

790201004

FINAL AGENDA

SIXTH WATER REACTOR SAFETY RESEARCH
INFORMATION MEETING

at the

NATIONAL BUREAU OF STANDARDS
ADMINISTRATION BUILDING 101
GAITHERSBURG, MARYLAND

NOVEMBER 6 - 9, 1978

Registration

Registration desks will be located in the hallway between the Red and Green Auditoriums.

Registration will begin before the meetings and extend into the morning coffee break.

A registration fee of \$5.00 for each day of attendance will be charged each meeting participant to defray expenses.

Cafeteria tickets will be issued at the time of registration.

Entry to the cafeteria for the special prepaid luncheons will be through the use of cafeteria tickets only.

790201004 |

FINAL
AGENDA

SIXTH WATER REACTOR SAFETY RESEARCH
INFORMATION MEETING

NOVEMBER 6, 1978

RED AUDITORIUM -- ALL PARTICIPANTS

9:15 am - Introductory Remarks	J. M. Hendrie T. E. Murley G. L. Bennett, NRC
9:20 am - Highlights of Achievements in FY-78	L. S. Tong, NRC

ANALYSIS DEVELOPMENT PROGRAM

MORNING SESSION -- RED AUDITORIUM

9:35 am - Overview of Status and Plans	S. Fabric, NRC
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RELAP Code Development

Chairman: W. C. Lyon, NRC

9:50 am - RELAP 4/MOD6 Assessment Results	T. D. Knight, EG&G
10:10 am - Coffee Break	
10:30 am - Reference Code Development	L. H. Sullivan, EG&G
11:15 am - RELAP-5 Models, Code Structure, and Applications	V. H. Ransom, EG&G
12:15 pm - BWR LOCA Analysis Capability of the WRAP-EM System	M. R. Buckner, SRL
1:00 pm - Lunch	

AFTERNOON SESSION -- RED AUDITORIUM

TRAC Code Development

Chairman: L. M. Shotkin, NRC

2:00 pm - LWR Safety Research at LASL	J. F. Jackson, LASL
2:15 pm - TRAC Code Overview and Status	R. J. Pryor, LASL

NOVEMBER 6, 1978

ANALYSIS DEVELOPMENT PROGRAM

AFTERNOON SESSION -- RED AUDITORIUM

TRAC Code Development

2:35 pm - Fluid Mechanics and Heat Transfer Methods for the TRAC Code	D. R. Liles, LASL
3:10 pm - Coffee Break	
3:25 pm - TRAC Code Assessment	K. A. Williams, LASL
4:10 pm - TRAC Applications: Calculations of LOCAS in PWRs and Analysis Support of the Multinational Reflood Program	P. Bleiweis, LASL
4:55 pm - Statistical Analysis of TRAC Calculations	M. D. McKay, LASL
5:15 pm - Adjourn	

NOVEMBER 7, 1978

ANALYSIS DEVELOPMENT PROGRAM

MORNING SESSION - RED AUDITORIUM

THOR Code Development

Chairman: N. Zuber, NRC

9:15 am - THOR Program Overview	W. Wulff, BNL
9:30 am - Component Model Development	P. Saha, BNL
10:15 am - Coffee Break	
10:30 am - System Development	S. Lekach, BNL

NOVEMBER 7, 1978

PAVIA VSIS DEVELOPMENT PROGRAM

MORNING SESSION - RED AUDITORIUM

Component Codes

Chairman: S. Fabric, NRC

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| 11:15 am - Invited Paper - Status of Code Development
in the FRG Concerning Fluid-Structural
Dynamic Coupling During Reactor
Transients | E. G. Schlechtendahl,
KfK, W. Germany |
| 12:00 pm - Nonequilibrium Phenomena and Structural
Interactions in LWR Blowdown Studies | W. C. Rivard, LASL |
| 12:30 pm - Numerical Studies of Water-Steam
Interactions in a PWR Downcomer
and Lower Plenum | B. J. Daly, LASL |
| 1:00 pm - Lunch | |

AFTERNOON SESSION - RED AUDITORIUM

Component Codes

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| 2:00 pm - De-entrainment Phenomena from Droplet
Cross Flow in Vertical Rod Bundles | W. L. Kirchner, LASL |
| 2:35 pm - COBRA-TF Development | M. J. Thurgood, PNL |
| 3:10 pm - Coffee Break | |
| 3:30 pm - COBRA-TF Development (Cont'd) | J. M. Kelly, PNL |

Containment Code Development

Chairman: S. Fabric, NRC

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| 3:55 pm - Studies of Dynamic Loads in Pressure
Suppression Containment | C. K. Chan, UCLA |
| 4:15 pm - Modeling of Containment System Flows | A. A. Sonin, MIT |

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ANALYSIS DEVELOPMENT PROGRAM

AFTERNOON SESSION - RED AUDITORIUM

Containment Code Development

4:35 pm - BEACON - Advanced Containment Analysis Code with Heat Transfer Capability	R. A. Wells, EG&G
5:00 pm - Calculation Method for Fluid-Structure Interactions	W. H. McMaster, LLL
5:30 pm - Adjourn	

NOVEMBER 6, 1978

FUEL BEHAVIOR RESEARCH PROGRAM

RED AUDITORIUM - ALL PARTICIPANTS

9:15 am - Introductory Remarks	J. M. Hendrie T. E. Murley G. L. Bennett, NRC L. S. Tong, NRC
9:20 am - Highlights of Achievements in FY-78	

MORNING SESSION -- GREEN AUDITORIUM

Chairman: W. V. Johnston, NRC

9:35 am - Summary of Fuel Behavior Research Results	W. V. Johnston, NRC
9:45 am - Invited Paper - Research and Development Program on the Behavior of CANDU Fuel Under Transient Conditions	A. W. L. Segel, AECL
10:15 am - Coffee Break	
10:30 am - Stored Energy Calculation: The State of the Art	C. R. Hann, PNL

NOVEMBER 6, 1978

FUEL BEHAVIOR RESEARCH PROGRAM

MORNING SESSION - GREEN AUDITORIUM

Symposium on Embrittlement of Zircaloy by Oxidation

Chairman: M. L. Picklesimer, NRC

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| 11:00 am - Invited Paper - Zircaloy Cladding
Embrittlement in a Loss-of-Coolant
Accident | P. D. Parsons, UKAEA |
| 11:30 am - Invited Paper - Inner Surface Oxidation
of Zircaloy Cladding in a Loss-of-
Coolant Accident | S. Kawasaki, JAERI |
| 12:00 pm - Zircaloy Cladding Embrittlement,
Recommended Criteria | T. F. Kassner, ANL |
| 12:30 pm - Invited Paper: Oxygen Embrittlement
of Zircaloy-4 Fuel Cladding | A. Sawatzky, AECL |
| 1:00 pm - Lunch | |

AFTERNOON SESSION -- GREEN AUDITORIUM

WORKSHOP - Multirod Burst Tests

2:00 pm - 5:00 pm/3:15 pm - Coffee Break

Chairman: M. L. Picklesimer, NRC

Speakers: R. H. Chapman, ORNL
Invited Speakers from England,
Germany and Japan

NOVEMBER 7, 1978

FUEL BEHAVIOR RESEARCH PROGRAM

MORNING SESSION -- GREEN AUDITORIUM

Chairman: R. Van Houten, NRC

- 9:15 am - Invited Paper - Results of the FR-2 Nuclear Tests on the Behavior of Fuel Rods E. H. Karb, FRG
- 9:45 am - Invited Paper - Critical Heat Flux Experiments in the Winfrith SGHWR* W. Redpath, UKAEA
- 10:15 am - Coffee Break
- 10:30 am - Independent FRAP-T4 Assessment D. R. Coleman, EG&G
- 11:00 am - Automated Uncertainty Analysis for the FRAP Codes M. P. Bohn, EG&G
- 11:30 am - Results of Thermal Fuels Behavior Program Research During FY-1978* H. J. Zeile, EG&G
- 12:00 pm - Fission Product Source Terms for the LWR Loss-of-Coolant Accident A. P. Malinauskas, ORNL
- 12:30 pm - Mechanical Properties of Spent Fuel Cladding
- 1:00 pm - Lunch

AFTERNOON SESSION -- CONFERENCE ROOM A

WORKSHOP - Recent Results in Vapor Explosion Research

2:00 pm - 5:00 pm/3:15 pm - Coffee Break

Chairman: W. V. Johnston, NRC

Speakers: L. S. Nelson, SANDIA
R. E. Henry, ANL
Invited Speaker, ISPRA

* Asterisked papers contain information applicable to thermal hydraulic model development.

NOVEMBER 7, 1978

REACTOR OPERATIONAL SAFETY PROGRAM

AFTERNOON SESSION -- GREEN AUDITORIUM

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|---|----------------------|
| 2:00 pm - Introduction | G. L. Bennett, NRC |
| Chairman: G. L. Bennett, NRC | |
| 2:15 pm - Status of the Qualification Testing
Evaluation (QTE) Program | L. L. Bonzon, SANDIA |
| 2:45 pm - Evaluation of Coated Cable Tray Fire
Tests and System Tests of Vertical
Cable Trays with Barriers and Fire
Suppression | L. Klamerus, SANDIA |
| 3:15 pm - Coffee Break | |
| 3:30 pm - Applications of Noise Analysis to
Safety Related Diagnostics and
Assessments | R. S. Booth, ORNL |
| 4:00 pm - A Preview of the Handbook on Human
Reliability Analysis of Nuclear
Power Plant Operation | A. Swain, SANDIA |
| 4:30 pm - Development and Verification of Fire Tests
for Cable Systems and System Components | W. J. Christian, UL |
| 5:00 pm - Models of Horizontal Cables and
Cable Trays Exposed to a Fire Plume | L. W. Hunter, APL |
| 5:30 pm - Adjourn | |

NOVEMBER 8, 1978

EXPERIMENTS AND STUDIES OF LOSS-OF-COOLANT ACCIDENTS

MORNING SESSION -- RED AUDITORIUM

Chairman: E. H. Davidson, NRC

9:15 am - Systems Engineering Research Programs E. H. Davidson, NRC

Blowdown and Reflood Heat Transfer Program

9:30 am - Blowdown and Reflood Program Status E. H. Davidson, NRC

9:45 am - Summary of Results from PWR BDHT
Separate Effects Program J. D. White, ORNL

10:15 am - Coffee Break

10:30 am - NRC/W/EPRI PWR FLECHT-SEASET Initial
Program Results L. Hochreiter, W

11:10 am - NRC/EPRI/GE Blowdown/ECC Program G. L. Sozzi, GE

Pump Program

Chairman: W. D. Beckner, NRC

11:50 am - Two Phase Pump Programs - Introduction W. D. Beckner, NRC

12:00 pm - EPRI/Creare 1/20 Scale Two Phase Pump
Performance Results P. W. Rynnstadler,
Creare

12:30 pm - EPRI/CE 1/5 Scale Two Phase Pump
Performance Results K. Nilsson, EPRI

1:00 pm - Lunch

AFTERNOON SESSION -- RED AUDITORIUM

Thermalhydraulic Model Development*

Chairman: Y. Y. Hsu, NRC

2:00 pm - Transient Critical Heat Flux R. E. Henry, ANL

2:20 pm - Post-CHF Heat Transfer Studies at Low
Pressure D. C. Groeneveld, AECL

2:45 pm - Return to Nucleate Boiling D. G. Thomas, ORNL

3:00 pm - Steam-Water Mixing Studies S. G. Bankoff, NWU

3:15 pm - Coffee Break

* See footnote, page 6 of this agenda

NOVEMBER 8, 1978

EXPERIMENTS AND STUDIES OF LOSS-OF-COOLANT ACCIDENTS

AFTERNOON SESSION -- RED AUDITORIUM

Thermalhydraulic Model Development

- | | |
|---|-------------------|
| 3:30 pm - Heat Transfer with Controlled Oscillatory Flow | P. A. Lottes, ANL |
| 3:45 pm - Phase Separation and Distribution Research
at RPI | R. T. Lahey, RPI |
| 4:00 pm - Thermalhydraulic Behavior in PWR Reflood | P. Griffith, MIT |
| 4:15 pm - Drift Flux Model | M. Ishii, ANL |
| 4:30 pm - Invited Paper - Preliminary Investigation
of Two-Phase Flow Behavior Related to
the Upper Plenum of a PWR | J. A. Ward, UKAEA |

Data Bank

Cc-Chairmen: U. Y. Hsu, W. D. Beckner, NRC

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| 5:00 pm - Introduction | W. D. Beckner, NRC |
| 5:15 pm - NRC/RSR Data Bank Program | G. L. Schulz, EG&G |
| 5:25 pm - Heat Transfer Data Base | K. G. Condie, EG&G |
| 5:35 pm - Data Bank/Pump Data Base | J. Betlack, MPR |
| 5:45 pm - NRC Reactor Safety Research Data
Repository Established at ORNL | B. Maskewitz, ORNL |
| 6:00 pm - Adjourn | |

AFTERNOON SESSION -- CONFERENCE ROOM A

ECC Bypass/Refill Research

Chairman: A. W. Serkiz, NRC

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| 2:00 pm - Overview - ECC Bypass and Refill Research | A. W. Serkiz, NRC |
| 2:10 pm - Downcomer Flow Topology and Recent
Research Results | J. A. Block,
P. H. Rothe, Creare |
| 2:45 pm - Air/Water Annuli Flooding Experiments | H. J. Richter,
Dartmouth College |
| 3:00 pm - Scaling of ECC Penetration | R. Collier, BCL |
| 3:15 pm - Coffee Break | |

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EXPERIMENTS AND STUDIES OF LOSS-OF-COOLANT ACCIDENTS

AFTERNOON SESSION -- CONFERENCE ROOM A

WORKSHOP - ECC Bypass Research

3:30 pm - 4:45 pm

Chairman: W. D. Beckner, NRC

NOVEMBER 9, 1978

MORNING SESSION -- RED AUDITORIUM

Semiscale Program

Chairman: W. D. Lanning, NRC

9:15 am - Semiscale Program and Test Results	W. D. Lanning, NRC
9:30 am - Description of Semiscale MOD-3A	D. J. Olson, EG&G
9:50 am - Current Semiscale MOD-3 Results	J. M. Cozzuol, EG&G
10:10 am - Coffee Break	
10:30 am - Preliminary Results from Semiscale Test Series 7	T. K. Larson, EG&G

LOFT Program

Chairman: G. D. McPherson, NRC

11:30 am - Overview of Non-Nuclear Results and Nuclear Test Plans	G. D. McPherson, NRC
11:45 am - A Summary of Results of the LOFT Non-Nuclear Series and Their Relevance to the Licensing Process (L1-TIL)	S. A. Naff, EG&G
12:30 pm - LOFT Operational Testing at Power	N. C. Kaufman, EG&G
1:00 pm - Lunch	

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EXPERIMENTS AND STUDIES OF LOSS-OF-COOLANT ACCIDENTS

MORNING SESSION -- CONFERENCE ROOM A

WORKSHOP - Instrumentation Development

Co-Chairmen: Y. Y. Hsu, N. N. Kondic, NRC

- 9:15 am - Advanced Instrumentation Development at ORNL B. G. Eads, ORNL
9:45 am - Two-Phase Flow Measurements by Pulse Neutron Activation Technique P. Kehler, ANL
10:15 am - Coffee Break
10:30 am - Two-Phase Flow Instrumentation Research at RPI R. T. Lahey, RPI
11:00 am - A Study of Droplet Hydrodynamics Important in Disperse Flow Regime of LOCA Reflood by Laser Doppler Anemometry R. S. L. Lee, SUNY
11:20 am - Development of Instrumentation for the Measurement of Thicknesses and Velocities of Thin Water Films J. C. Chen, Lehigh U.
11:40 am - Stereo Video Lens System for JAERI and PKL Tests H. Helmick, LASL
12:00 pm - Instrument Development J. V. Anderson, R. D. Wesley, EG&G
1:00 pm - Lunch

AFTERNOON SESSION -- RED AUDITORIUM

Instrumentation Application

Co-Chairmen: Y. Y. Hsu, N. N. Kondic, NRC

- 2:00 pm - LOFT Instrumentation and Data Acquisition L. P. Leach, EG&G
2:45 pm - LOFT Mass Flow Measurement Qualification G. D. Lassahn, EG&G
3:15 pm - Coffee Break
3:30 pm - Semiscale MOD-3 Instrumentation S. K. Merrill, EG&G
4:00 pm - LOFT Advanced Fuel Rod Instrumentation J. L. Stringer, WHC
4:15 pm - Two-Phase Flow Standards Y. Y. Hsu, NRC
4:35 pm - Two-Phase Calibration and Modeling C. W. Solbrig, EG&G
5:00 pm - Discussion
5:30 pm - Adjourn

NOVEMBER 9, 1978

EXPERIMENTS AND STUDIES OF LOSS-OF-COOLANT ACCIDENTS

AFTERNOON SESSION -- CONFERENCE ROOM A

WORKSHOP - ORNL PWR Separate Effects Program

Chairman: W. G. Craddick, ORNL

2:00 pm - Introduction	W. G. Craddick, ORNL
2:10 pm - Overview of Analysis Structure	S. B. Cliff, ORNL
2:30 pm - Electric Core Simulation	L. J. Ott, ORNL
3:20 pm - Coffee Break	
3:35 pm - Validation and Sensitivity of ORINC	R. E. Textor, UCC
3:55 pm - Thermal Hydraulic Analysis	W. G. Craddick, ORNL
4:30 pm - Nuclear Fuel Pin Simulation	R. C. Hagar, ORNL
5:20 pm - Two-Phase Flow Measurements	S. B. Cliff, ORNL
5:45 pm - Adjourn	

NOVEMBER 8, 1978

METALLURGY AND MATERIALS RESEARCH

MORNING SESSION -- GREEN AUDITORIUM

9:15 am - Safety Research in Primary System Integrity C. Z. Serpan, Jr., NRC

VESSEL AND PIPING FRACTURE MECHANICS

Fracture Toughness Beyond LEFM

Chairman: C. Z. Serpan, Jr., NRC

9:30 am - Tearing Instability as a Criterion for Toughness Beyond LEFM P. C. Paris, Wash. U.

10:15 am - Coffee Break

10:30 am - Investigation of Specimen Geometry Modifications on J_{IC} and the J_I -R Curve Tearing Modules of A533-B Steel J. P. Gudas, USNRDC

11:15 am - J-R Curve Testing Method for Low Ductile Shelf Weld Metal Toughness J. D. Landes, W

Crack Arrest Test Technology

11:45 am - Crack Arrest Toughness Data Base for K_{IR} Curve G. T. Hahn, BCL

12:30 pm - A Cooperative Program for Evaluating Crack-Arrest Testing Methods R. G. Hoagland, BCL

1:00 pm - Lunch

AFTERNOON SESSION - GREEN AUDITORIUM

Piping System Integrity

2:00 pm - Study of Criteria for Cold Leg Integrity Evaluation R. J. Eiber, BCL

NOVEMBER 8, 1978

METALLURGY AND MATERIALS RESEARCH

AFTERNOON SESSION - GREEN AUDITORIUM

Pressure Vessel Integrity

2:30 pm - The Structural Integrity of Weld-
Repaired Pressure Vessels

G. D. Whitman, ORNL

3:15 pm - Coffee Break

Irradiation Effects

Chairman: C. Z. Serpan, Jr., NRC

3:30 pm - Annealing and Re-irradiation
Characterization of Reactor
Pressure Vessel Steels

J. R. Hawthorne, NRL

4:10 pm - Impact of Cooperative Research
Program on Neutron Spectrum
Measurements and Calculations on
RPV Damage Correlation

W. N. McElroy, HEDL

4:45 pm - Discussion

5:00 pm - Adjourn

NOVEMBER 9, 1978

METALLURGY & MATERIALS RESEARCH

MORNING SESSION -- GREEN AUDITORIUM

STEAM GENERATOR TUBE INTEGRITY AND CORROSION

Chairman: J. Muscara, NRC

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|---|------------------------------------|
| 9:15 am - Miniaturized Electrochemical Cells for
Field Detection of Sensitization in
Stainless Steel for Evaluation of
Susceptibility to IGSCC of BWR Piping | W. L. Clarke,
D. C. Carlson, GE |
| 9:45 am - Steam Generator Tube Burst and Collapse
Predictions | M. Vagins, PNL |
| 10:15 am - Coffee Break | |
| 10:30 am - Stress Corrosion Cracking of Inconel 600
in Deaerated Water | D. Van Rooyen, BNL |

NON-DESTRUCTIVE EXAMINATION

Chairman: J. Muscara, NRC

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| 11:00 am - Acoustic Emission Flaw Signatures and
Sizing During In-Process Welding | D. Prine, GARD |
| 11:30 am - Acoustic Emission-Material Property
Relationships for Continuous
Monitoring of Reactors | P. Hutton, PNL |
| 12:00 pm - Discussion | |
| 1:00 pm - Lunch | |

AFTERNOON SESSION -- GREEN AUDITORIUM

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|---|---------------------------------|
| 2:00 pm - Improved 3-D Imaging and Display of
Flaws from Synthetic Aperture
Ultrasonic Imaging | C. Vanden Broek,
U. Michigan |
| 2:30 pm - Evaluation of Results from a Field
Usable Examination System for ISI
Using SAFT-UT Techniques | J. L. Jackson, SwRI |
| 3:00 pm - Workshop on SAFT-UT | J. L. Jackson, SwRI |
| 5:00 pm - Adjourn | |

MORNING
SESSIONS
9:15 am -
1:00 pm

AFTERNOON
SESSIONS
2:00 pm -
6:00 pm

November 6, 1978	November 7, 1978	November 8, 1978	November 9, 1978
RED AUDITORIUM	RED AUDITORIUM	RED AUDITORIUM	RED AUDITORIUM
ANALYSIS DEVELOPMENT	ANALYSIS DEVELOPMENT	LOCA STUDIES	LOCA STUDIES
<p>Introductions Overview Status and Plans RELAP-4/MOD-6 Assessment Reference Code Development RELAP-5 Models, Structure, and Applications BWR LOCA Analysis Capability of the WRAP-EM System</p>	<p>THOR Program Overview Component Model Development System Development Code Development in FRG Concerning Fluid-Structural Dynamic Coupling Nonequilibrium Phenomena, Structural Interactions in LWR Blowdown Studies Numerical Studies Water- Steam Interactions in PWR Downcomer, Lower Plenum</p>	<p>Systems Engineering Research Blowdown and Reflood Program PWR BDHT Separate Effects NRC/W/EPRI PWR FLECHT-SEASET NRC/EPRI/GE Blowdown ECC Program Two Phase Pump Programs EPRI/Creare 1/20 Scale Two Phase Pump Performance EPRI/CE 1/5 Scale Two Phase Pump Performance</p>	<p>Semiscale Program, Results Semiscale MOD-3A Lower Plenum Injection Tests Preliminary Results, Semiscale Test Series 7 Small Break Analysis, Features Overview LOFT Non-Nuclear Tests and Nuclear Test Plans Results LOFT Non-Nuclear Series and Relevance to Licensing LOFT Operational Testing</p>
			WORKSHOP -- CONFERENCE ROOM A
			Instrumentation Development
RED AUDITORIUM	RED AUDITORIUM	RED AUDITORIUM	RED AUDITORIUM
<p>LWR Safety Research at LASL TRAC Code Overview, Status Fluid Mechanics, Heat Trans- fer Methods, TRAC Code TRAC Code Assessment TRAC Applications: LOCA Calculations in PWRs, Ana- lysis Support Multination- al Reflood Program Statistical Analysis of TRAC Calculations</p>	<p>De-entrainment Phenomena from Droplet Cross Flow COBRA-TF Development Dynamic Loads in Pressure Suppression Containment Modeling of Containment System Flows BEACON-Advanced Containment Analysis Code with HT Calculation Method for Fluid- Structure Interactions</p>	<p>Session - Thermalhydraulic Model Development Session - Data Bank</p>	<p>LOFT Instrumentation Semiscale Instrumentation Two Phase Flow Standards Two Phase Calibration and Modeling</p>
		WORKSHOP -- CONFERENCE ROOM A	
		ECC Bypass/Refill Research	WORKSHOP -- CONFERENCE ROOM A
			ORNL PWR Separate Effects Program

MORNING
SESSIONS
9:15 am -
1:00 pm

November 6, 1978	November 7, 1978	November 8, 1978	November 9, 1978
GREEN AUDITORIUM	GREEN AUDITORIUM	GREEN AUDITORIUM	GREEN AUDITORIUM
FUEL BEHAVIOR	FUEL BEHAVIOR	METALLURGY & MATERIALS	METALLURGY & MATERIALS
Summary Fuel Behavior Research Results Behavior CANDU Fuel Under Transient Conditions Stored Energy Calculation, State of the Art Symposium, Embrittlement of Zircaloy by Oxidation	FR-2 Nuclear Tests on the Behavior of Fuel Rods CHF Experiments, Winfrith SGHWR Independent FRAP-T4 Assessment Automated Uncertainty Analysis, FRAP Codes Thermal Fuels Behavior Research Results, FY-78 F-P Source Terms for LOCA Mechanical Properties, Spent Fuel Cladding	Introduction Tearing Instability, Criterion for Toughness Beyond LEFM Investigation Specimen Geometry, JIC and J _I -R Curve J-R Curve Testing Method, Low Ductile Shelf Weld Toughness Crack Arrest Toughness Data Base, K _{IR} Curve Cooperative Program, Evaluating Crack-Arrest Testing Methods	Miniaturized Electrochemical Cells, Field Detection of Sensitization in Stainless Steel, IGSCC Steam Generator Tube Burst and Collapse Predictions Stress Corrosion Cracking, Inconel Acoustic Emission Flaw Signatures and Sizing, In-Process Welding Acoustic Emission-Material Property Relationships for Continuous Monitoring of Reactors

AFTERNOON
SESSIONS
2:00 pm -
6:00 pm

GREEN AUDITORIUM	CONFERENCE ROOM A	GREEN AUDITORIUM	GREEN AUDITORIUM
Workshop - Multirod Burst Tests	Workshop - Recent Results, Vapor Explosion Research	Study of Criteria, Cold Leg Integrity Evaluation Structural Integrity Weld-Repaired Pressure Vessels Annealing, Re-irradiation Characterization RPV Steels Impact Cooperative Research Program on Neutron Spectrum Measurements, RPV Damage Correlation	Improved 3-D Imaging, Display of Flaws, Synthetic Aperture Imaging, Ultrasonic Field Usable Examination System, ISI Using SAFT-UT Techniques Workshop on SAFT-UT
	GREEN AUDITORIUM		
	REACTOR OPERATIONAL SAFETY		
	Introduction Status, Qualification Testing Evaluation Fire Tests, Coated Cables, Vertical Cable Trays Application of Noise Analysis, Safety Diagnost Handbook on Human Reliability Analysis IEEE-383 Cable Flame Test Models Horizontal Cables, Cable Trays, Exposed to Fire Plume		