

# COSMOS

## Consortium of Organizations for Strong-Motion Observation Systems

### BOARD of DIRECTOR'S MEETING

#### AGENDA

24 April 2006

10:00 AM—4:00 PM

Pacific Earthquake Engineering Research Center  
Richmond, California

**10:00 AM Welcome to Board Members and Guests: James Davis**

The meeting was called to order at 10:02 AM by President Davis.  
The agenda for today's meeting is attached as Appendix A.

**10:05 AM Role Call & Adoption of November 17, 2005 Minutes: John Anderson**

**Board Members Present:**

James Davis  
Norm Abrahamson  
John Anderson  
Bill Iwan  
John Parrish  
Maury Power  
Woody Savage  
Jerry Wright  
Don Yule

**Board Members Absent**

Farzad Naeim

**Others present:**

Robert Bachman  
Roger Borchardt  
Claire Johnson  
Anthony Shakal  
Jaimison H. Steidl

Norm Abrahamson moved, Iwan seconded, prior minutes accepted.

**10:20 AM President's Report: James Davis**

President Davis made several comments. Most of his remarks are represented in his

written report (Appendix B). He thanked Bob Bachman and Norm Abrahamson for the successful technical session on Nov 18, 2005. He thanked Tony Shakal for chairing the reactivated Strong-motion Programs Board. He thanked Bob Nigbor for chairing the reactivated Senior Advisory Council. He thanked Maury Power and Claire Johnson for their efforts in managing the budget. He thanked U.C. Santa Barbara for continued success of the COSMOS Virtual Data Center.

Our primary advocacy in the past year was support for the California Seismic Safety Commission, which was being threatened for elimination.

**10:45 AM Treasurer's Report: Maury Power**

The Treasurer's report is presented in Appendix C. Significant financial activities for 2005 include the following: Contracts and grants were less active than anticipated, due to delays in the projects. Page 1 of the Profit and Loss statement, Attachment 2, shows that membership dues were larger than anticipated. Some of this was dues owed from 2004, so we are close to anticipated revenues from membership dues. Membership income has been stable. Attachment 5 shows that we made a small profit on the Technical Session at the November 2005 Annual Meeting, thanks to a special contribution of \$10,000 from CSMIP. President Davis thanked CSMIP for their contribution and asked that Attachment 5 be revised to show the different sources of income more clearly.

Abrahamson and Bachman believe that the Technical Session was underpriced and that we can charge more for 2006. Bachman believes that we are now a known quantity and that robust participation in the next Technical Session is assured. Abrahamson agrees and said that many are looking forward to the 2006 meeting. Davis believes that the Technical Session was also very successful in meeting our mission. **Implication: The finances to support the 2006 Technical Session in a revenue neutral fashion need to be further considered.**

Power noted an error in the 2005 Profit and Loss statement, Attachment 2, pages 1 and 3. Under VDC income and expenses, the CSMIP Grant amount of \$30,000 should be shown. This grant is made as a direct contribution to UCSB from CSMIP. The bottom line for net income of \$12,928 on a cash basis for 2005 is unaffected.

Our accounting firm, Wilson Markle Stuckey Hardesty & Bott, conducted a review of COSMOS financial records and financial position for the year ending December 31, 2005. The review, which is presented in Attachment 4, takes into account receivables and liabilities at the end of the year. The review indicates that our financial position did not change significantly in 2005. Net assets are approximately \$182,000 as indicated in the table entitled, Statement of Financial Position, in Attachment 4. The accountant's review report states that, "Based on our review, we are not aware of any material modifications that should be made to the financial statements in order for them to be in conformity with accounting principles generally accepted in the United States".

Treasurer Power and Office Manager Johnson believe that the accountant's review is useful in providing limited assurance to the Board that proper financial transaction procedures are in place and no material modifications to the financial statements are required. They would like to have the review again conducted at the end of 2006. The cost of this review was about \$2,800. **Power moved and Iwan seconded that we retain the same accounting firm for a review of our finances in 2006. The motion carried unanimously.** Iwan suggested that we also ask the accountants to comment on our overhead rate .

Power added comments on the accountant's review report: The accountants prepare the tables, which are then presented as if we had prepared them. Considerable review by Power and Johnson of these tables and iteration with the accountants was required to arrive at a picture of COSMOS financial position accounting for receivables and liabilities. In the future, the effort required for review and iteration by the Treasurer and Office Manager should be much reduced.

The Board discussed whether we should operate on a cash or an accrual basis of accounting. Our financial records are kept on a cash basis on the advice of our accountants. However, for purposes of an annual statement of financial activities and accountant's review, it makes sense to report on an accrual basis recognizing receivables and liabilities. Abrahamson indicated that the QuickBooks accounting program used by COSMOS can convert relative efficiently from a cash to an accrual accounting basis.

Attachment 6 presents 2005 membership. Power commented that membership has been stable. Attachment 7 lists current contracts and grants. Current research contracts are expected to be completed this calendar year. Attachment 8 presents the 2006 budget.

Bachman asked the Board if we officially approved the 2006 budget in November. Power responded that the budget prepared for the November Board meeting was preliminary for the Board's review and not for approval at that meeting.

Iwan asked about future Technical Sessions. Bachman and Abrahamson believe that selection and scaling of ground motion time histories is a hot topic. This should result in continuing support from FEMA and other sources.

**Iwan moved and Savage seconded a motion to accept the Treasurer's Report. Report was accepted.**

**Iwan moved and Parrish seconded that the Board approve the 2006 budget as shown in Attachment 8. Budget was approved.**

Additional discussion followed:

Wright asked for clarification of the office use fee paid in 2005. Power replied that the 2005 expense represented a one-time charge by UCB.

Shakal asked about the current assets of \$182,000: Is this amount excessive considering that much the funding comes from public funding? Abrahamson suggested treating the dues and the public funding separately. In discussion, it was noted that dues are treated separately from research grants and contracts from public funding. Research grant and contract money is typically fully expended up to the authorized amounts including overhead. Paid overhead on research grants and contracts has typically ranged from 5 to 10% of research expenses. Considering the operations of COSMOS over the life of the organization, our assets are not out of line for an organization of our size.

Johnson expressed that COSMOS may be operating in a deficit in the future if the research projects end and other revenue-raising endeavors are not in place. Bachman suggested that COSMOS undertake strategic planning on what our goals should be to plan for revenue-raising outside of the overhead we receive from grants and contracts.

The question was raised whether or not a portion of our current funds in the bank account should be invested. Currently, approximately \$35,000 is invested in a CD. The interest on this CD is minimal. Power noted that, while last year the checking account didn't drop below \$160,000, in prior years it fluctuated by much more. The question was raised whether funds should be kept in an interest bearing checking account.

Davis would like to revisit income in two directions; charges for the fall annual meeting; and the structure of membership dues for various categories of membership.

### **11:30 AM Director of Engineering Applications' Report: Robert Bachman**

The Director of Engineering Applications report is in Appendix D. Bachman expressed confidence with our budget process. The VDC budget is clear for now. Last year we met our stated objectives. This year, important issues are to re-look at our charter, at long-term funding for the VDC, and at our strategic plan (including benefits of membership). We also need to study election and other bylaw compliance issues. The November 18th program was a big success.

The booth at EQ06 was well-placed. Bachman thanked Mindy Squibb, Jennifer Swift, and Claire Johnson for manning it. A surprising result was that most of the interest was in the documents we created. We should set a price for selling them in the future, and also look into distributing CDs of our publications. Our documents are valuable, and we should find ways to distribute them more widely. Davis interjected that we've agreed in the past to provide documents at no added cost for members. Bachman commented that outreach efforts might include using EERI and SSA newsletters to describe COSMOS publications and how to obtain them. This would be a good way to attract new members. We could make them available through CGS and USGS sales points. Davis commented that we do not require Board action for these initiatives, but do need implementation decisions and actions.

Bachman next brought up our intentions to provide short courses. He distributed a

Suggested Short Course Plan of Action that uses the EERI model, which is to break even financially. He suggested that FEMA might provide funds as a backup to EERI if they decide not to commit. We would include a minimum honorarium for those who give the courses. COSMOS would cosponsor this one-day Short Course with EERI. EERI does not see this as competition. Bachman's goal is not to be the person who develops the course, but to help facilitate it. He suggests holding the course on Saturdays to reach practicing engineers. He is looking at a time frame of around August for the oversight committee to comment on, with a potential to start around the first quarter of 2007.

Borcherdt agreed that the Technical Program last year a success and agrees that Short Courses provides real service to the community. He adds that it is critical that the Short Course and any Technical Programs be well labeled as a COSMOS product. He introduced the possibility of tying the Short Course in with the Technical Session.

There was discussion about the Short Course addressing conventional standard practice, while the Technical Session is geared toward establishing future directions.

Bachman mentioned that funding for the VDC is covered through September 2006. This afternoon long-term funding will be discussed. He also inquired about new projects. The only other new project was mentioned by Savage for the need for an ANSS, workshop on how to collect real time data in monitoring structures, but this is not scheduled for this FY.

Bachman pointed out a document from Carl Stepp (Appendix E), which is a status report on the COSMOS VDC Working Group. Johnson reports in terms of the contracts and grants under Carl Stepp, that not much has changed since the November Board meeting and referred to Stepp's Progress Report to the Board for the November 18, 2005, meeting. Steidl comments that the report does point out what has changed.

Davis called attention to Bob's report listing primary objectives for 2006. Mentioned again was a toolbox incorporated into the VDC for members only for strong motion processing. Borcherdt mentioned about distributing information about research opportunities for members. Johnson stated that she and Roger are collaborating on this effort.

Bachman asked about the genesis of the projects generated by C. Stepp. Discussion determined that Carl worked with the late Cliff Astill at NSF, while the PEER work initiated was by PEER. Steidl clarified that he and Bob Nigbor had put a proposal forward to NSF that was not funded. Stepp proposed it again, which was then funded by NSF.

**Noon**

**Lunch**

**12:45 PM**

**Report on Membership Feedback to Board: Roger Borcherdt**

In Roger Borchardt's feedback to the Board, he remarked that he had not received feedback from membership as a result of mass email. He encourages quality technical sessions, likes the ideas of articles in EERI and SSA newsletters, and approves the idea of making CDs for distributing our reports. John Parrish suggests that we can circulate a draft strategic plan to members before the Annual Meeting so we can discuss it at the Annual Meeting. Davis pointed out that this would compete with the challenge of keeping the Annual Meeting brief.

**12:55 PM Report on the Safer Cities Project: Roger Borchardt**

Roger reported on the recent cooperative project with Institute of Engineering Mechanics in Harbin, China. Two hundred instruments will be shipped in 2-3 weeks, depleting the current USGS inventory. All together we have given out close to 400 instruments. Iwan asked if any data from this program had been recovered yet. Borchardt replied that none that he knows of. Iwan asked if we have site locations. Borchardt replied that this information had been requested repeatedly but that he had not received a reply from the agencies in question, and he would appreciate some assistance in contacting these people. The Board would like to get reports from all of the recipients to date: instrument locations, list as contributing members of COSMOS, and reports on data so far. **The Board also requested information about site conditions. The Board requested that it be made clear that these organizations must provide their data to VDC and give permission to publish response spectra. Current arrangements are that the film will be sent back to CGS or USGS. The Board commended Roger for his service on this project.**

**1:10 PM Discussion of November 17 2005 Technical Session and Plans for the 2006 Technical Session: Robert Bachman & Norman Abrahamson**

Jenny Watson-Lamprey came in.

The 2005 session highlighted problems in scaling ground motions. Practice has been driven by judgment of what is important. Future direction should focus on impacts on specific projects. Jenny is working on how much you can drive up or down the response of the building and still satisfy the code. The session ended up with pent-up urge for more discussion. Promoting the discussion is a natural extension both from where we were, and a natural direction for COSMOS to take.

Board had a consensus that this is a good direction. Davis said we will try to set a date later in the meeting today. Tentatively, we set November 16-17 for this session and for the COSMOS Board Meeting.

**1:30 PM Update on the COSMOS VDC: Jaimison H. Steidl**

Steidl distributed the 2006 fact sheet on COSMOS VDC (Appendix F). An expanded version of this information will appear as an article in Seismological Research Letters in a forthcoming issue. The VDC is soliciting user priorities for enhancements. They had

a questionnaire at EQ06, but the input hasn't been analyzed yet. The booth at EQ06 was a good idea, but the program was so extensive that conference participants didn't have time to browse through the booths. There was a consensus on the Board that it is a good idea to have the booth in the future at other meetings, e.g. EERI, and certainly at the COSMOS meeting this fall. Improvements to the booth might include a running slide show, large posters, etc.

Part of development this year is interface with geotechnical database. We may be able to use Google maps as a contributor to the linking.

**1:45 PM Status of Proposed Future Funding the VDC: Anthony Shakal and W. Savage**

Savage presented a PowerPoint presentation. The conclusions are:

- SM-VDC is assured of continued operation, support, and development in the National Center, which is a collaboration of USGS and CGS, a formal partnership of two COSMOS Core Members
- COSMOS has vital roles in supporting, advising, and promoting the SM-VDC. It is sanctioned by USGS leadership as a part of ANSS.

This would have no net impact on the COSMOS budget. COSMOS would be a valuable advocate from the outside for the continued operations of this center. In the long run, this is critical for survival in the give and take of government funding. The web site would still look largely like the present site.

Membership in COSMOS would continue to be valuable for COSMOS independent contributions, as outlined in the PowerPoint presentation.

**Iwan moved, Anderson seconded, that the Board endorse the concept of VDC incorporation into the National Data Center as described in the PowerPoint presentation.**

COSMOS is in a unique position to maintain the international flavor to the VDC. COSMOS can advocate more broadly without seeming to be self-serving. Borchardt is concerned that the international component will be hard to maintain within CGS and USGS. The data from throughout the world is equally valuable to the USGS and CGS people. One challenge could be maintaining the current stature of COSMOS in the mind of the domestic users. COSMOS needs to be proactive in defining its role. Parrish wants COSMOS to expand and be in a better position as a consequence of the change. Bachman noted that our strategic planning session is important to achieve this, and it needs to be done before the Annual Meeting. **The announcement of this arrangement will be forthcoming when final details have been arranged. In the meantime all Board Members should keep this matter confidential.**

The motion was unanimously approved.

**2:40 PM Strong Motion Program Board's Report: Anthony Shakal**

Shakal distributed a draft summary of the April 13 meeting of the COSMOS Strong Motion Program Board.

In discussion, Abrahamson suggested that VDC take up the issue of quality of data to be included – advising users of suitable uses of data. Steidl considers that COSMOS goal is first to make the data available without evaluation of its quality. Abrahamson thinks it is important for COSMOS to provide the additional services – perhaps in the context of providing alternatives.

As recommended in the report, Savage moved and Parrish seconded that Davis write the letters as recommended to Japanese scientists, to USGS scientists, and to Imperial College of London. Discussion carried a sense that forming the international working group first makes more sense than letting these letters be “the opening salvo”. Carried.

**3:20 PM Report of the Senior Advisory Council Chair: Robert Nigbor**

Bob Nigbor was not present due to a medical condition.

**3:30 PM Update on the COSMOS Charter and Bylaws: James Davis & Committee (Appendix G)**

The COSMOS Charter was created first. Davis sees some inconsistencies between the Charter and the Bylaws. The Strong-Motion Programs Board and the Senior Advisory Council is not mentioned in the Bylaws. He recommends that Board, under its authority under the Bylaws, create a Strong-Motion Programs Board and Senior Advisory Council as special committees described in the Charter. Abrahamson moved and Savage seconded that we resolve to create a committee to be known as the Strong-Motion Programs Board and a committee to be known as the Senior Advisory Council.

Members of the Strong-Motion Programs Board will be Chairman, Anthony Shakal, Jon Ake, Ralph J. Archuleta, Roger Borchardt, C. Allin Cornell, C. B. Crouse, James F. Davis (ex-officio), Greg Fenves, William Holmes, Jose Martinez-Cruzado, Maria Todorovska, and Donald Yule.

Members of the Senior Advisory Council will be Robert L. Nigbor, Anthony Shakal (ex-officio), Ralph Archuleta, Lloyd S. Cluff, James F. Davis (ex-officio), I. M. Idriss, Jeffrey K. Kimball, Bill Leith, Farzad Naeim, Haresh Shah, Donald Yule, and Jerry Wright.

Discussion: Iwan was concerned that the Board cannot create a committee whose membership is recommended by someone else. The Board has to have final authority over the committees.

**The motion carried.**

**3:45 PM Update on the Bolt Medal Committee Activities: W. Savage & Committee**

A DRAFT Criteria for Selection of Recipient was circulated. Savage met with the EERI Honors Committee, chaired by CB Crouse and Bob Jirsa. EERI does not want any conflict between their primary award (the Housner Medal) and this award. They saw potential conflict on the second and third criteria. It will have to go to the EERI Board eventually.

Parrish moved and Savage seconded that Savage be directed to continue to negotiate with EERI and SSA to name an award after Bruce Bolt within the constraints recommended by EERI and on terms that would be suitable to SSA as well. **Approved.**

**3:55 PM Other business: James Davis**

Johnson recommended a motion for a credit card to be used for COSMOS business. **There would be two credit cards with a \$15,000 limit. Claire Johnson and Maury Power would have the cards. Parrish moved, Abrahamson seconded, approved.**

Davis seeks to present a Board roster to the membership this fall, and asked present Board members if they would consider such a presentation.

**4:00 PM Adjourn at 4:13: James Davis**

**COSMOS**

**Consortium of Organizations for Strong-Motion Observation Systems**

**BOARD of DIRECTOR'S MEETING**

**AGENDA**

**24 April 2006**

**10:00 AM—4:00 PM**

**Pacific Earthquake Engineering Research Center  
Richmond, California**

10:00 AM	Welcome to Board Members and Guests	James Davis
10:05 AM	Role Call & Adoption of November 17, 2005 Minutes	John Anderson
10:20 AM	President's Report <ul style="list-style-type: none"><li>• Perspective for this Meeting</li><li>• Overview of COSMOS 2005</li><li>• Plans for 2006</li><li>• Future planning for COSMOS to better accomplish its Mission</li><li>• Advocacy Activities Update</li></ul>	James Davis
10:45 AM	Treasurer's Report <ul style="list-style-type: none"><li>• Treasurer's Narrative</li><li>• 2005 Budget Overview</li><li>• 2005 Profit&amp;Loss vs. Actual</li><li>• Balance Sheet as of 12/31/05</li><li>• Review Report of Independent Accountants for Year Ending 12/31/05</li><li>• COSMOS Membership 2005</li><li>• Contracts &amp; Grants Extant during 2005</li><li>• Analysis of Annual Meeting Technical Session, 2004 versus 2005</li><li>• 2006 Profit&amp;Loss Budget Overview</li></ul>	Maury Power
11:30 AM	Director of Engineering Applications' Report <ul style="list-style-type: none"><li>• Renewal of Contract with COSMOS</li><li>• Objectives for 2005 and 2006</li><li>• Board of Director Elections</li><li>• November 18 Technical Session</li><li>• EQ-06 and COSMOS-VDC Booth</li><li>• Status of Workshops and Grants (Carl Stepp by phone)</li></ul>	Robert Bachman

- Plans for the COSMOS Short Course on use of strong-mc data in design
- COSMOS 2006 support of the VDC
- Discussion of New COSMOS Projects

Noon	Lunch	
12:45 PM	Report on Membership Feedback to Board	Roger Borchardt
12:55 PM	Report on the Safer Cities Project	Roger Borchardt
1:10 PM	Discussion of November 17 2005 Technical Session and Plans for the 2006 Technical Session <ul style="list-style-type: none"> <li>• Assessment of the 2005 Technical Session</li> <li>• Advice on Date for 2006 Technical Session (Board Meeting day before)</li> <li>• Advice on emphasis of content for the 2006 Technical Session</li> </ul>	Robert Bachman & Norman Abrahamson
1:30 PM	Update on the COSMOS VDC <ul style="list-style-type: none"> <li>• Support and Enhancement Plans for 2006</li> <li>• Update of COSMOS VDC Activities to April 2006</li> </ul>	Jaimison H. Steidl
1:45 PM	Status of Proposed Future Funding the VDC	Anthony Shakal and W. Savage
2:40 PM	Strong Motion Program Board's Report <ul style="list-style-type: none"> <li>• Advice to BOD Regarding VDC Issues including Work Group recommendations for future enhancements and possible benefits to COSMOS Member using the VDC using the VDC</li> <li>• Progress on Implementation of the COSMOS Fixed Format and other issues</li> </ul>	Anthony Shakal
3:20 PM	Report of the Senior Advisory Council Chair	Robert Nigbor
3:30 PM	Update on the COSMOS Charter and Bylaws	James Davis & Committee
3:45 PM	Update on the Bolt Medal Committee Activities	W. Savage & Committee
3:55 PM	Other business	James Davis
4:00 PM	Adjourn	James Davis

# COSMOS

## Consortium of Organizations for Strong-Motion Observation Systems

### President's Report

During 2005 and early 2006 COSMOS made progress in fulfilling its Mission and Objectives to expand the availability of strong-motion data and to achieve improved earthquake safety through provision of services to the strong motion community to increase data use, forums to improve data standards and advocacy to expand the availability and quality of strong-motion data. These efforts have been sustained in 2005-2006 by the dedicated efforts of the COSMOS Board of Directors and officers, Bob Bachman as COSMOS Director of Engineering Applications, the COSMOS membership and the strong-motion community in general.

COSMOS has continued to expand its connections and influence within the strong-motion community, its interaction with the structural engineering community and the networking within the COSMOS membership. Other accomplishments include COSMOS project work under the leadership of Carl Stepp who is enabling COSMOS to continue its leadership role in standardizing strong-motion data processing and in facilitating the establishment of the geotechnical Virtual Data Center (VDC) which complements the activities of the COSMOS strong-motion VDC. The COSMOS VDC has continued steadily to expand its strong-motion data and is now a portal through which users can access strong-motion records of over 500 earthquakes from over 3,100 stations and almost 30,000 accelerograms. This provides engineering users with a truly awesome capability to fulfill building code application requirements by identifying appropriate records for employment in structural design and it enables other investigators to better research the physics of strong motion generation and propagation. These are the opportunities for improved understanding and analytical rigor that were envisioned a decade ago during the organization of COSMOS. Many parties are responsible for this happy outcome. Bruce Bolt and Carl Stepp have been the pioneers along with the leadership of the four core consortium institutions (USGS, CGS, US Bureau of Reclamation and US Corps of Engineers) in creating COSMOS. We are indebted to the leadership of UCSB Professors Ralph Archuleta and Jamie Steidl and to VDC staff Mindy Squibb for the implementation.

In 2003 the COSMOS membership at its annual meeting requested that day long Technical Sessions be conducted at future annual meetings. Board of Directors member Norman Abrahamson stepped forward to plan the first event which took place on November 12, 2004. It was a resounding success in which 100 members of the strong-motion community participated. The session brought a panel of experienced practitioners together to share and compare their insights in engineering design efforts employing strong-motion records. A valuable discussion followed in which contrasts in approaches and points of view were identified. The participants in this successful session asked that the next Technical Session focus especially on use of strong motion records to comply with building code requirements. The next very successful COSMOS

Technical Session took place on November 18, 2005 under the leadership of Norm Abrahamson and Bob Bachman. Their panel addressed the issues that have been sources of concern regarding the use of strong-motion time histories in the seismic evaluation standards associated with building code applications. The presentations and the dialog between design engineers, seismologists and those responsible for professional reviews of the design proposals on the panel together with the interaction of session participants has been an important step towards greater consensus regarding improvement of future code standard development. Highlights of the panel presentations are on the COSMOS website. The 125 session participants requested another Technical Session in 2006 and provided feedback for considering areas to be emphasized.

Work is also continuing on the development of a COSMOS short course in the use of strong-motion data in design applications led by Eduardo Miranda of Stanford and Bob Bachman. Roger Borchardt continues his important work with the Safer Cities Program that is coordinated with COSMOS in order to provide previously used recording instrumentation to developing nations enabling them to contribute earthquake records that would otherwise not be available from their areas.

Highlights of important organizational operations in 2005-2006 include the beginning of the second year of valuable service by Bob Bachman as the Director of COSMOS Engineering Applications. Claire Johnson continues her very capable office management. A Board of Directors Financial Committee under the leadership of COSMOS Treasurer and Financial Officer Maury Power worked with the accounting firm employed by COSMOS for financial review. This interaction has resulted in a favorable letter from the firm documenting that the COSMOS procedures for record keeping and financial controls are appropriate for the organization. A year end review of accounts by the firm has also been conducted. The Treasurer assisted by Claire Johnson revised the projected expenditures for 2005 and developed a budget for 2006 expenditures which has been adopted by the Board of Directors.

At the November Annual Meeting of COSMOS membership, COSMOS had the pleasure of Awarding COSMOS Lifetime Achievement Awards to Carl Stepp and Bill Iwan for their meritorious contributions toward the fulfillment of the COSMOS Mission and Objectives. Roger Borchardt was elected to serve as Chair of the General Membership in order to facilitate greater communication between the Board of Directors and the membership. It was announced that the newly reconstituted Strong Motion Programs Board and the Senior Advisory Council had been reactivated after a lapse approaching two years in order to provide recommendations and advice to the Board of Directors.

As COSMOS moves into 2006, it is providing a booth at the 100<sup>th</sup> Anniversary Conference in San Francisco that will highlight strong-motion issues and provide demonstrations of the VDC strong-motion data search and retrieval capabilities. COSMOS is also contributing partial support for three graduate students working on strong motion investigation projects to attend the conference.

In memory of Bruce Bolt, whose untimely death occurred during 2005, COSMOS has negotiated the co-sponsorship of a joint Bruce Bolt Medal in his honor with EERI. Discussions

are in progress to create this award. It is hoped that the first award can be presented in early 2007.

Respectfully submitted,

James F. Davis,  
President

## COSMOS

### Consortium of Organizations for Strong-Motion Observation Systems

#### Treasurer's Report

#### **Budget and Profit & Loss Statement and Balance Sheet for Year Ending December 31, 2005**

The 2005 Budget is shown in Attachment 1 and is unchanged from that presented at the November 2005 Board meeting. Included in Attachment 1 are notes giving the basis for key elements of the Budget. The more detailed notes regarding the development of some budget items, which were attached in the Treasurer's report for the November meeting, are not repeated herein.

The Profit & Loss (P&L) Statement, comparing actual income and expenses with budget amounts for 2005, are presented in Attachment 2, along with explanatory notes for the income and expense amounts. A few comments on the overall finances during 2005 are as follows:

- (1) There was substantial activity on research projects contracted by COSMOS with NSF and PEER and managed by Carl Stepp, although less than anticipated because of project delays. The balance of funding for these projects is carried forward to be expended in 2006. COSMOS realizes net income from these projects through overhead charges on actual expenses.
- (2) The P&L indicates that membership income was larger than budgeted for. However, when account is taken of some dues payments received in 2005 for 2004 dues, membership income for 2005 is about equal to the budgeted amount and to the membership income for 2004.
- (3) The finances for the Technical Session at the November Annual Meeting were significantly improved by an additional contribution of \$10,000 from CSMIP to pay for Technical Session expenses. A summary of the 2005 Technical Session income and expenses and comparison with those for the 2004 Technical Session is presented in Attachment 5 to this report.
- (4) Substantial contributions to the strong-motion VDC at UCSB were made for 2005 by COSMOS, USGS, and CSMIP.

Income and expenses shown in the P&L are recorded on a cash-accounting basis in the COSMOS *QuickBooks* accounts, in which income is recorded when deposited in the bank and expenses are recorded when checks are written. On a cash basis, the P&L (Attachment 2) indicates that COSMOS' net income for 2005 is approximately \$13,000. When accounts receivable and current liabilities at the beginning and end of 2005 are taken into account, net

income for 2005 is approximately zero, indicating COSMOS' financial position did not change significantly over the course of the year. This accounting for receivables and current liabilities is incorporated in the table of Statement of Activities in the Financial Review Report prepared during 2006 by COSMOS' accounting firm; the Financial Review Report is discussed in the following item of the Treasurer's report.

The Balance Sheet from the COSMOS QuickBooks accounts is shown in Attachment 3 and indicates that, on a cash basis, current assets of COSMOS as of December 31, 2005, totaled approximately \$205,000. When account is taken of receivables and liabilities at the end of 2005, as is done in the table of Statement of Financial Position in the Financial Review Report prepared by COSMOS' accounting firm, the year-end net assets total about \$182,000, approximately equal to the amount at the end of 2004. This accounting indicates that COSMOS remains in a good financial position.

### **Review Report of Independent Accountants**

COSMOS' accounting firm of Wilson, Markle, Stuckey, Hardesty, and Bott (WMSH&B) conducted a formal review of COSMOS financial position in 2006 for the year ending December 31, 2005. Such a review is much less detailed than an audit but does provide a limited examination of the COSMOS financial records and financial position. The Financial Review Report of the accounting firm is contained in Attachment 4 and includes Accountants' summary letter, four tables, and notes. The letter concludes that "Based on our review, we are not aware of any material modifications that should be made to the financial statements in order for them to be in conformity with accounting principles generally accepted in the United States".

Also included in Attachment 4 is a letter from COSMOS to WMSH&B signed by the COSMOS Treasurer and Office Manager. The letter is provided for the purpose of expressing limited assurance that there are no material modifications that should be made to the financial statements in order for them to be in conformity with accounting principles generally accepted in the United States, and it provides other representations regarding COSMOS' finances and accounting practices. Such representations by COSMOS are required as part of the accounting firm's review. The Treasurer and Office Manager believe that the review by the accounting firm provides an increased degree of independent examination of COSMOS' accounts and suggest that a review be conducted again for the year ending December 31, 2006.

### **COSMOS Membership for Year Ending 2005**

Attachment 6 summarizes paid membership in COSMOS for 2005. Membership income for each of the membership categories--Core Members, Strong Motion Program Members, Institutional Members, Affiliate Members, and Individual Members--is essentially equal to the income for 2004.

### **Contracts and Grants in 2005**

Contracts and Grants that were in effect during 2005 and the contract amounts of each are summarized in Attachment 7.

## **2006 Budget**

Attachment 8 presents the Budget for 2006, which has been updated from the preliminary budget presented at the November Board meeting. Included are notes explaining key items of budgeted income and expenditures. It is noted that, based on analysis by the project manager, Carl Stepp, COSMOS current research contracts are expected to be completed and remaining funds in these contracts expended during 2006. It is also noted that, based on the strong appeal of and attendance at the Annual Meeting Technical Sessions for 2004 and 2005, an increase in registration fee for a Technical Session in 2006 is anticipated. The Technical Session has therefore been budgeted to break-even rather than incur a net loss (before any subsidy). Budgeting for a Short Course in 2006 has not yet been done, and for the present it has been assumed that, if held, a Short Course will also break even.

The Budget in Attachment 8 indicates an estimated net income of approximately \$9,600, which is slightly less than the estimate of \$11,300 presented in the preliminary budget in November 2005.

Respectfully submitted,

Maurice Power,  
Treasurer

**Attachments to the Treasurer's Report are contained in a separate file attached to this email.**

# COSMOS

## Consortium of Organizations for Strong-Motion Observation Systems

### Director of Engineering Applications' Report

As COSMOS Director of Engineering Applications, my primary objectives for 2005 were to:

1. Successfully negotiating a contract with COSMOS for my services.
2. Assist our Treasurer in making COSMOS's financial picture more transparent by having budget statements prepared.
3. Assist our President in organizing a successful Annual Business Meeting and Board of Directors meetings.
4. Securing funding and putting agreements with USGS and UCSB in place for the continuation of the VDC beyond September 30, 2005, when NSF funding was completed.
5. Working with Norm Abrahamson to develop an Annual Meeting Technical Session that more directly address the concerns and needs of practicing structural engineers.
6. Successfully advertise the annual meeting
7. Work with Eduardo Miranda to develop a strategy for a COSMOS Short Course on use of strong-motion in structural design.

In general, the above 2005 objectives were achieved. My contract has been negotiated and renewed through February 2007. New budget statements have been developed and prepared. In my opinion, the Annual Business Meeting and Board of Directors meetings have been well organized and effective. We have agreements in placements with USGS and UCSB for continued funding for the VDC through September of 2006. The Annual Meeting/Technical Session was well attended and considered outstanding by most who attended. An outline and strategy for the COSMOS short course has been developed and a working relationship has been established with EERI.

My primary objectives for 2006 are as follows:

1. Organize our involvement in the 2006 EQ-06 SSA/EERI Conference, including having a COSMOS booth in the Exhibit Hall, which will include demonstrations of the Strong-Motion VDC and Geotechnical VDC.
2. Continue to assist our president in organizing successful Annual Business meetings and Board of Director meetings.
3. Work with our President on updating our COSMOS Charter and By-Laws.

4. Work with the Board of Directors, USGS, and CGS to secure long term funding for the VDC.
5. Work with our President and Board of Directors to develop a long-term strategic plan for COSMOS consistent with the long-term funding strategy of the VDC.
6. Work with our President on clarifying and expanding benefits of membership for COSMOS members.
7. Work with our President, the COSMOS Bolt Award Committee, and EERI to develop the criteria for awarding the Bolt Medal.
8. Work with Norm Abrahamson to develop another successful and well-attended Annual Meeting Technical Session.
9. Facilitate the development of a COSMOS short course by Eduardo Miranda and selected other invited authors/presenters.

By all accounts, the November 18<sup>th</sup> Annual Business Meeting Technical Session was an outstanding success. The talks were excellent and right on target, and the panel session was lively and engaging. The power point slides are posted on the COSMOS website at the request of the audience. Norm Abrahamson and one his students are planning to publish a summary overview of the session. We hope to develop an even better Technical Session later this year and also to have it be revenue neutral (non-subsidized).

COSMOS is proud to be co-sponsor of the EQ-06 EERI/SSA 8<sup>th</sup> U.S National Conference on Earthquake Engineering. COSMOS has provided financial students for three students who are attending the conference. In addition, COSMOS is staffing a booth (#1118) at the conference where the Strong-Motion and Geotechnical VDCs will be demonstrated. We are grateful to Mindy Squibb, Jennifer Swift, and Claire Johnson who will be providing the primary booth staffing.

The USGS and CGS have been working a long-term strategy for the continued funding of the VDC. This strategy will be presented to the Board of Directors at the April 24<sup>th</sup> meeting for their review and comment. A logical next step is the COSMOS Board of Directors to develop a long-term strategic plan consistent with the adopted funding plan.

The development of COSMOS Short Course to encourage more extensive and proper use of ground motion time histories in structural applications is continuing. The course development is under the general direction of Eduardo Miranda of Stanford University. Current plans call for a short course that focuses on the value of performing structural analyses using strong ground motion time histories, proper selection and scaling of time histories, application of time histories with nonlinear analysis tools and software, and the use of measured instructure time histories to identify damage. COSMOS has developed a working relationship with the EERI Seminar Committee and will be co-sponsoring some upcoming EERI seminars, which will cover some of these subjects to a limited extent. The concept is for EERI to co-sponsor the COSMOS short course to utilize the EERI distribution in order to advertise the short course. Current goals are to have the Short Course be given the last part of this year and early next year at key locations throughout the United States.

On February 13<sup>th</sup>, 2006, I represented COSMOS at an EERI Technical Seminar on the Seismic Performance of Existing Concrete Structures. Many older structures of this type represent serious safety hazards. This seminar emphasized new evaluation techniques utilizing the nonlinear time history analysis where the proper selection and scaling of ground motion time histories is extremely important.

As COSMOS Director of Engineering Applications, my plan is to continually explore opportunities in which COSMOS can promote expanded use of earthquake strong-motion measurements in both research and engineering applications. This may include the development of additional educational seminars and developing working relationships with seismic code development organizations for the purpose of removing barriers and providing code clarifications that would promote their use.

**MEETING REPORT**  
**COSMOS VDC Work Group Meeting**  
 February 15, 2005

University of Southern California  
 Los Angeles, CA

The COSMOS SMVDC Work Group met at the University of Southern California, Los Angeles, CA on February 15, 2006. The following Work Group (WG) members, SMVDC Project Team members, and COSMOS representatives participated in the meeting.

<u>COSMOS WG</u>	<u>SMVDC Project Team</u>	<u>COSMOS</u>
C. B. Crouse, Chairman – URS Corp. <a href="mailto:CB_Crouse@URSCorp.com">CB_Crouse@URSCorp.com</a>	Jamison Steidl, UCSB <a href="mailto:steidl@crustal.ucsb.edu">steidl@crustal.ucsb.edu</a>	Carl Stepp, COSMOS PI <a href="mailto:cstepp@moment.net">cstepp@moment.net</a>
Hamid Haddadi – CGS <a href="mailto:hhaddadi@consvr.ca.gov">hhaddadi@consvr.ca.gov</a>	Melinda Squibb, UCSB <a href="mailto:mindy@crustal.ucsb.edu">mindy@crustal.ucsb.edu</a>	<u>Guests</u>
David M. Boore – USGS <a href="mailto:boore@usgs.gov">boore@usgs.gov</a>		Moh-Jainn Huang - CGS <a href="mailto:mhuang@consvr.ca.gov">mhuang@consvr.ca.gov</a>
Christopher Stephens – USGS <a href="mailto:cdstephens@usgs.gov">cdstephens@usgs.gov</a>		Jennifer Swift – USC <a href="mailto:jswift@usc.edu">jswift@usc.edu</a>
		Lorraine Hwang – NEESinc <a href="mailto:Lorraine.Hwang@nees.org">Lorraine.Hwang@nees.org</a>

Discussions followed the meeting agenda (Enclosure 1), modified as described below.

**Introduction and review of agenda**

Chairman Crouse called the meeting to order at 9:30 AM and asked for revisions to the meeting agenda. The agenda was modified by folding the “SMVDC Team report on status of action items from 6/30/05 and 11/17/05 meetings” into “Summary of November 17, 2005 meeting action items”; by moving “Proposed COSMOS Tagged Format v2.0” to become the final meeting agenda item and reducing the presentation to a brief summary; and by combining “CSMIP treatment of metadata: needs and issues” and “USGS treatment of metadata: needs and issues” into a single discussion introduced by brief summaries of each agencies’ treatment of metadata.

**Summary of November 17, 2005 meeting action items and SMVDC Team Report on status of action items from 6/30/05 and 11/17/05 meetings**

Recommendations and action items from the June 30, 2005 and November 17, 2005 WG meetings are restated below together with the implementation status of each.

**June 30, 2005 Action-1: Project Team will draft a record processing procedure and obtain Working Group review.**

Status reported November 17, 2005

No action taken yet. Dr. Steidl stated that processing of digital recordings is relatively easy to do. They likely can be uniformly processed using an automatic processing procedure. The approximately 100 analog recordings are more problematic and require more effort. Each record may require individual processing and all require human review.

November 17, 2005 New Action #1 – Chris Stephens and Mindy Squibb will review USGS analog recordings that are in the COSMOS SMVDC and make recommendations to the WG with respect to processing procedures. Identify problem recordings that have problems that raise questions about their reliability.

Status February 15, 2005

Action remains pending. Following additional discussion of the need for a record processing procedure and for uniformly processed recordings, the Working Group recommended that:

- SMVDC users need response spectra in order to make informed choices of recordings that satisfy any particular project need. The Working Group recommends that the SMVDC compute uncorrected response spectra for all recordings and make them available for viewing only to assist users with selecting recordings. Users would not be able to download the response spectra.
- The SMVDC should post a disclaimer stating that the response spectra are uncorrected and are made available for viewing only to assist users with selecting recordings appropriate for their project needs. The SMVDC Team should prepare a disclaimer note and pass it by the Working Group for review. Following COSMOS approval the disclaimer should be posted on the SMVDC home page.
- Priority should be given to posting response spectra from free-field recordings and recordings in the basements of buildings.

**June 30, 2005 Action-2: Professor Archuleta will consult with K-net and KiK-net about processing recordings from those networks and will determine whether the network owners agree to permit response spectra to be developed by COSMOS and whether the owners agree to allow users to download response spectra or simply post them for visual inspection to assist users in selecting recordings.**

Status

Action pending.

**June 30, 2005 Action-3 COSMOS will arrange with EERI and SSA to distribute the Fact Sheet together with their membership renewal notices.**

Status

An updated SMVDC Fact Sheet will be prepared and distributed at the EQ '06 meeting in April.  
November 17, 2005 New Action #2 – The VDC Team will prepare a short “Fact Sheet” paper and submit it to Seismological Research Letters.

Carl Stepp will work with the COSMOS Office and submit the existing fact sheet to the EERI Newsletter with the request that EERI include it as an insert in their Newsletter; and COSMOS will publish it in the next issue of the COSMOS Newsletter.

Status

- The updated SMVDC Fact Sheet will be included in the next issue of the COSMOS Newsletter.
- The SMVDC Team has completed a Fact Sheet summary paper and will shortly submit the paper to SRL for publication. Copies of the paper will be handed out at the COSMOS booth during the EQ '06 meeting.

***June 30, 2005 Action 4: The SMVDC Team will distribute the User Manual to members of the Working Group for formal review. Members will provide comments by July 31. The VDC Team will revise the Manual taking account of the comments. The revised draft will be reviewed at the next Working Group Meeting.***

Status

Completed. The SMVDC Team has obtained review, revised the User Manual and has posted it on the SMVDC Home Page. The User Manual will be in continuous development as new user features are developed and incorporated into the SMVDC. The Manual will be posted on the COSMOS Home Page.

***June 30, 2005 Action 5: The SMVDC Team will make an effort to obtain the European strong motion data from Imperial College. It would be preferable to hold the data set in the SMVDC server. Alternatively, the server could point to the database where users could obtain data that satisfy a set of search parameters.***

Status

Action pending. Professors Ambraseys and Douglas, who are the leaders for maintenance of the European strong-motion data set, are near retirement or have retired. We do not know who will assume or has assumed responsibility for the data set. Professor Ambraseys gave a CD containing the data set to COSMOS some time ago, but has not given permission to distribute the data through the SMVDC. The first step in resolving this matter is to determine the current status of the data set and identify the person who has responsibility for its maintenance. With that knowledge we will determine what actions must be taken to make the data set available through the COSMOS SMVDC.

November 17, 2005 New Action #3 – Dave Boore, who is in frequent communication with Julian Bommer at Imperial College will determine the current status of the data set, identify the person who is responsible for its maintenance and report back to the WG.

Status

Dave Boore and separately, Carl Stepp talked with Julian Bommer briefly about linking the European strong-motion data with the COSMOS SMVDC when he was in San Francisco for a meeting in early December 2005. Shortly thereafter Professor Bommer provided a note that clarified the current status of the European dataset and identified issues that need to be resolved in order to link the dataset to the COSMOS SMVDC. A significant clarification is that the European strong-motion database is a catalog of meta-data, whereas the actual collection of strong-motion recordings in digital format is called the data bank. The main points of his note are summarized in Enclosure 2.

Dave Boore summarized the main points contained in Professor Bommer's note for the Working Group discussion. The following recommendations and actions items emerged from the general discussion.

• **Recommendation**

COSMOS should seek permission to put the European strong-motion database – the meta-data – into the COSMOS SMVDC with pointers to the data providers where the recordings may be obtained.

- February 15, 2006 New Action #1 – Dave Boore will compile a list of data providers building on a listing that has been developed by Jamie Steidl and Mindy Squibb.
- February 15, 2006 New Action #2 – Carl Stepp will contact NSF and explore the possibility of obtaining funding support for an international workshop on coordinated dissemination of strong-motion data, as suggested by Professor Bommer. If NSF is receptive to funding the workshop, the SMVDC Team will prepare a proposal and submit it to NSF for funding.

**November 17, 2005 New Action #4** – Stepp will pursue with COSMOS Management the possibility of having a booth at the 100th Anniversary Conference of the 1906 San Francisco Earthquake; this conference will be convened jointly by DRC, SSA and EERI.

**Status**

This action has been completed. COSMOS has reserved a booth at this conference. The booth will have facilities for demonstration of both the SMVDC and the Pilot GVDC as well as space for poster and COSMOS publication displays.

**SMVDC metadata needs and issues**

This agenda item combined discussion of “SMVDC metadata needs and issues” with “CSMIP treatment of metadata: needs and issues” and “USGS treatment of metadata: needs and issues” [see Enclosures 3, 4 & 5].

- Currently the SMVDC metadata file has only two fields: surface geology, and  $V_{s30}$ .
- Enclosure 3 is the CSMIP “*Strong-Motion Metadata Parameters Necessary for a Raw (Unprocessed) Data File*” v2.2. Metadata parameters are grouped as *Data/File*, *Station*, *Earthquake*, *Recorder/Data Logger*, *Record*, & *Sensor/Channel*. The parameters are identified as *Critical* or *Optional* for ShakeMap and IQR/EDC applications.
- Enclosure 4 is the USGS metadata structure and format.
- Enclosure 5 is the PEER NGA Flatfile Metadata.

The following needs emerged from the general discussion of these enclosures.

- Identify the parameters that will be search parameters;
- Develop and implement a mechanism for populating the metadata parameters;
- Adopt a coordinate reference system with information about accuracy of location;
- Develop a structure for classifying earthquake source information that is meaningful to engineers who use the SMVDC;
- Adopt a classification system for site geology, including surface geology,  $V_{s30}$ , depth to uniform hard rock, and other important parameters;

- Implement common descriptors of metadata among database providers;
- Provide specific geographic coordinates of sensors;
- Provide details of filter for processed data and usable bandwidth;
- Provide references to sources for critical parameters.
- 
- **Recommendation:** COSMOS should start with the PEER NGA metadata for development of the COSMOS SMVDC metadata. Classify the metadata as *necessary*, *desirable*, *useful* and provide comments. These activities should be implemented with full participation among the SMVDC data providers and with input and feedback from users. User input should be obtained by sending the proposed metadata structure to a targeted group of frequent users of the SMVDC with the request that they identify what is necessary, desirable, useful.

### **Proposed COSMOS Tagged Format v2.0**

During its June 30, 2005 meeting the Working Group reviewed a proposed COSMOS Data Format v2.0, which was under development by Chris Stephenson, John Evans, and Melinda Squibb. The proposed format is based on a simple tag-value structure that is XML compatible and is fully backward compatible, flexible, and easily extensible. The Working Group recommended that:

**“The VDC Team should pursue development and implementation of the COSMOS v2.0 data format. The implementation should insure that database providers are able to hold their data in the COSMOS v1.0 format or in another format that they may prefer”.**

As reported in the November 17, 2005 COSMOS Board meeting, the COSMOS Strong-Motion Programs Board (SMPB) considered this recommendation and is proceeding with a working group to develop and implement the v2.0 Data Format. The SMVDC Working Group greatly appreciates the importance of this action for achieving the desired coordination among the SMVDC stakeholders. The Working Group also appreciates the important progress toward developing the v2.0 Data Format that has been completed by Chris Stephens, John Evans, and Melinda Squibb, recommends that they continue their work, and urges that their work should be integrated into further development of the format under the leadership of the SMPB.

### **Other Items**

- Future support for the SMVDC is under review. The COSMOS-UCSB MOU, under which the SMVDC Working Group is supported, continues through the end of 2007. The February 15, 2006 meeting is however, the final currently planned meeting of the Working Group. The Working Group members and the SMVDC Team are in consensus that the Working Group provides an important, focused forum for developing strategies and specific guidance for continuing evolution of the usefulness of the SMVDC and recommends that the Working Group should be continued and that major users of the SMVDC should be invited to future meetings to discuss their experiences with using the SMVDC and to make recommendations for enhancing the user experience.
- The Working Group recognizes the critical importance of support provided the SMVDC by data providers and the importance of their feedback to enhancing the usefulness of the SMVDC for users. COSMOS should consider hosting a reception for the data providers during

EQ '06 where they would have the opportunity to identify coordination issues and identify strategies for enhancing the usefulness of the SMVDC, perhaps under the leadership of the Senior Advisory Committee. Mindy Squibb will identify the contacts and generate a list of data provider contacts.

- The Working Group recognizes the importance of the COSMOS booth at EQ '06 as a means of communicating COSMOS program activities to the earthquake engineering community. Working Group members should send suggestions for the SMVDC display and demonstration to Mindy Squibb as early as possible.

Chairman Crouse adjourned the meeting at 4:00 PM.

Respectfully Submitted

J. Carl Stepp  
March 21, 2006

The COSMOS Virtual Data Center (<http://db.cosmos-eq.org/>)

## Mindy Squibb, COSMOS VDC UC Santa Barbara – November 2005

The COSMOS Virtual Data Center continues to incorporate data from a wide range of sources and to facilitate user access to data. The VDC currently provides access to 515 earthquakes, 3,108 stations and 26,563 traces, a considerable expansion from

## Increase in data available via the Cosmos VDC.

	Sept 2001	Oct 2005	% Increase
Earthquakes	199	515	159%
Stations	1,744	3,108	78%
Accelerograms	11,537	26,563	130%

## Number of files selected for downloading from the COSMOS Strong-Motion VDC, 11/04-10/05

No. of Files	Owner
402	<b>ANSS</b> Advanced National Seismic System
785	<b>APSC</b> Alyeska Pipeline Service Co.
400	<b>ACoE</b> Army Corps of Engineers
2,105	<b>KOERI</b> Bogazici Univ., Kandilli Observatory, Turkey
68	<b>CDWR</b> Cal. Division of Water Resources
648	<b>CIT</b> Cal. Institute of Tech.
42,546	<b>CSMIP</b> Cal. Strong Motion Instrumentation Program
324	<b>CIG</b> Centro de Investigaciones Geotecnicas
1,225	<b>DGG</b> Dept. of Geophysics and Geodesy, Santiago Chile
3	<b>VA</b> Dept. of Veterans Affairs
2,048	<b>IITR</b> Dept. of Earthquake Eng., Indian Inst. of Tech., Roorkee
350	<b>GSC</b> Geological Survey of Canada
295	<b>IRIGM</b> IRIGM: Universite Joseph Fourier, Grenoble, France
1,047	<b>IGNS</b> Inst. of Geological and Nuclear Sciences Ltd, New Zealand
112	<b>IGP</b> Inst. Geofisico del Peru
483	<b>UNAM</b> Inst. de Ingenieria de la Univ. Nacional Autonoma de Mexico
63	<b>JIPE</b> Joint Institute of the Physics of the Earth, RAS, Moscow
4,896	<b>Kik-Net</b> Kiban-Kyoshin Network, Japan
4,876	<b>K-Net</b> Kyoshin Net, Japan
816	<b>LADWP</b> Los Angeles Dept. of Water and Power
24	<b>L AFC</b> Los Angeles Flood Control
304	<b>MWD</b> Metropolitan Water District
96	<b>MCEER</b> Multidisciplinary Ctr for Earthquake Engineering Research
193	<b>NSSP</b> National Survey for Seismic Protection, Armenia
269	<b>NCSN</b> No. Cal. Seismic Network
558	<b>Priv</b> Private owner
36	<b>SLP</b> Seattle Light and Power
9,368	<b>CWB</b> Seismology Ctr, Central Weather Bureau, Taipei, Taiwan
227	<b>SCEC</b> So. Cal. Earthquake Ctr
77	<b>SCE</b> So. Cal. Edison
40	<b>TPU</b> Tacoma Public Utilities
576	<b>USGSH</b> USGS Geologic Hazards Team
165	<b>USBR</b> U.S. Bureau of Reclamation
24,277	<b>USGS</b> U.S. Geological Survey
396	<b>UCA</b> Univ. CentroAmericana, San Salvador, El Salvador
1,579	<b>UA</b> Univ. of Alaska Geophysical Inst. Anchorage Region
38	<b>UCLA</b> Univ. of Cal. at Los Angeles
2,681	<b>UNR</b> Univ. of Nevada Reno
6,420	<b>USC</b> Univ. of So. Cal., Dept. of Civil Engineering
436	<b>UW</b> Univ. of Washington, Geophysics Program
32	<b>WDNR</b> Washington Dept. of Natural Resources

111 252. Total

the date of its funding by the NSF in September, 2001. Major additions in the last year include the Hokkaido, Japan, November 2004 Mw 7.0; Anza, CA June 2005 Mw 5.2; N. California June 2005 Mw 7.2; and Honshu, Japan August 2005 Mw 7.2 earthquakes. In fact, a total of 24 earthquakes were added from the K-Net and Kik-Net networks in Japan and 33 new earthquakes from all sources.

In addition, there is a continuing effort to provide full information for earlier data. Response spectra for legacy earthquake records from the NOAA/NGDC dataset continue to be added to the VDC. And there is now more consistent site geology information with the incorporation of Vs at 30m for approximately half of all stations accessible through the VDC.

Improving the services it provides for its web users is also important at the VDC. The web site now allows the user to download all files selected as a zip file, rather than limiting the number to 30 at a time, as

before. The VDC has also added a new User Manual, available as a pdf file from the VDC home page. A newly revised website which is standards compliant and which will allow web services and connection to the COSMOS Geotechnical VDC from the VDC station pages is in development.

Currently, the COSMOS VDC Working Group is evaluating cross communication between the VDC and the Geotechnical VDC, and incorporation of site metadata from the NGA database.

**MEMO FOR THE COSMOS CHARTER AND BYLAWS COMMITTEE**

**Background: There is a need to examine the most significant differences between the COSMOS Charter and Bylaws in order to reconcile some of the most important disparities and also to consider some needed operational changes:**

The Charter was adopted first by the Core Members of COSMOS when the Consortium was formed. It provides for eligibility and types of General membership, the Strong-Motion Programs Board (SMPB), which is the governing policy board elected from the membership and a Secretariat consisting of an Executive Director who is appointed by the SMPB. Additionally, the Charter provides for the establishment of an advisory board, the Senior Advisory Council (SAC) by the SMPB. The responsibilities of each entity are enumerated.

The Bylaws were adopted when COSMOS was incorporated as a tax exempt not-for-profit Corporation in California. The elements of the COSMOS Bylaws are required for such incorporations in California. The Bylaws include requirements and types of memberships identical to the Charter and establish the Board of Directors (BOD) as the governing body, which is elected by the membership. The Bylaws give most of the governing responsibilities that the Charter accords to the SMPB to the BOD. There are provisions for election of officers to the Corporation, designated as the President, Vice-President, Secretary, and Treasurer. The Bylaws provide for the appointment of an Executive Officer, a position which is similar to the Secretariat of the Charter. There is no provision for the SMPB or the SAC in the Bylaws.

**Rational for Addressing Certain Differences in the Charter and the Bylaws in the near future:**

When COSMOS began to operate both documents existed. The BOD was elected at the first General Membership meeting, and then the BOD elected the officers. The BOD requested the General Membership to elect the membership of the SMBP and the SAC, for which the BOD provided nominations. As initiated, the role of the SMPB has been to make recommendations for the BOD to consider as the COSMOS governing body. The SAC has responded to requests from the SMPB and the BOD to examine certain issues and provide advice to both for ultimate action by the BOD.

It is timely and useful for the BOD, the governing body under the terms of the Bylaws, to consider the most significant differences between the Charter and the Bylaws and to take action.

**First Issues for Consideration:**

As a follow up, at its November 17, 2005, meeting a Board action empowered the selection of a Charter and Bylaws Recommendation Committee. The BOD recommended that the Committee first address amending the Bylaws to create new articles and sections providing for the

establishment of the SMPB and SAC in the Bylaws. The Committee recommendations will then be considered by the BOD for adoption.

Secondly it is recommended that the Committee develop functions, powers, and responsibilities that reflect the current operational practices of COSMOS for its Officers, the Director of Engineering Applications and the COSMOS Boards.

Following the accomplishment of the above tasks, it is recommended that the Committee undertake consideration of formalizing the individual membership category of COSMOS, which is now a part of operating practice. As part of this undertaking, it is recommended that the Committee present the criteria for individual membership and the relationship of individual members to member organizations, in matters such as membership dues, membership benefits, and voting to elect COSMOS officers and to adopt COSMOS policies. It is further recommended that under Article 8 of the Bylaws following section 4 that a new section be added governing receipt of external funding by contracts and a new section 6 be added governing provisions for COSMOS to fund needed work that is done by external parties on behalf of COSMOS.