nightclubs. Additionally, the scenic Wasatch Mountains provide ample opportunities for outdoor entertainment. Additional area attractions include:

- · Great Salt Lake
- Snowbird summer/winter resort (aerial tram to 11,000 feet)
- Over 40 golf courses
- Hogle Zoo
- Salt Lake Arts Center
- Utah Symphony
- Ballet West
- Pioneer Memorial Museum
- Genealogical Library
- Historic Mormon Temple and Mormon Tabernacle Choir
- Hansen Planetarium
- Natural History Museum
- Lagoon Amusement Park and Pioneer Village
- Promontory Summit and Golden Spike National Historic Site
- Children's Museum of Utah

- Heber Creeper Steam Engine Train
- Sundance Resort and Robert Redford's Film Institute
- Timpanogos Cave
- Bingham Canyon Open-Pit Copper Mine

Numerous national parks, including Yellowstone, Grand Teton, Arches, and Canyonlands, are within a few hours of Park City by car. Gambling and casino shows are only 2 hours away in Wendover, Nevada. Any of these facilities can be visited individually by meeting attendees or included as part of guest tours. Additional information on Park City is in the Appendix.

#### 8. <u>Diversity of Program Committee</u>

The program committee will be drawn from the various laboratories and universities of the fusion community, both international and in the U.S. Through our participation in previous topical meetings on the Technology of Fusion Energy, the IANS and the NORCAL have established a wide range of contacts for soliciting papers, reviewing papers, and organizing sessions. The AESJ will also contribute to the general organizing committee and will provide session chairs and other officials.

## 9. State of Planning

Meeting plans have progressed as far as is appropriate for the proposal stage. The key meeting officials listed previously have committed to the meeting if this proposal is selected.

If the meeting is awarded to the IANS-NORCAL-AESJ team, the immediate plans are to complete the appointment of the meeting officials, complete the selection of the Technical Program Committee, and initiate an intensive exchange with our international colleagues to obtain their support and collaboration. All steps necessary to follow the proposed schedule for the meeting will be undertaken. The main work of organizing will center with the IANS in Idaho, but by electronic media all members of the organizing committee will be kept informed and will provide input to the organizing process.

We propose to divide the meeting into approximately the following topical areas:

**Current and Planned Magnetic Fusion Experiments** 

**Divertor Design and Experiments** 

Fuel Cycle and Tritium Technology

Fusion Blanket and Shield Technology

**Fusion Magnet Systems** 

**Fusion Materials** 

**Fusion Plenary** 

Fusion Power Plants and Economics

**Inertial Fusion Drivers and Targets** 

Innovative Approaches to Fusion Energy

International projects

National Ignition Facility (NIF)

Neutron Sources for Fusion Technology Testing

Neutronic Experiments and Analyses

Non-electric Applications of Fusion

Plasma Facing Components: Analysis and Technology

Plasma Heating, Current Drive, and Control

Power Plant Design and Technology

Recent Results from Inertial and Magnetic Confinement Experiments

Safety and Environmental Research

Status of Fusion Nuclear Data

Steady-State and Long-Pulse Machine Studies

## 10. Proposed Budget

A proposed operating budget, based on past section experience in hosting topical meetings is in process. Some of the preliminary estimates follow:

# **Budget Estimate of 2000 Fusion Topical**

	Assumed Registration		200	
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Administrative	Local Committee			\$ 1,000
	Tickets and badges	\$	2.00	\$ 400
	Registration forms & packets	\$	3.00	\$ 600
	Mailing labels			\$ 200
	Postage			\$ 1.250

	Stationery Call for papers & preliminary program Book of Abstracts Proceedings Nuclear News announcements Registration Personnel	\$ \$	8.00 90.00	\$ \$ \$ \$	500 2,000 1,600 18,000 3,200
	Projectionisists			\$	1,000
	AV equipment			\$	1,000
	Computer rental			\$	200
	E-mail access during meeting			<b>\$</b>	200
	Web site connection charges Signs			Ф Ф	250 500
	Copy machine			\$ \$ \$	300
	Telephone			\$	200
	Meeting space rental			Ψ	-
	Charges for credit card acceptance			\$	1,500
	Meeting insurance			\$	500
Events	Coffee breaks (2 w/pastries, 3 w/o)	\$	11.00	\$	2,200
	Speakers breakfasts		8.00	\$	1,600
	Luncheon	\$ \$ \$	16.00	\$	3,200
	Banquet	\$	36.00	\$	7,200
	subtotal			\$	48,600
Contingency				\$	7,290
Total Expense				\$	55,890
Revenues	Expected registration fees Excess Revenues	\$	400	\$ \$	80,000
	Amount to ANS	\$	12,055	Φ	24,110
	Amount to FED	\$	6,028		
	Amount to IANS	Ψ	3,014		
	Amount to NCANS		1,808		
	Amount to AESJ	\$	1,206		
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## 11. <u>Technical Tours</u>

Post-meeting tours at the INEEL and ANL-W can be arranged. They are not planned as part of the meeting because of the distance involved.

Non-nuclear technical tours in the Salt Lake City area could include Hercules Aerospace Incorporated, Thiokol Corporation (rocket motor production), Morton International (air bag production), University of Utah's Center for Engineering Design and artificial heart research center, the Advanced Combustion Engineering Research Center at Brigham Young University and the University of Utah, the Delta Airlines Maintenance Center, and the Kennecott Copper Mine (the world's largest open pit copper mine).

# 12. Guest Program

A guest program will be provided for persons accompanying meeting participants. Possible activities include day hikes, tours of shopping areas, a historical tour of Salt Lake City, a visit to the University of Utah artificial heart research laboratory, and a visit to Hogle Zoo.

# **APPENDIX**

# **HOTEL ACCOMMODATIONS**

# **AND**

# **DESCRIPTION OF PARK CITY**

# **FED Slate of Candidate**

Vice Chair:

Kathryn A. McCarthy Idaho National Engineering and Environmental Laboratory

L. John Perkins Lawrence Livermore National Laboratory

Secretary/Treasurer:

Šandra Brereton Lawrence Livermore National Laboratory

**Executive Committee Candidates:** 

James P. Blanchard University of Wisconsin, Madison

Lee Cadwallader Idaho National Engineering and Environmental Laboratory

Rick Kurtz Pacific Northwest National Laboratory

Jeff Latkowski Lawrence Livermore National Laboratory

Craig Olson Sandia National Laboratories, New Mexico

Scott Willms Los Alamos National Laboratory