To: **ATC Steering Committee**

From: **J. A. Purdy, Ph.D.**
ATC Principal Investigator

RE: **Response to ATC Steering Committee Meeting, Chicago, Illinois, April 15, 2003**

The ATC wishes to thank the members of the ATC Steering Committee (ATCSC) for agreeing to provide input and review of this important NCI sponsored project. We also thank the ATCSC for it's kind remarks regarding ATC competency in the relevant technologies, and its effectiveness in defining technology needs and working with both users and manufacturers to achieve important goals.

This first ATCSC meeting was convened primarily to provide you with background information and to establish a baseline of what has been accomplished thus far, and to seek input regarding future plans. We strongly believe the more we can interact with the leadership of the cooperative groups and the major scientific/clinical societies, the better the ATC can address the issues of advancing the use of informatics in support of advanced technology clinical trials. The following is our response to pertinent ATCSC comments:

1. We are strongly committed to developing an open-architecture, standards-based database system to support clinical trials QA. However, the ATCSC must realize that the existing QA Centers must maintain their own databases in support of the non-ATC supported protocols. Our mission is focused on those protocols that require digital data submission of the majority (if not all) of the RT data objects. To that end, the ITC and RCET will integrate their databases to a single, new ATC database. This new integrated system will allow QARC, RPC and RTOG to focus on data review rather than computer software development, maintenance, and data archival.

2. The ATC has charged QARC, RPC, and RTOG to keep the ATC apprised of developing advanced technology protocols requiring digital data submission. These are discussed at the monthly ATC Teleconferences. Details discussed include data objects required and projected number of accruals. Data storage is thus far not an issue.

3. Rapid review does pose a significant problem for the current generation ATC data submission and review systems. The ATC is working to develop a second-generation system based on an updated, distributed database architecture. When fully deployed, this system will provide each client cooperative group and/or QA Center in the consortium a private, local repository of data replicated from the primary data submission system.

4. A prioritized list of developmental features for the ATC data submission and remote review QA system has been developed.

5. We are working on features that will allow some automation of the data processing. In addition, we are planning more training sessions at the RTOG semi-annual meeting for the CRAs. In addition, we plan to propose presentations at next year's American Association of Medical Dosimetrists (AAMD), AAPM, and ASTRO annual meetings addressing credentialing, digital data submission, and QA.

6. There indeed is still some concern over "turf" including funding. However, the ATC P.I. is committed to overcoming these concerns and significant progress has already been made.

7. We have formed an ATC Information Technology Task Group headed by Dr. Walter Bosch with IT representatives from each group. They initiated a formal request for user input to define requirements of both the current and the next generation ATC submission and review system. We are now in the midst of purchasing hardware and continue in the development of software for the new system. A time-line for implementation of the two main servers at ITC and RCET, along with secondary servers and QA review systems at QARC, RPC, and RTOG will be finalized before the end of October, 2003.

8. The ATC IT Task Group has developed an ATC DICOM Conformance statement and has agreed on a set of development standards for the ATC QA system.

9. We have established monthly ATC teleconferences to update all members on ATC progress, in terms of servicing advanced technology protocols, developmental efforts, and education efforts. An ATC website is under development that will complement the individual member's websites. An ATC listserver will be in place shortly.

10. We are making strong efforts to disseminate information regarding ATC information technology resources, goals and plans to a broad audience. These efforts include the development of an ATC Website, an ATC booth in the exhibitors area at this year's AAPM, and the presentation at this year's AAPM Annual Meeting, "RT Extensions to DICOM: Do They Really Work?" B. Curran, D. Murray, W. Bosch. In addition, a presentation is planned for the DICOM Anniversary Conference/Workshop to be held 22-23 Sept. 2003 in Baltimore, MD. A 1500-word extended abstract for this conference has been submitted. Plans are underway for an ATC presence in the NCI Booth at this year's ASTRO Annual Meeting. For 2004, we are developing proposals for an AAPM Symposium and/or Refresher Course on ATC technology, credentialing requirements, and QA review. Similar proposals are being developed for the 2004 AAMD and ASTRO meetings.

11. The primary aim of the ATC has been to facilitate the receipt and quality assurance of digital images and treatment planning and verification data for advanced technology clinical trials. We continue to play a leadership role in developing and refining the representation of these data within the framework of the DICOM standard. While the ATC facilitates the collection and review of digital image and treatment planning information, clinical records and outcomes information for these trials are managed by the individual cooperative groups.

12. Our second-generation data submission system will make use of open standards for database access (XML) and treatment planning data (DICOM, XML/SOAP) to allow the construction of tools to support both clinical trials QA as well as retrospective data "mining" and analysis. The relationships we are cultivating with investigators engaged in dose-response modeling should help us develop these access mechanisms.