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National Economic Research Associates, Inc.
Consulting Economists

**MINUTES OF IMPLEMENTATION SUBCOMMITTEE/WORKING PARTY I
POLICY AND REGULATION**

Preliminary Draft: Subject to Member Review and Approval

Meeting of Tuesday, **January 29, 1992**
National Economic Research Associates, Inc.
Washington, D.C.

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Federal Communications Commission
Office of the Secretary

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Summary: The group discussed the draft paper describing approaches to reduce cost and delay of ATV implementation. The next draft will incorporate suggested changes and will eliminate some of the points upon which consensus could not be reached.

Chairman Charles Jackson called the meeting to order at 1:10 p.m. Those who attended the meeting were:

Julian Shepard, MSTV
Jeff Krauss, Consultant/General Instruments
Gina Harrison, FCC
Valerie Schulte, NAB
Loretta Polk, NCTA
Kirsten Pehrsson, NERA
Molly Pauker, Fox Broadcasting
Brenda Fox, NCTA
David Sidall, FCC/OET

Some minor revisions to the Minutes from the prior meeting were suggested.

The group reviewed the draft of the Working Party's position on the cost and delay issues. Several suggestions were made to better reflect the advisory role of the Working Party in the paper. In other cases, clarification of and justification for the suggested courses of action were recommended.

Consensus could not be reached on all of the issues presented in the draft. Two alternatives were suggested. One was to abbreviate the paper to reflect the issues upon which consensus could be reached only. The other was to present all sides of each issue. It was decided to take the former approach in the next draft.

Chairman Jackson plans to circulate the outline on simulcasting, prepared earlier, for review by the group members.

The minor revisions to the Minutes of the prior meeting were adopted. There was no business from the floor.

The meeting was adjourned at 3:05 p.m.

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ADVISORY COMMITTEE ON
ADVANCED TELEVISION SERVICEFederal Communications Commission
Office of the Secretary

IMPLEMENTATION SUBCOMMITTEE

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Minutes of the Sixteenth Meeting

1. The sixteenth meeting of the Implementation Subcommittee convened at 10:35 a.m. on January 28, 1992, in the Commission Meeting Room at the Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. and adjourned at 11:55 a.m.
2. The following Subcommittee members were present:

George Vradenburg III, Co-Chair
Brenda Fox, Vice Chair
Valerie Schulte, representing Henry Baumann, Vice Chair
Charles Jackson, Chair, Working Party 1, Policy & Regulation
S. Merrill Weiss, representing J. Peter Bingham, Chair,
Working Party 2, Transition Scenarios
3. The designated federal employee attending was Gina Harrison, Staff Attorney, FCC Mass Media Bureau.
4. The minutes of the fifteenth meeting were adopted with one change.
5. Mr. Jackson summarized the activities of Working Party 1. He said that when the group met on December 3, 1991, it organized a subgroup to review the delay and cost issues. That subgroup has drafted a paper which has been distributed to active participants in Working Party 1. The Working Party will meet on January 29 to review and finalize that draft paper and incorporate it, if adopted, into their submission to the Implementation Subcommittee's Fifth Interim Report. In that regard, Chairman Vradenburg noted that the Subcommittee's Fifth Interim Report is due to Chairman Wiley for inclusion in the Advisory Committee's Fifth Interim Report on February 25, 1992. Mr. Jackson alerted the system proponents present at the meeting that the draft Working Party report has a section on information sharing and on the development of standards. Mr. Jackson described the issues considered in the draft report: (1) what kinds of acts reflect good faith on the part of broadcasters in meeting construction; (2) under what conditions would waivers be granted if equipment is not available or if there is a problem locating a site; and (3) how should information already on file with the Commission be incorporated by reference into applications, rather than requiring applicants to restate the information. Mr. Jackson said that in addition to the activities described above, the Working Party will continue to work towards a consensus on simulcasting.
6. Mr. Weiss reported on the activities of Working Party 2. He said

that the group had met three times and conducted several conference calls since the last Implementation Meeting, and that most of their activities are detailed in the Fifth Interim Report of Working Party 2. These activities centered chiefly on meetings with system proponents and on drafting their Fifth Interim Report. The briefing meeting with system proponents was held on January 13, 1992, at which time the Working Party described its activities and asked the proponents to comment and to answer some questions. The meeting focusing on those responses is scheduled for March 17, 1992. At the January meeting, the proponents were given copies of the PERT and Gantt charts developed by the Working Party, and asked to comment. Based on these comments, Working Party 2 plans to determine whether the work now represented in generic form needs to be converted to system specific analyses of the implementation scenarios.

7. Regarding the Working Party's Fifth Interim Report, Mr. Weiss stated that it contains the first published data resulting from the Working Party's studies. He says that the Working Party's Fifth Interim Report also includes the group's tentative conclusions based on that data, the next step towards the Working Party's Final Interim Report.

8. Mr. Weiss described the research of Working Party 2 on who should write the technical standards for the system selected. He said that the group decided that such a recommendation is beyond the scope of the Working Party's area of assignment, but identified several other, more appropriate groups to deal with the matter. For example, Mr. Weiss cited Systems Subcommittee Working Party 4 on System Standard, as more properly playing a role in determining who should author the technical standard. Working Party 2 did find that a systems standard will require two types of documentation, publication in the Commission's Rules and information providing manufacturers with the system details they need to produce equipment. The latter would be a non-Commission activity, and, Mr. Weiss suggested would probably be undertaken by one of the member or by a combination of members of the Joint Committee for Intersociety Coordination (JCIC), the members of which include the Electronics Industry Association (EIA), the National Association of Broadcasters, the Institute of Electrical and Electronics Engineers, Inc., the Society of Motion Picture and Television Engineers, and the National Cable Television Association.

9. Working Party 2, in its report on the issue of standards, stressed that ATV implementation depends on the documentation of the standards. To the extent that such documentation is not available, said Mr. Weiss, implementation will not proceed. Mr. Weiss stressed that the documentation would require a great deal of effort, in cooperation with the winning system proponent. Chairman Vradenburg observed that, if the system documentation necessarily involves the participation of the winning proponent, it appears that documentation would not be available until after a system is selected. He questioned whether, to expedite the dissemination of necessary system information to professional and consumer equipment manufacturers, the contending system proponents could be asked to release at least part of the required information during the competitive process rather than after a system

is selected. Mr. Weiss replied that, although it would be possible to provide generic system information, those involved would probably already have such general information. What is really needed, Mr. Weiss said, is excruciatingly detailed data on the way that the selected system actually works.

10. Mr. Weiss added that because ATV systems are so much more complex than anything standardized before, particularly in the sphere of broadcasting, and because of the problem of trying to transcribe knowledge of a system which cannot be described in terms used to describe previous broadcast systems, the documentation process will be much more difficult and longer than before. Mr. Weiss said that the documentation process, because it is so different from the process involved in picking earlier standards, needs to be started as soon as possible. Thus, Mr. Weiss added, the Commission and Advisory Committee should circulate decisions regarding the selection of a system and the operation of the selected system promptly, to start the documentation process early. Mr. Weiss explained that if the Commission could reveal the selected ATV system as soon as one is chosen, rather than waiting to complete the required documentation and procedures, the system documentation process would receive a head start without asking a large investment from each contending proponent.

11. Chairman Vradenburg noted that two types of system documentation are required: (1) information necessary to write the text of a standard; and (2) meticulous information necessary to manufacture equipment. Mr. Weiss categorized both types of documentation as standards. He said that the first standard involves information necessary to meet the Commission's concerns, such as spectrum utilization, power levels, and things which the Commission must regulate. The second standard involves information pertaining to areas which the Commission could regulate but is not required to regulate. Thus, Mr. Weiss said that the Commission could include ATV system information in its Rules up to a point, but the industry would provide all the other necessary documentation. Such documentation, according to Mr. Weiss, would be extensive enough to allow different manufacturers to build systems that would provide for signals to be transmitted and received and the intended material displayed.

12. Mr. Weiss indicated that, although broadcasters will need a certain amount of information in order to implement the selected ATV system, that information may be less intricate and detailed than the data needed by equipment manufacturers. Mr. Weiss emphasized that the broadcast and cable equipment manufacturers, and manufacturers for the satellite and common carrier distributors (the transmission side of ATV), and the manufacturers on the consumer electronics side all need to know exactly what is going to come out of the transmitter and received by the receiver. However, that information does not need to be in the Commission's Rules. Mr. Weiss said that recent examples exist of the Commission choosing to accelerate the process and, for example, "protecting" systems by not including intricate system specifications in the Rules, and thus avoiding the need for the Commission to create and enact such detailed rules. At the same time the industry could complete the process and provide what detail is necessary. Charles Heuer of Zenith gave the example of the TV stereo decision, where system specification was not included in the

Commission Rules, but was released through a Commission (Office of Science and Technology) Bulletin incorporated into the Rules, and through an EIA Bulletin. Mr. Weiss added that, especially in its early stages, knowledge of the system will increase and developments and improvements based on that knowledge will lead to system changes, even after the system is selected. If such modifications have to be consolidated into the Commission Rules, it could slow the process of providing precise system specifications and thus ATV implementation.

13. Ms. Fox asked whether the lack of formalized standardization could skew the way in which other media will be able to transmit the information. She asked, who will set the standard for what industry if the specifications are not contained in the Commission's Rules, and expressed concern that broadcasters outside the Commission process will be setting standards that will dictate how things will operate for other affected industries. Ms. Fox stressed that an important part of the ATV process has been to ensure that there are certain compatibilities. She noted that these compatibilities can be skewed depending on how the standards are implemented. Mr. Weiss reiterated that the standards could be formalized outside the Commission's Rules, and pointed to other standards, admittedly voluntary, which are not contained in the Commission Rules, are currently operative across the electronics industry, impact on broadcasters, cable systems, and a myriad of other subindustries and are universally adhered to in the interest of interoperability. Therefore, Mr. Weiss contended that omitting the intricate system detail from the Commission's Rules will not reduce the level of standardization.

14. Mr. Weiss and Robert Hopkins of the Advanced Television Systems Committee (ATSC) and Chair of Systems Subcommittee Working Party 4, System Standard, indicated that the primary work of detailing the standard will consist of documenting the design of the selected system, and the winning proponent will know the design of the system better than anyone else. Therefore, regardless of what organization documents the system standard, the individuals involved, for the most part, will be the selected system proponent who best understands the system. The industry's task will be to document what the system proponent knows in a form that others can understand. Those others will participate to "keep the proponent honest" and ensure that the documentation is complete, accurate, and comprehensible. Mr. Weiss remarked that broadcasters and the cable industry will have to work together with other media who use the selected ATV system, as all are represented on the JCIC, and through the JCIC will be involved in documenting the standard.

15. Chairman Vradenburg, in order to set the framework for timing the release of system information, reviewed a tentative schedule for selecting a system. The Advisory Committee's Final Report is due in September of 1992. The Commission should issue a Notice of Proposed Rule Making (Notice) suggesting a selected system by the end of 1992. Finally a system should be approved by June 30, 1993. Chairman Vradenburg asked whether it is expected that a proposed text of the standard will be available and included at the time the Advisory Committee makes its recommendation, or if the text of the standard will at

least be disclosed as part of the Commission's Notice recommending a standard. Mr. Heuer commented that if the specifications aren't available by the time the Commission adopts the Notice proposing the recommended system, that Notice will do nothing more than name a system. He said that the Notice should contain enough information to allow comment on the proposed standards. Mr. Weiss said that technical information will presumably be incorporated into the Notice. Developing that technical information, continued Mr. Weiss, should thus begin at the time of the Advisory Committee's Final Report, and should be completed about six months later at the time of the Notice proposing a system. Mr. Hopkins stated that, although the recommended system will be noted in the Advisory Committee's Final Report, the intensive system documentation will not necessarily be ready at that time. That type of documentation, according to Mr. Hopkins, will therefore have to be compiled sometime after the Final Report is released in September 1992.

16. Mr. Weiss reiterated that the proponent of the system recommended in the Advisory Committee Final Report and proposed in the Notice may be reticent to spend the type of money needed to complete the documentation process until the Commission formally approves the selection of a system. Chairman Vradenburg observed that system proponents might be more willing to make such an investment if approached now and asked not to commit their money immediately, but to be prepared to work with the Advisory Committee and the Commission staff to disclose their system specifications once their system is chosen. He said that, although this may be a common assumption within the Advisory Committee or in the Commission, it must be understood by all relevant parties. Chairman Vradenburg and Mr. Hopkins agreed on the need to also spell out what part of the specifications will be defined by the Commission and what part by the industry. Mr. Hopkins pointed out that the Commission Staff involvement will increase proportionally to the depth of specification generated within the Agency as opposed to outside. However, he said that it is possible for the Commission to develop a rigid specification using information documented outside the Agency. Mr. Hopkins reiterated Mr. Weiss' contention that what must be decided is what portion of the standards will be regulated and what part will be voluntary. He said that various groups have discussed who will write the documentation, and the question is not yet resolved.

17. Chairman Vradenburg asked what might be the most efficient, optimum way to disseminate this documentation to professional and consumer equipment manufacturers. Mr. Hopkins said that the documentation could not be compiled until a winning proponent is noted in the Advisory Committee's Final Report because of the wide variations between systems, but that it could be agreed in advance whether the FCC will approach standardization as a protection issue or as a specification issue. He said that the best way to reach such an agreement is for the Commission to require that the documentation be completed without delay, regardless of how it is done or by whom.

18. Jeff Krauss of General Instrument Corporation noted that two task forces operating under Systems Subcommittee Working Party 3, Economic Assessment, are currently dealing with the issue of system documentation. He

said that the first task force is concerned with encoders and broadcast equipment, and the second task force is dealing with decoders and consumer receivers. Mr. Krauss stated that one of these two task forces might be the appropriate forum to present information to manufacturers on what might be needed to build receivers for the proponent systems, because both groups plan to meet with the proponents to get detailed system information from which to develop cost comparisons. Mr. Weiss, on the other hand, contended that the information needed to produce the economic analysis will have nothing to do, except in the broadest sense, with the actual algorithms needed to produce the system. He said that it is the algorithms and the very precise filters characteristics which will have to be documented. Thus, the information garnered by the two task forces mentioned by Mr. Krauss, will be inadequate for manufacturing purposes. Mr. Krauss replied that the details of the algorithm will not be a problem for equipment manufacturers because those features will all be embodied in chips, and the chip foundries will have to do that type of manufacturing. He commented that there is no particular reason for such things as circuit masks to be published as part of the technical description of the system, and that the type of detail Mr. Weiss is concerned about will be disclosed in the licensing agreements between the winning system proponent and, for example, the chip foundries.

19. Chairman Vradenburg said that the next step in resolving documentation issues seems to be to determine at least tentatively what the Commission will need to write a standard, what will be needed by equipment manufacturers to produce ATV equipment, and who will document such information. Chairman Vradenburg said that an agreement needs to be reached on methodology and assignment of tasks among the various groups involved in the documentation process and that the Commission is entitled to a recommendation on these matters. Mr. Weiss agreed on the need to provide the Commission with a recommendation, but said that Working Party 2 is not the appropriate group to make such a recommendation. Mr. Weiss maintained that Systems Subcommittee Working Party 4 is the more proper forum to provide such a recommendation. Mr. Hopkins stated that Systems Subcommittee Working Party 4 has not planned on making a recommendation on how to develop the necessary documentation and standard needed to produce equipment. He opined that the Advisory Committee is chiefly concerned with recommending a system and that documentation of that system is a separate concern. Thus, documentation of the standard should not necessarily be conducted within the Advisory Committee, but might be best achieved elsewhere. Chairman Vradenburg said that if the Advisory Committee and its Subcommittees and Working Parties are not to get involved with system documentation, that needs to be made clear to the industry and to the Commission to clarify the different roles each group is to play in the process. Chairman Vradenburg further stated, however, that because the Commission has indicated its goal to achieve ATV implementation as quickly as possible, the Advisory Committee should in that context recommend procedures for satisfying that goal. Mr. Weiss endorsed this viewpoint, and said that the Advisory Committee should be suggesting to the Commission how much detail should be included in the Commission's Rules, and what should be contained outside the Rules.

20. Mr. Weiss then repeated the question of which group within the Advisory Group would be appropriate to make such a recommendation. Mr. Hopkins suggested Implementation Subcommittee Working Party 1 because it deals with legal issues, but said that the Commission also needs to be involved. Chairman Vradenburg agreed, but said that the Commission deserves a recommendation and that the conversation leading to a resolution of the documentation issue must begin somewhere. He said that eventually the answer to who is doing what and how, will take the form of a recommendation from the Advisory Committee. Mr. Heuer noted that Working Party 2 has approached the proponents about the type of information they can provide and when they can provide it, and about the type of financial commitment they are prepared to make towards system documentation. The data based on their input should be available shortly.

21. Ms. Harrison supported Chairman Vradenburg's position that the Advisory Committee must provide the Commission with a recommendation on how to go about documenting the system. She listed three areas where a recommendation from the Advisory Committee could be particularly useful: (1) the FCC standard; (2) technical disclosures; and (3) the content of licensing agreements and packages.

22. Mr. Heuer commented that the information needed to manufacture equipment will have to be disclosed regardless of proprietary concerns, and that the proponents will be responsible for their own protection. That protection, he contended, is found not in withholding system information, but disclosing such information with appropriate patent coverage. He said that, even in the cases in which the Commission decided to protect the system, the Commission did not involve itself in everything having to do with interoperability. He cited the example of stereo broadcasting, as noted above, where an Office of Engineering and Technology bulletin is incorporated into the Commission's Rules, that contains the technical specifications necessary to make stereo sound for television operate interoperably from equipment to equipment from broadcast to receivers. That bulletin, Mr. Heuer added, does not necessary contain all the information required to build a receiver, and there is a second EIA document, written chiefly by the proponent, which identifies standards to build the receiver and make it interoperable. Likewise with ATV, the system proponent will have to provide a documentation package which fully describes the system. An outside organization will have to work with the proponent to make that documentation package usable and intelligible to others. He commented that the logical place for the documentation process to begin, stated Mr. Heuer, is when the Advisory Committee recommends a system. He said that the proponents should have documentation packages available at the time of the Advisory Committee's recommendation, that will at least be in a form that can be disseminated. He added that it seems that proponents should have been providing some measure of system documentation as the selection process progresses. Mr. Heuer said that the documentation packages may have distribution beyond a drafting committee or the Commission. They might be distributed to a manufacturer, who would operate admittedly at risk, but at least it would be something to start with. Chairman Vradenburg concluded that

both System Subcommittee Working Party 4 and the Implementation Subcommittee had an interest in the documentation issue, and asked that Mr. Weiss and Mr. Hopkins work together in defining how the Advisory Committee should proceed to reach a recommendation for the Commission on the assignment of roles and on the methodology involved in providing system documentation.

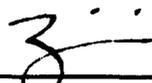
23. Regarding the assignment of Working Party 2 to survey program providers on the availability of HDTV programming, Mr. Weiss indicated that the group has decided to take a partial first step by talking to a few critical industry participants to see if they discern a serious problem. The Working Party will initiate an intense study only if the interviews reflect a broadly held belief that there will be a scarcity of HDTV programming.

24. Mr. Weiss clarified his definition of "phased in" ATV implementation as an attractive option for some broadcasters. He said that a number of sources stated that absent a regulatory incentive, broadcasters would like to stagger ATV implementation with the larger stations converting first and the smaller stations later. Thus, conversions would start in the larger markets first, bringing each station to the pass-through stage. This would allow broadcasters to convert to ATV economically, and to convert largely using people already on staff rather than hiring new people. Mr. Weiss further stated that, in the abstract, broadcasters can meet the Commission's proposed three-year deadline for applying for an ATV frequency, and two-year deadline for constructing the station, before losing their initial eligibility status. However, Mr. Weiss continued, that there will be some areas where no matter how willing the broadcaster or how much money is spent on implementation, the applicant will not be able to meet the proposed deadlines. Mr. Weiss stated that the Working Party, in saying that the deadlines are feasible, refers to pass-through rather than complete conversion. He said that to totally convert in that timeframe would require unlimited resources and personnel. He said that independent stations will be considered to have achieved pass-through when they are able to take programming from a satellite on an ad hoc network basis or by tape distribution. Mr. Weiss defined pass-through as taking a signal, delivered presumably by satellite, out to the transmitter and onto the air without doing anything more to it than either replacing the network signal with upconverted local NTSC programming or running station identifications or other essentials to putting the signal on the air.

25. Chairman Vradenburg noted that the Advisory Committee's Final Report is due in September 1992. Thereafter, the Advisory Committee will presumably function only to conduct the field tests. Thus, he asked the two working parties to consider whether there will be a need for them to continue work after the Advisory Committee completes its Final Report. Mr. Weiss indicated that some parties may find value in the working parties' continuing to tailor implementation to the specific winning system in a way impossible before a system is chosen.

26. Chairman Vradenburg announced that the next Implementation Subcommittee meeting will be on April 21 at 10:30 a.m. in the Commission Meeting Room.

Submitted:



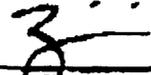
Gina Harrison

Approved:

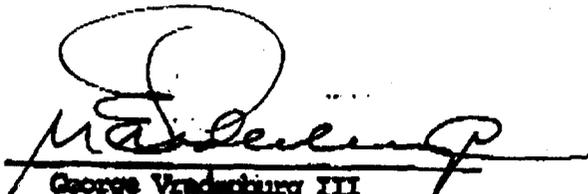
George Vradenburg III

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Submitted:


Gina Harrison

Approved:


George Vradenburg III

ATV Advisory Committee

MEETING: Implementation Subcommittee - January 28, 1992

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