

June 4, 2001

Dear Members of the Interagency Steering Committee on Radiation Standards:

I am writing to invite you to attend the next meeting of the Interagency Steering Committee on Radiation Standards (ISCORS) to be held on Thursday, June 21, 2001, from 1 p.m. to 5 p.m. The purpose of the meeting is to discuss ongoing efforts on various topics on radiation protection and to discuss subcommittee actions. A draft agenda for the meeting is enclosed for your review. The meeting will be held at the Nuclear Regulatory Commission Headquarters (NRC) in Rockville, MD in the Two White Flint North Office Building Auditorium, and is open to members of the public. Two White Flint North is located directly across from the exit of the White Flint Metro station, and is the further from the Metro of the two Nuclear Regulatory Commission buildings. The minutes of the March 21, 2001, meeting are enclosed and will also be available at the meeting.

I look forward to meeting with you on June 21, 2001. If you have any questions, please call James Kennedy of my staff at 301-415-6668, email, jek1@nrc.gov or myself at 301-415-7437.

Sincerely,

John T. Greeves, Director
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosures:

1. Draft agenda for the June 21, 2001 meeting
2. March 22, 2001, ISCORS meeting summary

cc: See attached

cc: Frank Marcinowski, EPA/ORIA
Mary E. Clark, EPA/ ORIA
Keith Matthews, EPA/OGC
Patrice Simms, EPA/OGC
Larry Read, EPA/OERR
Chuck Sands, EPA/OERR
Bruce Means, EPA/OERR
Michael Shapiro, EPA/OSWER
Craig Hooks, EPA/OFFE
David Levenstein, EPA/OFFE
Cynthia Dougherty, EPA/OGWDW
Bob Bastian, EPA/OSW
Matt Hale, EPA/OSW
Nancy Hunt, EPA/OSW
Ernesto Brown, EPA/OSW
Behram Shroff, EPA/ORIA
Julie Rosenberg, EPA/ORIA
Michael Boyd, EPA/ORIA
C. Paperiello, NRC/DEDO
Cheryl Trottier, NRC/RES
Martin Virgilio, NRC/NMSS
Margaret Federline, NRC/NMSS
Donald Cool, NRC/NMSS
Robert Meck, NRC/RES
Rosemary Hogan, NRC/RES
Thomas Essig, NRC/NMSS
James Kennedy, NRC/NMSS
Patricia Santiago, NRC/NMSS
Michael Schaeffer, DOD, DTRA
Col. Robert Cherry, DOD/DOA
Andy Wallo, DOE/EH
Ray Berube, DOE/EH
Paul Seligman, DOE/EH
Mark Frei, DOE/EM
James Fiore, DOE/EM
Jim Owendoff, DOE/EM
David Huizenga, DOE/EM
James Antizzo, DOE/EM
Colleen Ostrowski, DOE/EH
Marthe Kent, DOL/OSHA
Chia Chen, DOL/OSHA
Bill Perry, DOL/OSHA
Robert McGuire, DOT
Fred Ferate, DOT/MS DHM-23
Dr. Bruce Wachholz, DHHS/NCI
Phil Frappaolla, DHHS/FDA
Amy Farrell, OMB
Pat Gallagher, OSTP
Jill Lipoti, NJDEP
Steve Collins, IDNS

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- 1. Draft agenda for the June 21, 2001 meeting
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cc: See attached

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AGENDA

INTERAGENCY STEERING COMMITTEE ON RADIATION STANDARDS Thursday, June 21, 2001 1:00 P.m. - 5:00 P.m.

U.S. Nuclear Regulatory Commission
Auditorium
11545 Rockville Pike
Rockville, MD
301-415-7000
(White Flint Metro Station)

(All times are approximate)

Introductions: (1:00 - 1:10 p.m.) - John Greeves/Frank Marcinowski. Introduction of principal meeting attendees

Annual Report: (1:10 - 1:20 p.m.) B. Shroff, J. Kennedy

Subcommittee Progress Reports (1:20 - 2:30 p.m.)

1. Federal Guidance—Julie Rosenberg
2. Cleanup—Cheryl Trottier
3. Mixed Waste—Gus Vasquez
4. Recycle—Bob Meck
5. Risk Harmonization—Ed Regnier
6. Sewage Sludge/Ash—Robert Bastian/Rosemary Hogan
7. NORM—Loren Setlow

Comments from the Public (2:30-2:45 p.m.)

Agenda Items: (2:45 - 4:30 p.m)

- | | |
|-------------|--|
| 2:45 - 3:15 | Disposition of High-Level Radioactive Waste Through Geological Isolation: Development, Current Status, and Technical and Policy Challenges -- Dr. Kevin Crowley, National Research Council |
| 3:15 - 3:35 | Memorandum of Understanding on Research in Multimedia Environmental Models—William Ott, NRC |
| 3:35 - 4:00 | U.S. Department of Energy Initiatives Concerning Protection of the Environment from the Effects of Ionizing Radiation: Progress, Partnerships, and Path Forward--Stephen L. Domotor, USDOE |
| 4:00 - 4:15 | Domestic and International Meetings |
| 4:15 - 4:30 | Administrative |

Comments from the Public (4:30 - 4:45 p.m.)

Action Items/Next Steps (4:45 - 5:00 p.m.)

1. Review of action items
2. Date/time/place of next meeting
3. Topics for next meeting

Enclosure 1

**INTERAGENCY STEERING COMMITTEE ON RADIATION STANDARDS
MEETING SUMMARY**

Date: March 22, 2001
Time: 1.00 P.M. -- 5:00 P.M.
Location: U.S. Nuclear Regulatory Commission Headquarters, Rockville, MD
Agenda: Attachment 1
Attendees: Attachment 2

Meeting Summary:

John Greeves of the Nuclear Regulatory Commission (NRC), and Frank Marcinowski of the Environmental Protection Agency (EPA), welcomed attendees to the meeting of the Interagency Steering Committee on Radiation Standards (ISCORS).

The following is a summary of the discussion for each subcommittee:

Federal Guidance

Julie Rosenberg, EPA, reported that the subcommittee met to make progress on issues in the updated Federal Guidance for the General Public. EPA presented an outline and suggested a method for drafting the proposal with opportunities for review. Subcommittee members have now discussed all issues in the outline; at the last meeting there was a lot of discussion on which radiation sources would be identified within the scope of the Guidance. It is being revised in Plain English and will be ready for subcommittee review in May and the full ISCORS later in the summer.

The Protective Action Guides (PAG) effort, which is being managed through a different inter-Agency process, is still underway so the subcommittee has not yet had a chance to discuss whether it should be issued as Federal Guidance. (The full committee agreed to include an update on the status of the PAG effort on the agenda for the June meeting).

DOE has asked for EPA to provide a calculation for doing a qualitative dose to risk conversion. It is currently being reviewed in EPA and will get to the subcommittee this spring.

There was general discussion on the congressionally funded DOE Low Dose Study to assess the risk from low doses of radiation. It was decided that the FG subcommittee would have a working group track and report on the study. The subcommittee will decide at its next meeting how to manage the new task. There was a recommendation that other organizations such as HHS and NIH take an active role in the working group.

Cleanup

Cheryl Trottier of the NRC, reported that a draft document titled "Approach for Developing a Web Accessible Catalog of Dose and Risk Models and their Capabilities, and Guidance to Users

Enclosure 2

Regarding the Selection of Dose and Risk Models was in the Federal Register of 2/21/01. The purpose of the document is two fold and is organized in two sections. Section 1 is to provide general guidance and performance considerations on how to select radiation dose and risk assessment models for use in site cleanup. Section 2 is to provide a catalog of models and includes descriptions of attributes and performance capabilities. Model users can download guidance and information on model capabilities and model developers can input performance information.

On the subject of Multi-Agency Radiation Modeling (MARMOD), there was considerable interest on the resources required for the undertaking. DOE wishes to have an idea of the cost before they agree to participate. There was an expectation that this matter would be addressed in the presentation later by Andrew Sowder. It was recommended that there be a focused meeting, outside of ISCORS, between DOE, EPA, NRC and others to discuss MARMOD.

Mixed Waste

The MW Subcommittee is taking a pause in its meeting schedule to allow mixed waste related member agency work to catch up. Among the member agency initiatives the subcommittee is awaiting are DOE's Radiological Control Criteria (RCC) feasibility study and EPA's Storage, Treatment, Transportation, and Disposal of Mixed Waste final rule. In the former initiative the subcommittee will review and comment on responses to issues raised by the Conference of Radiation Control Program Directors. In regard to the EPA rule, the subcommittee may help develop implementation guidance.

Recycle

Robert Meck of the NRC, stated that the subcommittee meetings were in abeyance for the present and that members were monitoring international recycling and orphan sources. He stated that more interagency interaction was needed. On the domestic front, he mentioned that the National Academy of Sciences was examining alternatives for clearance of contaminated materials so they can be recycled. From the international perspective, various participants discussed a resolution from the September 2000 International Atomic Energy Agency (IAEA) meeting on the release of commodities such as food and wood from contaminated facilities in the former Soviet Union. Guidance on exemption levels and clearance levels was suggested

Andy Wallo of the DOE, reported on the Department's actions related to recycling of metals. It was noted that at the December 2000 ISCORS meeting, DOE reported that then Secretary Richardson (via a July 2000 memo) had directed the Department to revise DOE directives to establish a requirement that for metal to be recycled into commerce for unrestricted release, residual radioactivity levels must be "indistinguishable from background." The draft directive was developed and issued for internal DOE comment and in the Federal Register for public comment. Since the December ISCORS meeting, DOE has reviewed comments received and on January 19, 2001, Secretary Richardson signed a memorandum directing the Department to conduct an EIS to evaluate the proposed "indistinguishable from background" option along with other possible alternatives. DOE plans to issue a notice of intent to prepare the EIS and begin a scoping process. All of the related information is being posted on the DOE/EH website and a copy of the January 2001 memorandum was handed out at the meeting. It was also suggested that given the high level of activity related to clearance and metal recycling, the Recycle Subcommittee should become more active in sharing information (e.g., NRC/National Academy of Sciences (NAS) effort, NRC clearance modeling, and DOE EIS as well as IAEA activities). Wallo also suggested that the ISCORS website be a link for all of

the agencies' web postings on these topics.

Risk Harmonization

Edward Regnier of the DOE, reported that the subcommittee was involved with two key projects: The Optimization Project is comparing and evaluating the requirements and methods for optimization in the development of regulations and in licensing and permitting. Methods of optimization such as cost-benefit analysis and the ALARA process are included. The first task which is underway is developing a table of the relevant statutory and regulatory requirements. The Institutional Control project is developing narratives for the Institutional Control Tables.

Sewage Sludge Subcommittee

Robert Bastian of the EPA, reported that at its December meeting the EPA Science Advisory Board (SAB) accepted the use of RESRAD as the basis for modeling dose from exposure to radiologically contaminated sewage sludge. The SAB's Radiation Advisory Committee has posted their public review Draft SAB Advisory Report, dated 2/15/01, at their web site: www.epa.gov/sab/raca010xx.pdf. There are still several issues that the subcommittee is attempting to resolve as a result of SAB comments, such as how to address age differences among receptors (especially children versus adults) and additional documentation on uncertainty and sensitivity. In response to his question regarding life time exposure, it was recommended that the current procedures used by NRC, DOE and EPA be followed while other ISCORS subcommittees consider the potential for revising these procedures in the future.

The subcommittee has continued to meet on a monthly basis and uses conference calls to address the dose modeling effort. The Dose Modeling Group has been working with contractors from EPA and DOE to complete the documentation and finalizing parameters and scenarios prior to the running the RESRAD model. It is expected that the upcoming revision will fully address the SAB's questions. The Dose Modeling Report is expected by June 1, should be posted on the web shortly thereafter for review by the public prior to the next ISCORS meeting on June 21, which is open to the public. The subcommittee has also been working with the labs to correct data discrepancies and develop a format for the survey data report. The subcommittee's goal is to issue the survey data report by June; the final dose modeling report in late summer, and the final Guidance Document for Publically Owned Treatment Plants in the fall. The Guidance will include a summary of survey results and dose modeling.

Naturally Occurring Radioactive Materials (NORM)

Loren Setlow of the EPA, reported that the NORM Subcommittee meeting was held on March 20.. During the session the Air Force member said that they are examining their previous Atomic Energy Commission (AEC) licenses to check on waste material that may be buried at their installations across the country. The DOT member mentioned that their draft notice of proposed rulemaking on amending transport requirements for radioactive materials to bring them into compliance with IAEA/ICRP standards had received sixty comments. Setlow mentioned that he had worked on a joint NEA/IAEA report on "Restoration of World Uranium Recovery Facilities" that would be issued this year and cover remediation of contaminated facilities, long term stewardship and monitoring. He also described EPA's development of a Geographic Information System to illustrate the locations of abandoned uranium mines and their relationship to population, infrastructure, ecosystems, etc. with the objective of assessing risk. A presentation had been made at the Subcommittee meeting by NRC staff on the status of their Jurisdictional Working Group which was evaluating federal agency rulemaking plans for source material <500 pp.m.. Another presentation also had been made on the status of the

revised CRCPD “Part N” suggested state regulation for TENORM. Lastly, the subcommittee discussed development of a White Paper on the NORM/TENORM authorities of member agencies.

National Academy of Sciences Board on Radioactive Waste Management Activities

Kevin Crowley made presentations on a number of issues with which the National research Council is involved. He began with a set of slides titled “Improving Practices for Regulating and Managing Low Activity Radioactive Waste”, which explained a future National Research Council report. He hoped that the study would commence by June 1 and conclude in 20 months. The estimated cost is \$700,000 with NRC as the lead funder; DOE, EPA, U.S. Army Corps of Engineers (USACE), as well states and industry are also being sought as sponsors. Regarding the slide “What is Low-Activity Waste (LAW)?”, there was some discussion about the fact that many of the examples cited could actually have high levels of radioactivity. There was also some question about the appropriateness of including NORM in the list. As to the issues, he emphasized that the cost of managing LAW was dependent on how it was classified, regardless of its hazard. With respect to the workscope of the proposed study, he said that it needed to provide an assessment of technical and policy options for improving practices to enhance technical soundness, improving practices to enhance technical soundness, ensure continued protection of health, and examine options for using risk-informed practices for regulation and management regardless of classification.

The second topic was Long-Term Institutional Management of DOE Legacy Waste Sites: Phase 2. It will focus on a group of 108 legacy waste sites and will make recommendations for improvements in institutional management capabilities. NRC sites that could ultimately be transferred to DOE may also be included and the study may also address remediation and institutional management of the Moab, UT mill tailings site.

Crowley noted that the Board is considering the initiation of a study on harmonization of practices for managing and regulating radioactive and chemical hazards. There appears to be a great deal of interest in topic, but there are conflicting views about what the scope of study—for example, whether to focus narrowly on harmonization of radioactive hazards, or to do a broader study of both radiation and chemicals. The agencies involved in the study are not interested in funding a broad study unless the results are of direct benefit to their programs. The Board is considering the possibility of obtaining foundation support for a broad study.

Also included in Crowley’s presentation was a statement of work for “Alternatives for Controlling the Release of Solid Materials from NRC-Licensed facilities.” This task proposes to gather data and seek an understanding of the technical basis for the NRC’s analyses of alternatives for managing solid materials from licensed facilities. A review shall be made of the technical bases, and policies and precedents set by the NRC, Federal agencies, States, other nations, international agencies, and other standard setting bodies.

Crowley reported that the National Research Council will soon be releasing a report on geologic disposal of Spent Nuclear Fuel (SNF) and high level waste High Level Waste (HLW), which will examine the progress made since the 1990 Council report “Rethinking High-Level Waste Disposal” and will examine the technical and societal challenges of implementing this option. The report is to be issued this spring. On the issue of geologic disposal, he said that the primary questions addressed in their study on SNF and HLW disposal centered on societal challenges, alternatives to geologic disposal, and improving decision-making.

Crowley concluded with a report on the study of “End Points for Spent Nuclear Fuel and High Level Waste in Russia”. This is a study for the Russian Federation funded by DOE and is a

cooperative effort of the NAS and their Russian counterpart. The objective is to provide an analysis of the end points for the waste, including options for interim storage and permanent disposal.

Multi-Agency Modeling (MARMOD)

Andrew Sowder of the American Association for the Advancement of Science (AAAS) Fellow with EPA reported on interagency modeling as follows: The increased use of and dependence on modeling for regulatory analysis and risk assessment amplifies the need for interagency consensus on how to select site specific and generic parameters, how to define appropriate scenarios, and how to select and implement suitable multimedia models. There is a growing consensus among the agencies that a uniform approach to model parameterization and scenario development is desirable, possible, and useful. Consequently, it is proposed that an ISCORS technical workgroup be established to survey existing databases, models, and customer needs to determine the scale and appropriate scope for such an interagency collaboration. The goal of this activity includes the development of interagency guidance on how to select appropriate parameters for use in models and define scenarios that meet desired QA standards and customer needs. There is a great deal of information and experience in the form of reports, guidance, and personnel and the goal is to use existing resources to the greatest extent possible.

Further on the horizon, interagency consensus on modeling would also yield tangible benefits for the agencies, the regulated community, and other stakeholders in terms of better and more flexible modeling systems. Also, consensus at some level on modeling could result in enhanced credibility for the regulatory process, avoid unnecessary conflicts among the federal agencies, and result in models of high quality. An interagency effort is already underway to develop, out of existing FRAMES based systems at DOE (FRAMES v1), EPA (3MRA-HWIR), and DOD (ARAMS), a common framework and standards for integrating legacy codes and/or new modular components into a greater modeling system. As part of this work, a MOU is being negotiated by NRC, DOE, EPA, Department of Defense (DOD), U.S. Department of Agriculture (USDA), and U.S. Geological Survey (USGS). In line with this approach, EPA's Office of Radiation and Indoor Air (ORIA) proposes to evaluate a FRAMES based pilot study employing EPA's GENII and Pacific Northwest National Laboratory's (PNNL's) MEPAS codes to meet internal short term modeling needs. One of the chief goals of this activity is to leverage existing resources to the greatest extent possible to provide a proof of principle for this framework based approach. To this end, EPA/Office of Radiation and Indoor Air (ORIA) already supports GENII and the FRAMES system, as well as related collaborative work with DOE, NRC, and Argonne National Lab using the RESRAD family of codes and databases.

The intent of collaborative interagency work on model parameterization, scenario definition, and model selection and application is not to force adoption of any one model, but rather to establish consensus where possible, agree to disagree on more substantive and fundamental issues, and to bring consistency to the interagency approach to modeling in support of regulatory analysis and risk assessment. Reducing unnecessary and avoidable conflicts will lend credibility to the modeling community, its member agencies, and the regulatory process as a whole. Maximizing the use of existing capabilities and resources will result in more cost-effective, efficient government.

It was decided that a workgroup of the Cleanup Subcommittee would examine issues such as duplication of effort, modularity and QA, investment of resources and benefits derived, and applicability of models to a variety of needs, raised during the discussion. Thomas Essig of the NRC was assigned to lead this workgroup and report back at the June meeting.

Multi-Agency Radiological Laboratory Analytical Procedures Manual (MARLAP)

Ben Hull of the EPA, presented a briefing on MARLAP which is a multi-agency guidance manual for project planners and managers and radioanalytical laboratories. The manual is the radioanalytical laboratory counterpart to MARSSIM (Multi-Agency Radiation Survey and Site Investigation Manual). Participants in MARLAP include: EPA, DOE, NRC, DOD, National Institute of Standards (NIST), USGS, Food and Drug Administration (FDA), the Commonwealth of Kentucky, State of California. The ultimate goal of MARLAP is to provide guidance and a framework to assure that laboratory radioanalytical data meets a program's or project's specific needs and requirements.

Hull covered the description, goals and objectives, and activities supported by the manual. The status and time line was provided as well as a summary of the agency review process completed last summer. The manual is scheduled to be available for EPA's Science Advisory Board review and public review in July/August.

Objectives of MARLAP include: providing a framework and an information resource for using a performance-based approach for radioanalytical laboratory work; promoting a directed planning process involving radioanalytical laboratory expertise; providing guidance on how to link project planning, implementation and assessment from an analytical perspective; making collective knowledge and experience in radioanalytical laboratory work widely available; and providing guidance on obtaining and evaluating laboratory services.

MARLAP is written for project managers/planners and radioanalytical laboratory personnel, and it is consistent with relevant guidance such as International Organization for Standardization (ISO), American National Standards Institute (ANSI), American Society of Testing and Materials (ASTM), and agency documents. The consequences of the current lack of guidance are: existing data is frequently not usable, scientifically and legally; increased likelihood of repeated analyses and additional cost; and potential erosion of public confidence in work performed on site. Data collection activities which MARLAP supports include: cleanup of contaminated sites, environmental monitoring, waste management, site characterization, post-accident response, and background studies. The manual uses a performance-based approach instead of a prescribed approach.

MARLAP uses data quality objectives and measurement quality objectives. Data Quality Objectives (DQOs) are outputs of a directed planning process and these objectives address sampling and analytical uncertainties. Measurement Quality Objectives (MQOs) are the analytical portion of the DQOs. Measurement quality objectives are project-specific requirements for select analytical parameters (e.g., measurement uncertainty, detection limits). The role of MQOs include method selection and evaluation, ongoing data and performance evaluation, and final data evaluation.

Domestic/International Meetings

John Greeves of the NRC presented a summary on the February 2001 IAEA meeting. A technical committee Meeting was convened to prepare a report on the Safety of Radioactive Waste Management for submission to the Board of Governors. It was concluded that the technical issues were already covered. As to societal issues, it was a new departure for the Agency and hence a set of options were presented, ranging from no-action to minor involvement, up to major and proactive involvement with the creation of new structures. In order to move forward, two steps are planned: convene a meeting of consultants to provide further insights on societal issues, followed by a meeting of experts to consolidate information

for presentation to the Board of Governors at the September meeting.

Action Items

1. Future agenda item on PAG status
2. Focused follow-up meeting for MARMOD. (see 8 below)
3. Working Group to the FG Subcommittee on long term low dose.
4. Link ISCORS web page to recycling.
5. December 2000 minutes for Risk Harmonization to be clarified.
6. Link 6/20/00 Guidance Document for POTW workers to ISCORS web page.
7. NRC to inform DOE on previous NRC approvals, if any, on use of ICRP 60.
8. Arrange for Cleanup Subcommittee to be advised on MARMOD.

Potential Agenda Topics for Next Meeting

1. Sewage Sludge Subcommittee to present dose modeling results if available.
2. Status of PAGs
3. MARMOD
4. John Till of Risk Assessment Corporation

Next Meeting

The date, time, and location for the next ISCORS meeting are:

DATE: Thursday, June 21, 2001

TIME: 1:00 - 5:00 P.m.

LOCATION: U.S. Nuclear Regulatory Commission Headquarters Auditorium, Rockville, MD

AGENDA

INTERAGENCY STEERING COMMITTEE ON RADIATION STANDARDS

Thursday, March 22, 2001

1:00 P.m. - 5:00 P.m.

U.S. Nuclear Regulatory Commission
Room O-14-B-6
11555 Rockville Pike
Rockville, MD
301-415-7000
(White Flint Metro Station)

Introductions: (1:00 - 1:10 p.m.) - John Greeves/Frank Marcinowski. Introduction of principal meeting attendees

Annual Report (1:10-1:15)–Status and plans–J. Kennedy, B. Shroff

Subcommittee Progress Reports (1:15 - 2:30 p.m.)

1. Federal Guidance–Julie Rosenberg
2. Cleanup–Cheryl Trottier
3. Mixed Waste–Gus Vasquez
4. Recycle–DOE
5. Risk Harmonization–Ed Regnier
6. Sewage Sludge/Ash–Robert Bastian/Rosemary Hogan
7. NORM–Loren Setlow

Agenda Items: (2:30 - 4:30 p.m)

- 2:30 - 3:15 NAS' Board on Radioactive Waste Management activities–Kevin Crowley, NAS
–Low-activity waste study
–Long-term stewardship studies
–Harmonization of chemical and radioactive materials
–Clearance
–Study of “end-points” for remediation and waste disposal in Russia
--Geologic disposal study
- 3:15 - 3:40 MARMOD, Andrew Sowder, EPA
- 3:40 - 4:00 MARLAP, Ben Hull, EPA
- 4:00 - 4:15 Domestic and International Meetings

--IAEA Waste Standards Safety Committee, Vienna, April 2-6, 2001
–NAS Board on Radioactive Waste Management meeting on long-term stewardship of sites–April 3, 2001
- 4:15 - 4:30 Administrative

Action Items/Next Steps (4:30-4:45)

8. Review of action items
9. Date/time/place of next meeting
10. Topics for next meeting

ATTENDEES, ISCORS MEETING, March 22, 2001

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