Description of the Texas Radiation Advisory Board
Its Purpose, Mission and Committee Structure

The Texas Legislature created the Texas Radiation Advisory Board (TRAB or Board) in 1961. The Governor appoints the Board's members, who serve for 6 years and may serve 2 consecutive terms. The TRAB members are the state's advisors on all radiation issues. The Board holds quarterly meetings to review the rules, guidelines and programs of the agencies that regulate radiation. Board members participate in hearings by providing expert testimony. The TRAB makes recommendations about various issues and provides those to the agencies, the Legislature and the Governor. Board members also visit facilities in Texas to review pertinent radiation issues.

The Texas Health and Safety Code, Chapter 401, describes the Board's purpose and mission:

The Advisory Board shall:

(a) review and evaluate state radiation policies and programs;

(b) make recommendations and furnish technical advice that may be required on matters relating to development, use, and regulation to the department (the Texas Department of State Health Services), the Texas Commission on Environmental Quality (formerly the Texas Natural Resource Conservation Commission), the Railroad Commission of Texas, and other state agencies; and

(c) review proposed rules and guidelines of the department, the Texas Natural Resource Conservation Commission, the Railroad Commission of Texas, and other state agencies relating to regulation of sources of radiation and recommend changes in proposed or existing rules and guidelines relating to uses of radiation.
Introduction to the Board’s Required Positions

The statutes give the membership requirements for the Board’s 18 members, which are based on categories that each member is to represent. The categories of the Board’s membership are:

- one representative from industry who is trained in nuclear physics, science or nuclear engineering
- one representative from labor
- one representative from agriculture
- one representative from the insurance industry
- one individual who is engaged in the use and application of nuclear physics in medicine
- one hospital administrator
- one individual licensed by the Texas State Board of Medical Examiners who specializes in nuclear medicine
- one individual licensed by the Texas State Board of Medical Examiners who specializes in pathology
- one individual licensed by the Texas State Board of Medical Examiners who specializes in radiology
- one representative from the nuclear utility industry
- one representative from the radioactive waste processing industry
- one representative from the petroleum well-servicing industry
- one health physicist
- one individual licensed by the State Board of Dental Examiners
- one representative from the uranium mining industry
- three representatives of the public
<table>
<thead>
<tr>
<th>Name</th>
<th>Representing</th>
<th>Term Exp.</th>
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</thead>
<tbody>
<tr>
<td>Ken Krieger, MS, CHP</td>
<td>Industry, trained in Nuclear Science</td>
<td>2015</td>
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<tr>
<td>Stephen Harris</td>
<td>Labor</td>
<td>2019</td>
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<tr>
<td>Johnny Johnson, DVM</td>
<td>Agriculture</td>
<td>2017</td>
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<tr>
<td>Bill Campbell</td>
<td>Insurance Industry</td>
<td>2019</td>
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<tr>
<td>Nora Janjan, MD, MBA, MPSA</td>
<td>Nuclear Physics in Medicine</td>
<td>2015</td>
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<tr>
<td>Robert J. Emery, D.Ph., ++</td>
<td>Hospital Administrator</td>
<td>2017</td>
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<tr>
<td>Darlene Metter, MD, ABR, ABNM</td>
<td>Nuclear Medicine</td>
<td>2019</td>
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<tr>
<td>Mark Silberman, MD</td>
<td>Pathology</td>
<td>2017</td>
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<td>David Nichols, MD</td>
<td>Radiology</td>
<td>2015</td>
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<td>Mitch Lucas, PE, MBA</td>
<td>Nuclear Utility</td>
<td>2019</td>
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<tr>
<td>Ian Hamilton, Ph.D.</td>
<td>Radioactive Waste</td>
<td>2015</td>
</tr>
<tr>
<td>Judith Raab</td>
<td>Petroleum Well Service</td>
<td>2019</td>
</tr>
<tr>
<td>John Hageman, MS, CHP</td>
<td>Health Physicist</td>
<td>2017</td>
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<tr>
<td>Melanie Marshall DDS.</td>
<td>Dentist</td>
<td>2015</td>
</tr>
<tr>
<td>Kevin Raabe</td>
<td>Uranium Mining</td>
<td>2017</td>
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<tr>
<td>Amy Clark</td>
<td>Public</td>
<td>2015</td>
</tr>
<tr>
<td>Mark Pittman</td>
<td>Public</td>
<td>2017</td>
</tr>
<tr>
<td>Darshan Sachdev</td>
<td>Public</td>
<td>2019</td>
</tr>
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The Board’s Committee Structure

Texas Radiation Advisory Board: quorum 10/18

Topic Research Committee: quorum: 3/5

Ian Hamilton, Committee Chair
Robert Emery, Committee Vice Chair
Amy Clark, TRAB Secretary
John Hageman, TRAB Chair
Nora Janjan, TRAB Vice Chair

Industrial, Nuclear Power, Uranium and Waste Committee: quorum: 5/9

Kevin Raabe, Committee Chair
Mitch Lucas, Committee Vice Chair
Amy Clark
John Hageman
Ian Hamilton
Stephen Harris
Ken Krieger
Jay Murphy
Darshan Sachde

Medical Committee: quorum: 6/10

Darlene Metter, Committee Chair
Mark Silberman, Committee Vice Chair
Robert Emery
Nora Janjan
Ian Hamilton
Melanie Marshall
David Nichols
Bill Campbell
Mark Pittman
Johnny Johnson
Matters within the TRAB’s jurisdiction
That may be of interest to the Compact Commission

The technical experts on the Board involved with radioactive waste include the following:

- The medical industry, including nuclear medicine, and diagnostic and therapy procedures using radionuclides
- Sealed source suppliers, recyclers, and processors
- Uranium mining
- Research and development
- Petroleum production and transmission
- Veterinary practices
- Nuclear power plants

Other matters that the TRAB can collaborate with the Compact Commission

- Disposal of legacy radioactive material currently in the State of Texas, with out-of-compact origins
- Disposal of low specific activity and exempted radioactive material in the RCRA disposal site
- Just ask us for our assistance, since that is in our legislated mandate

Questions
Mr. Hageman has served as the Southwest Research Institute (SwRI) radiation safety officer (RSO) since 1996. As the RSO, Mr. Hageman is responsible for the use of a large variety of radionuclides under a broad scope radioactive material license issued for research and development. He is also responsible for the safe operation of a large variety of radiation-producing machines used for laboratory analysis and for the high-level radiation effects facility. He holds a patent on a charged-particle powered battery. He has been consulted in the design analysis for the IAEA for hot cell design, and managed projects for scaled source recovery, exchange, disposal, and/or security projects for Los Alamos and Sandia National Laboratories and several commercial clients.

Prior to this, Mr. Hageman was principal scientist and manager with the Center for Nuclear Waste Regulatory Analyses (CNWRA or Geosciences and Engineering Division) at SwRI. In this position, he was a manager for several projects related to the Nuclear Regulatory Commission’s (NRC) high-level radioactive waste (HLW) program. He was the principal investigator for the “Repository Operational Criteria” project that developed a systematic and comprehensive approach to determine the sufficiency and adequacy of the NRC regulations to ensure safe operations in handling HLW. Mr. Hageman has also served as the manager of several other projects including “Repository Design, Construction, and Operations,” “Transportation Risk Study,” and other special projects. Mr. Hageman was instrumental in winning the NRC’s HLW contract by working with a seven-member team to prepare the proposal; and he was a charter member of the Geosciences and Engineering Division staff (now over 90 individuals) and served as the health physicist for that group.

Mr. Hageman was the health physicist and a nuclear inspection engineer in the Nuclear Nondestructive Testing and Services Division. He managed their radiation control program to ensure compliance with NRC, DOT, and Texas regulations on radiation control and was a member of the nuclear inspection engineering staff. He formulated operating procedures and computer programs for the control of radioactive material and for personnel exposure, and is the SwRI instructor for radiation and radiography safety. He has worked with planning and supervising inspections and testing for nuclear plants to meet American Society of Mechanical Engineer (ASME) Section XI requirements. These inspections included nondestructive examinations of reactor plant vessels, piping, hangers, and other components, and preparing performance testing programs for Safety Class 1, 2, and 3 pumps and valves. Mr. Hageman’s experience in nuclear power plant operations helped him develop the ASME Section XI pump and valve testing programs for several utility clients. These programs utilized computer generated testing guidelines to ensure plant reliability and safety. Mr. Hageman has also worked with the Nuclear Plant Reliability Data System (NPRDS) and was responsible for development of the NPRDS procedures manual.

Mr. Hageman has also managed projects on the feasibility and design of a national recordkeeping system for nuclear plant radiation workers; measuring the permeability of materials to radioactive particles, solutions, and tritium; radiation exposure from a lignite plant; radiation shielding analysis for a 5- to 20-MeV accelerator and neutron/gamma sources; and remote visual inspections of reactor vessels.

While working with Westinghouse Electric Corporation as a nuclear plant trainer, Mr. Hageman supervised plant operations and the training of naval officers at the Idaho Naval Reactors Facilities. He also helped plan, write, and instruct a new program of seminars for radiation control related to normal plant operations and accident conditions.

PATENTS & PUBLICATIONS: Awarded one patent, published several technical papers, articles, and presentations.


MEMBERSHIPS: Health Physics Society, 1976-present, named a Fellow in 2004; Bexar County Local Emergency Planning Committee, 2005-present; Texas Radiation Advisory Board, 2008-present; South Texas Chapter (STC) of the Health Physics Society, 1976-present, past President, Editor of the STC Newsletter, Honorary Lifetime Member.

November 2013