A. INTRODUCTION AND OVERVIEW

The Audit Committee met on April 16, 2004 with Tom McIlrath, Treasurer, and Michael Stephens, Controller, and with Karl Sening, Concurring Partner, and Greg Plotts, Manager, of the audit firm PricewaterhouseCoopers (PWC). At this meeting, PWC’s Audit Report for the year ending December 31, 2003 was examined and discussed. Following the general discussion with the above-named persons, the Audit Committee first met in executive session, then met with just Karl Sening and Gary Plotts. The PWC auditors then departed. Next, the Committee met with Bob Kelly and Tracy Alinger to hear Business Continuity Plans for APS at College Park and APS Editorial Office. Then we met with Tom McIlrath, and lastly with both Tom McIlrath and Michael Stephens. The present report covers the entire 2003 calendar year. The Committee wishes to extend its thanks to Tom McIlrath and Michael Stephens for their cooperation and assistance in meeting the responsibilities of the Audit Committee.

The Audit Committee was provided with:

- The 2/27/04 PWC Report titled "APS Financial Statements, Supplemental Information and Reports of Independent Auditors for the Year Ended 12/31/03".
- The PWC Report to the Audit Committee, dated 4/16/04.
- The APS charge to the Audit Committee dated 11/18/02, describing the Committee's major functions, background, duties and responsibilities.
- APS Report to Audit Committee on Business Continuity Plans.
- APS Report on Workplace Harassment, Discrimination and Violence, dated 5/21/03.

In addition to the formal audit issues other topics were discussed, as described below.

B. THE AUDIT REPORT

During the Committee's meeting with Karl Sening and Greg Plotts, Mr. Sening stated: (i) the APS financial statements are prepared in accordance with generally accepted accounting principles; and (ii) the fiscal condition of the APS is sound and very healthy, in the sense that: (a) it has no long term debt; (b) its liquid assets are a significant fraction of its total assets; and (c) there were good increases in the Society’s net assets in contrast to the previous year’s decline, both of which were driven by increases and decreases, respectively, in the stock market.
The Audit Committee sees no reason to disagree with these statements by Mr. Sening, but see also paragraph E.7 below.

C. FOLLOW-UP ON THE 2003 AUDIT COMMITTEE RECOMMENDATIONS AND FINDINGS (Comments of the current Audit Committee are in italics)

1. We recommend that the Independent Auditor’s Report prepared by PWC for six months ending 12/31/02 be accepted.

Council accepted report.

2. We recommend that the APS retain PWC as the audit firm for the new fiscal year ending 12/31/03. The desirability of re-bidding audit responsibility should be reassessed after receipt of PWC’s audit report for the new fiscal year.

PWC was retained.

3. We find, on the basis of the audit by PWC and our discussions that there are no outstanding issues of material importance in the financial affairs of the APS except as discussed below.

No follow-up required, but see next paragraph and E.7 below.

4. Long-term retiree health care, which presently amounts to 20% of total liabilities, remains an increasing financial obligation fraught with long-term uncertainty. The Audit Committee continues to express its serious concern, and renews its last report's recommendation that the APS examine ways to limit the growth of this liability. This said, we also say that we are pleased the Executive Board's Budget Committee plans to look carefully at the Society's long-term retiree health care commitment. We recommend that the Society's intended examination of how its present benefits package compares with the packages offered by other comparable not-for-profit organizations concentrate on not-for-profit organizations whose salary structures are similar to the APS's.

Tom McIlrath informed the Committee that the APS Executive Board has agreed to look carefully at the Society’s long-term retiree health care commitment. However, the committee feels the Executive Board needs to be more concerned about long-term health care commitment. This can have serious long-term consequences. During the year 2003, this liability increased from $5,089,554 in December 2002 to $6,138,436 in December 2003, an increase of over one million dollars. All the driving forces behind this increase need to be explored. See E.7 below.

5. We find that the Society's fiscal condition is sound, for reasons explained in Section B above. Nevertheless we cannot ignore the fact that, as we observed last year, market uncertainties play a large role in the net assets of the APS. In particular we are disturbed by the continuing significant decreases in the Society's net assets during recent years. These decreases make it difficult for the Society to fund its operating deficits from investment income. In our opinion, this issue needs further attention. We emphasize, again as we observed last year,
that the Audit Committee has no responsibilities in the investment strategies of the APS. With this understanding, we restate our belief that the Council would be well served by receiving direct reports from the Investment Committee, and now add that the Investment Committee also should regularly review the Society’s investment strategies as well as the effectiveness of its investment advisor(s).

In response to Audit Committee’s concerns in 2003, Tom McIlrath informed the Committee he has begun supplying information to Council and will continue to do so. We do note that there were significant increases in the net assets of APS this year, reflecting increases in the stock market.

D. STATEMENTS BY PWC ABOUT THE AUDIT FOR YEAR ENDING 12/31/03

The following statements appear in the PWC Report to Management of the APS dated February 2004:

1. **Consider Performing a Sarbanes-Oxley Gap Analysis**

APS has adopted an Audit Committee Charter, which formalizes the mission, composition, and roles and responsibilities of the committee. Many non-profit entities are establishing new procedures for their audit committees to become more in compliance with what is expected to be a push down of the Sarbanes-Oxley requirements to non-profit entities. We believe that there will be continuing pressure for non-profit entities to adopt many of the provisions set out in the Sarbanes-Oxley legislation.

We recommend APS consider performing a gap analysis regarding compliance with the provisions of Sarbanes-Oxley. This gap analysis will highlight those provisions that APS is already in compliance with, highlight those provisions that are not applicable, and also highlight those provisions that might be applicable, but are not addressed. APS can then make an assessment as to whether to address these additional provisions.

**Management's Response:** Management will consider performing a gap analysis so that the Society can make an assessment as to whether it needs to address additional provisions.

**Audit Committee's Response:** We believe this gap analysis recommendation of PWC's should be seriously considered by the Society. See E10.

2. **Implement a Formalized Process to Report and Address Any Inappropriate Business Activities**

In today’s business environment, greater responsibilities and higher expectations are being placed on boards and audit committees to ensure that management and staff within their organizations are conducting business in the most appropriate manner. Presently, the Society does not have in place a formal process for employees or other interested parties to report any questionable or illegal activities, accounting fraud or breakdowns in internal controls taking
place within the organization. Furthermore, there is no formal process in place to ensure management and the Board properly follows up on any reported activities. As a result, the Board may remain unaware of inappropriate management or staff activities, thus precluding assurance that proper corrective measures are taken.

We recommend the Society establish a formalized process to report and address questionable or known business activities that are illegal or inappropriate. This formalized process should include procedures, that at a minimum, address:

- how to submit complaints coming from internal or external sources;
- the scope of matters covered by the procedures and guidelines as to the content and detail of complaints;
- how the Society retains complaints;
- who will handle the complaints and the process for evaluating, investigating and resolving them; and
- the role of the audit committee in reviewing and/or investigating complaints.

Management's Response: The Society will look into formalizing its process of reporting and addressing questionable or known business activities that are illegal or inappropriate.

Audit Committee's Response: We recommend the APS develop a formal procedure of reporting and addressing questionable or known business activities or those that are known to be illegal or inappropriate. The procedure should include informing the Audit Committee immediately of any serious accusations. We believe the new procedure can be conveniently incorporated into the existing APS policy statement on Workplace Harassment, Discrimination and Violence or be a stand alone procedure as management chooses. See E11.

3. Obtain Assurance on the Effectiveness of AIP Controls Over the Billing and Collection of Subscription Revenue

For the year ended December 31, 2003, APS received approximately $27 million in non-member subscription revenue that was billed and collected on behalf of APS by the American Institute of Physics (AIP). To help ensure the completeness and accuracy of cash and revenue information reported by AIP to APS, APS management reviews monthly or quarterly statements and reconciliations of data provided by AIP. While such reviews represent an important and effective monitoring control over the services provided by AIP, APS cannot be assured that the data used in such reviews is accurate. Erroneous data provided by AIP reduces the effectiveness of management’s review procedures and could preclude management from detecting misstatements in cash and revenue due to APS.

To help ensure that the data provided to APS is accurate and complete, we recommend management gain the appropriate assurances from AIP that internal controls over the processing of APS’ non-member revenue, cash and related statistics are properly designed and operating effectively. This can best be achieved by requesting AIP to obtain from its own independent auditors an annual report on AIP’s description of relevant internal controls, whether such controls were suitably designed to achieve accurate processing of subscription revenue, and
whether such controls were operating with sufficient effectiveness to provide reasonable assurance that accurate processing of subscription revenue was achieved during the year.

Management's Response: This comment would require AIP to have its auditors perform a SAS 70 report at some additional cost. Management will recommend this to AIP’s management, but recognizes that ultimate implementation of the SAS 70 will be an AIP decision.

Statement on Auditing Standards (SAS) No. 70, Service Organizations, is an internationally recognized auditing standard developed by the American Institute of Certified Public Accountants (AICPA). A SAS 70 audit or service auditor's examination is widely recognized, because it represents that a service organization has been through an in-depth audit of their control activities, which generally include controls over information technology and related processes. In today's global economy, service organizations or service providers must demonstrate that they have adequate controls and safeguards when they host or process data belonging to their customers. In addition, the requirements of Section 404 of the Sarbanes-Oxley Act of 2002 make SAS 70 audit reports even more important to the process of reporting on effective internal controls at service organizations.

Audit Committee's Response: The Committee (with one recusal to avoid any possible conflict of interest) urges APS to request AIP to do a SAS 70 Report that would be given to APS. See E12.

4. Improve Procedures Relating to Accounting for Gifts

Communication between the Development Department and the Accounting Department does not always ensure that all gifts received or promises to give are properly reflected in the financial statements. We noted that there is no reconciliation prepared between the Development Department records of gifts received to what was recorded in the general ledger. In addition, we noted pledge payments received were improperly identified as a gift rather than a pledge payment. At the time of payment, gift revenue is recognized rather than appropriately reducing the pledge receivable balance.

We recommend that the Development and Accounting Departments enhance their monitoring of the pledges receivable balance. A monthly reconciliation between Development reports and the general ledger may help to identify misapplied payments. Adjustments should be communicated timely amongst the departments to ensure their individual records are accurate. Also, formal guidelines should be developed to govern the treatment of gifts, especially for gifts where donor documentation is ambiguous or incomplete.

Management’s Response: The Development and Accounting Departments have already put procedures in place to prevent any future misallocation of pledge vs. gift monies. A formal procedure has been developed from the time the gift/pledge is received to what is posted to the general ledger. Comparison of reporting will occur monthly to ensure proper gift revenue and pledge receivable balance recognition. Monthly reconciliation, between the departments, began in January 2004.

Audit Committee’s Response: We are pleased to see that management has already responded appropriately to this recommendation.
E. RECOMMENDATIONS AND FINDINGS OF THIS AUDIT COMMITTEE REPORT TO COUNCIL

1) We recommend that PWC's Report of Independent Accountants for the year ending 12/31/03 be accepted.

2) We recommend that the APS retain PWC as the audit firm for the new fiscal year ending 12/31/04. The desirability of re-bidding audit responsibility should be reassessed after receipt of PWC's audit report for the new fiscal year.

3) We find, on the basis of the audit by PWC and our discussions, that there are no outstanding issues of material importance in the financial affairs of the APS, except as discussed in E-7.

4) We request that the audit be provided to the Committee as early as possible before the Committee meets. We also note that the 2005 Council Meeting, when the Audit Report will be presented, is two weeks earlier than this year.

5) We recommend that the Audit Committee be expanded to four members who will serve four year terms. The member in his/her third year will serve as Chair. At present, the Chair is only in his/her second year and should have more experience to be a more effective chair. We believe the auditors, Tom McIlrath and Michael Stephens concur in this recommendation.

6) We find that the Business Continuity Plans at the Editorial Office and at College Park are continuing to develop in an excellent manner, with well thought out future expansions. A major effort has been made to provide several back up locations so there would be continuity of service should something happen at Ridge. We were delighted to hear from Bob Kelly that this back up had been tested at ten US libraries which were connected to Ridge, in which they were switched from Ridge to another location without their library personnel even knowing a switch had occurred. This successful switch is a major achievement. The Ridge Office is to be commended on its successful trial of the switch of on-line activity from one location to another.

7) Long-term retiree health care, which presently amounts to 20% of total liabilities, remains an increasing financial obligation fraught with long-term uncertainty. During the year 2003, this liability grew to $6,138,436 from $5,089,554 on December 31, 2002. The Committee feels the APS Executive Board should be concerned about the long-term, retiree health care commitment. A better understanding of the driving forces behind this issue are needed to develop clearer perspectives and possible solutions. This will require in-depth analysis of the actuarial procedures in formulating the liabilities. We recommend that the Society, under the leadership of the Treasurer, address this issue by examining how its present benefits package compares with the packages offered by other comparable not-for-profit organizations concentrating on not-for-profit organizations whose salary structures are similar to the APS's and doing an in-depth analysis of the actuarial procedures. We believe the Auditors will help in this regard.
8) We felt the need to be involved from the beginning of the Audit process. This next year the Audit Committee will meet by phone with the Auditors and APS Management before they start the process to provide input for the Audit. This move is with the concurrence of Tom McIlrath and Michael Stephens.

9) To carry out its work, we believe that the Audit Committee needs to be provided with quarterly financial reports. Tom McIlrath and Michael Stephens have agreed to provide this information. In addition, any serious reports of financial mismanagement, as identified in new procedures to be put in place, are to be reported immediately to the Audit Committee.

10) We believe this gap analysis recommendation of PWC's should be seriously considered by the Society.

11) We recommend the APS develop a formal procedure of reporting and addressing questionable or known business activities or those that are known to be illegal or inappropriate. The procedure should include informing the Audit Committee immediately of any serious accusations. We believe the new procedure can be conveniently incorporated into the existing APS policy statement on Workplace Harassment, Discrimination and Violence or be a stand alone procedure as management chooses.

12) The Committee (with one recusal to avoid any possible conflict of interest) urges APS to request AIP to do a SAS 70 Report that would be given to APS.