

## 5. ORGANIZATION AND MANAGEMENT

### 5.1. Organizational Structure

The organization plan for IRIS was derived from a detailed study of the structure of three, somewhat similar, scientific federations; namely JOI, Inc. (Joint Oceanographic Institutions, Incorporated), UCAR (Universities Corporation for Atmospheric Research) and USRA (University Space Research Association). In addition, the opinions of the full membership of the original Senate of IRIS were sought at meetings on 20–21 October, 1983, and 7 December, 1983. The Bylaws of IRIS were finalized following the incorporation of the consortium by the initial university members (See Section 5.2).

The organization of IRIS is outlined in Figure 5.1. The membership of the corporation, which is composed of a representative of each member institution acting through the Board of Directors, will empower a small, elected Executive Committee to exercise many of the powers of the Board of Directors. The Board of Directors is the primary policy making body of the corporation and is responsible for overseeing the work of its committees and the corporate offices. The Executive Committee of the Board shall have, with few exceptions, all the powers of the Board. Its role is envisioned as that of a Steering Committee and abbreviated Board. It will make necessary decisions between meetings of the Board. The Standing Committees, bodies concerned with the initial programs of IRIS, are largely responsible for the detailed structure of the scientific plans and the writing of proposals. The constitution and structure of the Standing Committees may change from time to time at the pleasure of the Board of Directors. The Advisory Council is a body of experts elected by the Board to provide the Board of Directors and any of its committees with experienced counsel.

The membership of the Board of Directors and the corporation is restricted to institutions of graduate education and research in the United States. This clearly includes most universities in this country, but excludes government agencies, quasi-government national laboratories and non-U.S. institutions. The Standing Committees guiding the four main elements and their advisory panels, however, have substantial representation and active participation by government research agencies and industry (e.g., formal liaison is established with USGS and with the Society of Exploration Geophysicists). The Committee structure is already established to a large degree, as shown in Table 5.1. The Senior Advisory Council for IRIS is intended to be a high-level group with a major oversight and guidance role consistent with NSF expectations. International and interagency coordination is effected, through appropriate advisory groups, to the Board of Directors.

The Standing Committee drives the scientific programs through recommendations on implementation to the IRIS Corporate Office (President and Executive Director) which acts for the Board, through its Executive Committee, which has decision-making responsibility for IRIS business. Routine operation, involving interaction with NSF and other agencies, and the Program Manager of the IRIS programs will be delegated to the Corporate Office, which also executes all contractual matters.

Funds pass through IRIS for three separate purposes, which are the assumed responsibilities for IRIS:

1. R&D support for maintaining state-of-the-art hardware and software in IRIS, and for optimizing performance of the networks and the data center.
2. Operation and maintenance of the IRIS facilities in the execution of the research plans.

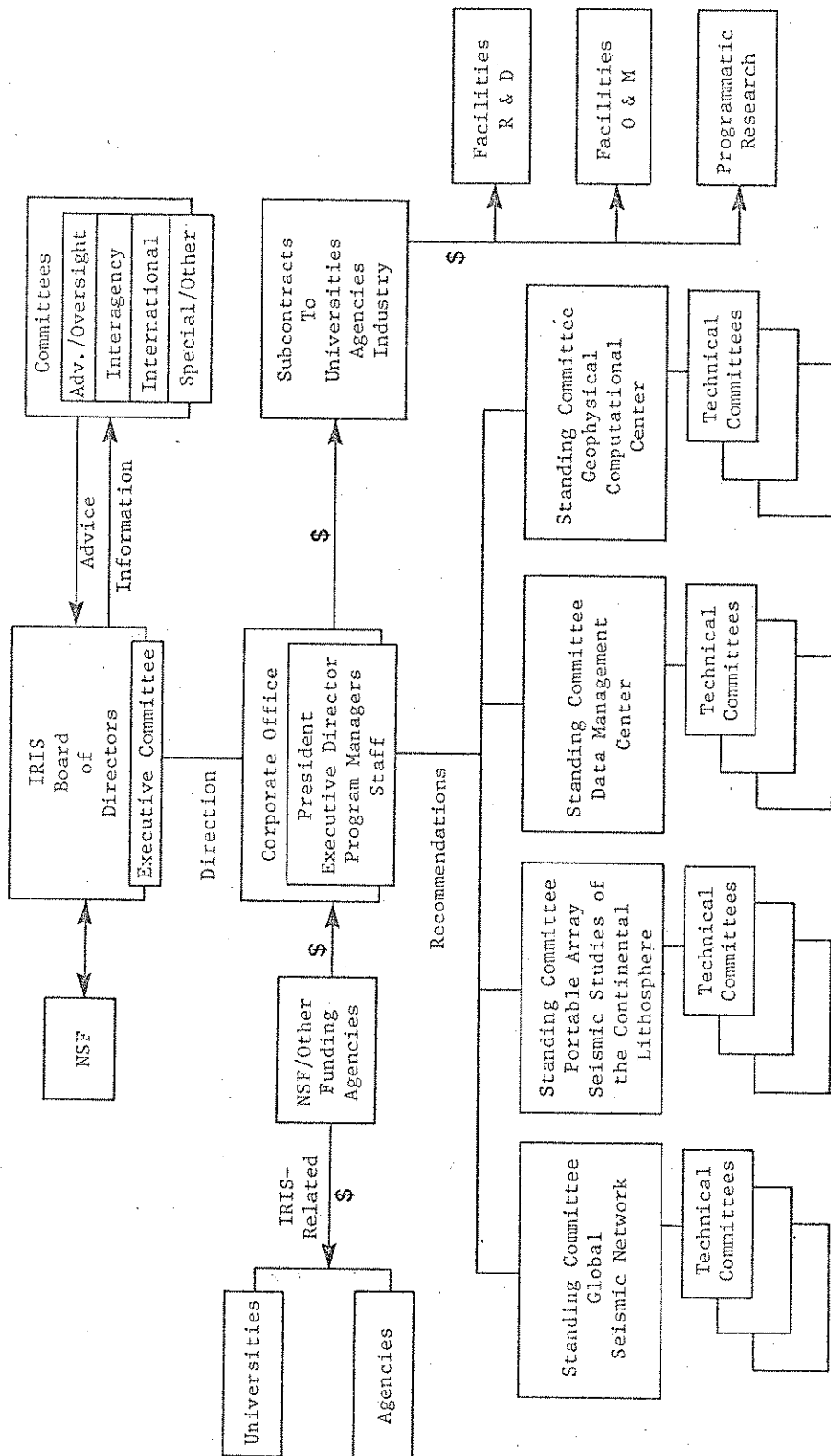


Figure 5.1. IRIS Organizational Structure

Table 5.1

OFFICERS AND PRINCIPAL COMMITTEES OF IRIS

**IRIS Officers:**

T.V. McEvilly – Chairman, Board of Directors and Acting President  
 S.S. Alexander – Vice Chairman, Board of Directors  
 G.A. Bollinger – Secretary  
 B.J. Mitchell – Treasurer

**Senior Advisory Committee:**

B. Bally	
B.A. Bolt	B. Raleigh
A. Green	W. Stauder
A. Hales	F. Stehli
L. Knopoff	L. Sykes
T. Lafehr	S. Treitel

**Executive Committee of the Board of Directors:**

S.S. Alexander	T.V. McEvilly
D.L. Anderson	R.A. Phinney
A.M. Dziewonski	R.B. Smith
F. Gilbert	

**Standing Committees:**

**1. Global Seismic Network (SCGSN):**

A.M. Dziewonski, Chairman	R.P. Masse
J. Berger	T.V. McEvilly
E.T. Herrin	B.J. Mitchell
H. Kanamori	F.A. Dahlen

**SCGSN Subcommittees:**

Satellite Telemetry (T. McEvilly, Chair)  
 Instrumentation (E. Herrin, Chair)  
 Preserving, Integrating and Upgrading Network (D. Anderson, Chair)  
 Data Collection (F.A. Dahlen, Chair)  
 International Relations (not yet filled)

**2. PASSCAL (SCP):**

R.A. Phinney, Chair  
 K. Aki  
 D. James, Secty. (ex-officio)  
 W. Ellsworth  
 G. Davis

K. Lerner  
 R. Meyer  
 S. Sacks  
 R.B. Smith  
 G. Bollinger

## SCP Subcommittees:

Science Planning and Coordination (W. Ellsworth and L. Braille, Co-chairman)  
 Instrumentation (S. Sacks and R. Meyer, Co-chairmen)  
 Data Management (J. Scheimer and Gary Pavlis, Co-chairmen)  
 Scheduling and Facilities (not yet filled)

**3. Data Management Center (SCDMC):**

S.S. Alexander, Co-chairman  
 S.W. Smith, Co-chairman  
 M. Backus  
 E.R. Engdahl

K. Lerner  
 J. Orcutt  
 L. Ruff  
 J. Woodhouse

## SCDMC Subcommittees:

Technical Requirements (E.R. Engdahl, Chair)  
 Liaison SCGSN (F.A. Dahlen)  
 Liaison SCP (J. Scheimer)  
 Liaison DARPA (A.U. Kerr)  
 Liaison USGS (R. Masse)  
 International Cooperations (not yet filled)

**4. Geophysical Computational Center (SCGCC):**

(not yet filled)

3. Research support for programmatic science, i.e., that science which is uniquely necessary to the IRIS program. Other IRIS-related science will be funded by appropriate agencies through normal procedures. Normal competitive procurement procedures will be followed in these expenditures.

#### 5.1.1. The Incorporation Process

At the 7 December 1983 meeting of the ad hoc Senate the following resolution was adopted:

The Senate resolves that a corporation of research institutions be formed to seek funding for major research efforts in the earth sciences, which will include the development and deployment of a permanent global digital network and a portable regional network and the establishment of one or more national seismic data and computation centers, and the Senate empowers the Board of Trustees to begin the process of incorporation.

A group of scientists involved in seismic studies of the continental lithosphere met in Madison, Wisconsin on January 13 and 14, 1984. This group, representing 36 U.S. educational and research institutions formed a consortium and elected its Board of Trustees. A resolution similar, in principle, to that quoted above was passed at the meeting. Subsequently, the "Lithospheric" Board of Trustees agreed that both the "Global" and "Lithospheric" programs should join under the same corporate umbrella. The overall structure shown in Figure 5.1 was approved by both Boards. IRIS was incorporated during the spring of 1984 and its first meeting was held in Cincinnati on May 13, 1984. By November, 1984 the membership of IRIS includes 36 Universities.

#### 5.2. Bylaws of the Incorporated Research Institutions for Seismology

This section presents both an outline and details of the Bylaws, consistent with Delaware law, that were approved at the first meeting of the corporation. (Delaware, unlike most states, does not require that the corporate headquarters be located within the state.)

Membership of the various committees is outlined in Figure 5.2 and the chairmanship and the acceptable voting majority of each committee are found in Figure 5.3. Generally, most committees will reach other decisions by a majority vote although a change to the Bylaws and admission of new members requires the affirmative vote of two-thirds of all current members of the Board of Directors.

**BOARD OF DIRECTORS**

One member appointed by each institution of graduate instruction and research, indefinite terms.

**EXECUTIVE COMMITTEE**

Chairman and Vice-Chairman of the Board of Directors and five other members of the Board of Directors.

**SPECIAL COMMITTEES**

Formed to deal with specific issues; for example: nominations for election to offices, membership in the Corporation, financial matters, etc. Members appointed by the Chairman of the Board from among the Directors with approval of the Board.

**ADVISORY COUNCIL**

Elected by the Board of Directors. Members need not be Directors.

**STANDING COMMITTEES**

Members appointed by Chairman of the Board of Directors, with approval of the Board. Members need not be directors.

**CORPORATE OFFICERS**

Chairman and Vice-Chairman of the Board of Directors  
President, Vice-Presidents, Secretary and Treasurer

**Figure 5.2**

*Membership of the Board and Its Committees*

#### **BOARD OF DIRECTORS**

- Chairman and Vice Chairman elected for two year terms.
- Chairman may not succeed himself or herself.
- Two-thirds majority vote of full membership on amendments to Bylaws.
- Majority vote on all decisions if a quorum is present.
- Quorum composed of a majority of members of the Board.

#### **EXECUTIVE COMMITTEE**

- Chairman and Vice-Chairman of the Board serve ex officio.
- Five Directors elected by the Board from its membership for two year terms.
- Quorum composed of a majority of its members.
- Majority vote on all matters.

#### **ADVISORY COUNCIL**

- Chairman elected every three years.
- Chairman may succeed himself or herself.
- Members serve three year terms.

#### **CORPORATE OFFICERS**

- Chairman and Vice-Chairman of the Board serve ex officio.
- Other officers elected by vote of the Board of Directors.
- Two year terms.
- Eligible for reelection.
- Other than Chairman and Vice-Chairman of the Board the officers need not be members of the Board.

**Figure 5.3**

*Chairmanship, Terms of Office, and Voting Majorities*

## Bylaws of the Incorporated Research Institutions for Seismology

INCORPORATED RESEARCH INSTITUTIONS FOR SEISMOLOGY  
A Delaware Not-for-Profit Corporation

BY-LAWS

ARTICLE I

Name

**SECTION 1.** The name of the Corporation is INCORPORATED RESEARCH INSTITUTIONS FOR SEISMOLOGY

ARTICLE II

Member Institutions

**SECTION 1. Membership.** The following named educational and not-for-profit institutions shall be initial members of the corporation, subject to their notifying the Corporation of their acceptance of membership:

California Institute of Technology	University of California, Berkeley
Carnegie Institution of Washington	University of California, San Diego
Georgia Institute of Technology	University of Colorado
Harvard University	University of Hawaii at Manoa
Lamont-Doherty Laboratory	University of Illinois, Urbana
Memphis State University	University of Southern California
Michigan Technological University	University of Texas, Austin
Northwestern University	University of Texas, Dallas
Pennsylvania State University	University of Texas, El Paso
Princeton University	University of Utah
St. Louis University	University of Washington, Seattle
Texas A & M	University of Wisconsin
University of Alaska	Virginia Polytechnic Institute

Any of the following named educational and not-for-profit institutions shall be permitted to become additional members of the Corporation without vote of the Board of Directors upon notifying the Corporation of acceptance of membership and payment of the initial membership fee prescribed by Article VII on or before the date of the first annual meeting:

Boston College	State University of New York, Binghamton
Brown University	State University of New York, Stony Brook
Cornell University	University of Arizona
Indiana University, Bloomington	University of California, Los Angeles
Louisiana State University	University of California, Santa Barbara
Old Dominion University	University of California, Santa Cruz
Oregon State University	University of Kentucky
Massachusetts Institute of Technology	University of Michigan
Montana State University, Bozeman	University of Nevada
New Mexico Institute of Mining & Technology	University of North Carolina
Purdue University	University of South Carolina
Rice University	University of Wyoming
Southern Methodist University	Woods Hole Oceanographic Institution
Stanford University	



**SECTION 2. Election and Vacancies.** Other educational and not-for-profit institutions with a major commitment to research in seismology and related fields, including single or multiple campuses of multi-campus university systems, may be elected as additional members or to fill vacancies in the membership by the affirmative vote of two-thirds of the members of the entire Board of Directors.

**SECTION 3. Resignations.** Any member may resign at any time by giving written notice to the Chairman, President or Secretary of the Corporation. Such resignation shall take effect at the time of receipt of the notice, or at any later time specified therein. Any resigning member shall remain liable for any unpaid portion of the initial membership fees and any other membership fees, assessments or charges levied by the Board of Directors pursuant to ARTICLE VII of the Bylaws before the giving of such notice.

### ARTICLE III

#### Board of Directors

**SECTION 1. Powers.** The affairs of the Corporation shall be conducted under the authority of the membership through the Board of Directors. To this end and without limitation of the foregoing or of its powers expressly conferred by these Bylaws, the Board of Directors shall have power to authorize such action on behalf of the Corporation, make such rules or regulations for its management, create such additional offices or special committees and select, employ or remove such of its officers, agents or employees as it shall deem best. The Board of Directors shall have the power to fill vacancies in, and change the membership of, such committees as are constituted by it.

**SECTION 2. Composition.** The Board of Directors shall be composed of one member from each of the member institutions. The chief executive officer of each such member institution shall designate one Director, who shall be the holder of an academic appointment in the department or other organizational unit of such member institution with the primary responsibility for the earth sciences.

**SECTION 3. Term of Office.** Each member of the Board of Directors shall continue in office until his successor is chosen and qualifies or until he dies, resigns or is removed by the chief executive officer of his member institution.

**SECTION 4. Resignation.** Any Director may resign at any time by giving written notice to the Chairman, President or Secretary of the Corporation. Such resignation shall take effect at the time of receipt of the notice, or at any later time specified therein.

**SECTION 5. Alternate Directors.** The chief executive officer of each member institution may appoint from within the member institution an alternate Director to serve for the term specified by such appointment. In the absence of a Director from any meeting of the Board of Directors, his or her alternate may, upon written notice to the Secretary of the Corporation from the Director or from a duly authorized representative of the member institution of the Director, attend such meeting and exercise all the rights, powers and privileges of the absent Director.

### ARTICLE IV

#### Meetings of the Board of Directors

**SECTION 1. Annual Meeting.** The annual meeting of the Board of Directors for the election of officers and for the transaction of such other business as may properly come before it shall be held on the first Wednesday in December in each year, or on such other date within thirty (30) days after the first Wednesday in December as the Board of Directors may designate.

**SECTION 2. Special Meetings.** Special meetings of the Board of Directors may be called by the Chairman of the Board of Directors or by the President and shall be called by the Secretary upon the written request of at least four Directors or one-fifth (1/5) of the membership of the Board, whichever is greater.

**SECTION 3. Place of Meetings.** The Chairman of the Board of Directors or the President shall designate the place of the annual meeting or any special meeting, which may be either within or without the State of Delaware and which shall be specified in the notice of meeting or waiver of notice thereof.

**SECTION 4. Notice of Meetings.** Notice of such meeting of the Board of Directors shall be given to each Director by the Secretary, or by an officer directed by the Chairman of the Board of Directors or the President to give such notice, by delivering to him or her personally, or by first-class mail, postage prepaid, addressed to him or her at the address of his or her member institution, a written or printed notice not less than thirty nor more than sixty days before the date fixed for the meeting. Notice of any meeting need not be given to any Director, however, who submits a signed waiver of notice, whether before or after the meeting. The attendance of any Director at a meeting without protesting prior to the conclusion of the meeting the lack of notice thereof shall constitute a waiver of notice by him or her. When a meeting is adjourned to another place or time, it shall not be necessary to give any notice of the adjourned meeting if the time and place to which the meeting is adjourned are announced at the meeting at which the adjournment is taken.

**SECTION 5. Quorum.** Except as may be otherwise expressly required by law, the Certificate of Incorporation or these Bylaws, at all meetings of the Board of Directors or of any committee thereof a majority of the Directors or members of such committee then serving in such position shall constitute a quorum. If a quorum is not present, a majority of the Directors present may adjourn the meeting without notice other than by announcement at said meeting, until a quorum is present. At any duly adjourned meeting at which a quorum is present, any business may be transacted which might have been transacted at the meeting as originally called.

**SECTION 6. Voting.** Each Director shall be entitled to one vote. Except as otherwise expressly required by law, the Certificate of Incorporation or these Bylaws, all matters shall be decided by the affirmative vote of a majority of the Directors present at the time of the vote, if a quorum is then present.

**SECTION 7. Action Without a Meeting.** Any action required or permitted to be taken by the Board of Directors or any committee thereof, may be taken without a meeting if all members of the Board of Directors or of such committee consent in writing to the adoption of a resolution authorizing the action. The resolution and the written consents thereto shall be filed with the minutes of the proceedings of the Board of Directors or the committee.

**SECTION 8. Participation by Conference Telephone.** In any meeting of the Board of Directors or any committee thereof, any one or more Directors or members of any such committee may participate by means of a conference telephone or similar communications equipment allowing all persons participating in the meeting to hear each other at the same time. Participation by such means shall constitute presence in person at a meeting.

## ARTICLE V

### Officers

**SECTION 1. Officers and Qualifications.** The officers of the Corporation shall consist of a Chairman and a Vice Chairman of the Board of Directors, a President, a Secretary, a Treasurer and such other officers as the Board of Directors may from time to time establish and appoint. Officers, except for the Chairman and the Vice Chairman of the Board, need not be Directors.

**SECTION 2. Chairman.** The Chairman of the Board of Directors shall, when present, preside at all meetings of the Board of Directors and shall perform such other duties and

exercise such other powers as shall from time to time be assigned by the Board of Directors.

**SECTION 3. Vice Chairman.** The Vice Chairman of the Board of Directors shall preside, in the absence of the Chairman, at all meetings of the Board of Directors and shall perform such other duties and exercise such other powers as shall from time to time be assigned by the Board of Directors.

**SECTION 4. President.** Except as otherwise provided by the Board of Directors, the President shall be the chief executive officer of the Corporation, and unless authority is given by the Board of Directors to other officers or agents to do so, he or she shall execute all contracts and agreements on behalf of the Corporation. It shall be his or her duty, insofar as the facilities and funds furnished to him or her by the Corporation permit, to see that the orders and votes of the Board of Directors and the purposes of the Corporation are carried out. In the absence of the Chairman or the Vice Chairman of the Board of Directors, the President shall preside at meetings of the Board of Directors.

**SECTION 5. Secretary.** The Secretary shall give notice of meetings of the Board of Directors, shall record all actions taken at such meetings and shall perform such other duties as shall from time to time be assigned by the Board of Directors.

**SECTION 6. Treasurer.** The Treasurer, subject to the control of the Board of Directors, shall collect and receive, and shall have charge and custody of, the funds and securities of the Corporation. He or she shall have such other duties as are customary to the position of Treasurer in a corporation of this type and such as shall from time to time be assigned by the Board of Directors.

**SECTION 7. Election and Term of Office.** The Chairman and Vice Chairman of the Board shall each be elected by the Board of Directors from among membership of the Board for a term of two years or until his or her successor is chosen and qualifies. The Chairman of the Board shall not be eligible for reelection until another Director shall have served an intervening term, or a portion of a term of more than one year as Chairman. All other officers of the Corporation shall be elected by the Board of Directors for terms of two years or until their successors are chosen and qualify. They may be chosen from among the Directors but need not be, and they shall be eligible for reelection.

**SECTION 8. Resignation.** Any officer may resign at any time by giving written notice to the Chairman, the Vice Chairman, the President or Secretary of the Corporation. Such resignation shall take effect at the time of receipt of the notice, or at any later time specified therein.

**SECTION 9. Vacancies.** Any vacancy in any office may be filled for the unexpired portion of the term of such office by the Board of Directors.

**SECTION 10. Removal.** Any officer may be removed at any time either with or without cause by vote of the Board of Directors.

## ARTICLE VI

### Executive Committee of the Board, Other Committees and Advisory Council

**SECTION 1. Executive Committee of the Board.** There shall be established an Executive Committee of the Board comprising the Chairman, the Vice Chairman and five additional Directors each elected by the Board of Directors for a term of two years or until his or her successor is chosen and qualified.

**SECTION 2. Powers of the Executive Committee of the Board.** Unless otherwise provided by resolution adopted by the affirmative vote of a majority of the entire Board of Directors, the Executive Committee of the Board may have and may exercise all the powers of the Board of Directors, except that it shall not have authority as to the following matters:

- (a) the creation of new committees of the Corporation;
- (b) the amendment or repeal of the Bylaws, or the adoption of new Bylaws;

- (c) the amendment or repeal of any resolution of the Board of Directors, which by its terms shall not be so amendable or repealable; and
- (d) the levying or assessment of fees and dues.

At all meetings of the Executive Committee of the Board, the presence of a simple majority of its members then in office shall constitute a quorum for the transaction of business.

**SECTION 3. Special Committees.** The Board of Directors may create such special committees as may be deemed desirable, the members of which shall be appointed by the Chairman of the Board from among the Directors, with the approval of the Board. Each such committee shall have only the lawful powers specifically delegated to it by the Board.

**SECTION 4. Standing Committees.** By resolution adopted by the Board of Directors, the Board may designate one or more standing committees for each major scientific, educational or research program to which the Corporation provides scientific counsel and advice or management direction. Members of each such committee shall be appointed by the Chairman of the Board, with the approval of the Executive Committee of the Board of Directors, and the Committee shall have only the lawful powers specifically delegated to it by the Board. Each such committee shall serve at the pleasure of the Board. An individual or an institution may be a member of a standing committee whether or not a Director or officer of the Corporation.

**SECTION 5. Other Committees.** The Board of Directors may create committees other than standing or special committees to be committees of the Corporation. Such committees shall be elected or appointed in such a manner as may be determined by the Board of Directors and shall have such lawful duties as may be specified by the Board. An individual or an institution may be a member of any such committee whether or not a Director or officer of the Corporation.

**SECTION 6. Advisory Council.** The Board of Directors may establish an Advisory Council to serve as an experienced advisory body to the Board. The members of the Council shall serve for three-year terms and may be elected to subsequent terms. A Chairman of the Advisory Council shall be elected by the membership of the Council for a three-year term and may succeed himself. An individual or an institution may be a member of the Advisory Council whether or not a Director or officer of the Corporation.

## ARTICLE VII

### Fees and Dues

#### SECTION 1. Initial Membership Fee.

Each member shall contribute an initial membership fee of two thousand five hundred dollars (\$2,500).

**SECTION 2. Fees and Assessments.** In addition to the initial membership fee, every member shall pay such fees or assessments, annual or otherwise, as may be authorized from time to time by majority vote of the entire Board of Directors; provided, however, that all such fees and assessments shall be levied equally on all members and shall not exceed two thousand dollars (\$2,000) per calendar year or a total of ten thousand dollars (\$10,000) per member. A member which has resigned from the Corporation shall not be liable for any fees or assessments levied after the effective date of its resignation. Any member which fails to pay any fees or assessments within sixty days after such fees or assessments are payable may be removed from membership for such nonpayment by the affirmative vote of two-thirds of the members of the entire Board of Directors.

**ARTICLE VIII****Compensation**

**SECTION 1. Compensation.** The Board of Directors shall have the power to fix the compensation and fees payable to officers and employees for services rendered to the Corporation; provided, however, that no Director shall be paid any compensation for serving as Director. All Directors may be reimbursed for the actual expenses incurred in performing duties assigned to them by the Board of Directors.

**SECTION 2. Dividends.** The Corporation shall not pay dividends or distribute any part of its income or profit to its members, Directors or officers.

**ARTICLE IX****Indemnification**

**SECTION 1. Indemnification.** The Corporation shall have the power to indemnify any Director, officer, employee or agent to the fullest extent permitted, and in accordance with the standards and procedures provided by Section 145 of the General Corporation Law of Delaware; provided, however, that the indemnification provided for herein shall apply only upon the determination by the Board of Directors that indemnification is proper in the circumstances because such Director, officer, employee or agent has met the applicable standard of conduct prescribed by Delaware General Corporation Law Section 145. Such determination shall be made: (1) by the Board of Directors by a majority vote of a quorum consisting of disinterested directors or (2) if such quorum is not obtainable, or even if obtainable if a quorum of disinterested directors so directs, by independent legal counsel in a written opinion. The foregoing right of indemnification shall be in addition to and not exclusive of all other rights to which such Director, officer, employee or agent may be entitled.

**ARTICLE X**

**SECTION 1. Fiscal Year.** The fiscal year of the Corporation shall commence on the first day of October and end on the thirtieth day of the following September.

**ARTICLE XI**

**SECTION 1. Seal.** The seal of the Corporation shall be circular in form and shall bear the words and figures: "Incorporated Research Institutions for Seismology — Delaware 1984" or words and figures of similar import. The form of such seal shall be subject to alteration by the Board of Directors.

**ARTICLE XII**

**SECTION 1. Amendments.** All Bylaws of the Corporation shall be subject to amendment or repeal and new Bylaws may be made by the affirmative vote of two-thirds of the entire Board of Directors at any annual or special meeting, the notice or waiver of notice of which shall have specified or summarized the proposed amendment, repeal or new Bylaws.

