Equipment Availability — System-specific professional equipment is required for most of the industry segments, including broadcast, network, production/post production, cable, and satellite. Availability of the professional equipment, in turn, will be dependent upon a combination of the availability of the requisite technical information for its design and the difficulty of implementing the particular system selected in hardware. Assumptions have been made about the availability of the equipment. To the extent those assumptions are incorrect, the length of implementation for each of the industry segments will be similarly impacted.

Satellite Space Segment Availability — Availability of satellite transponders has been assumed in the satellite transition scenario and indirectly in all of the other scenarios that depend on satellite distribution of signals. These include the local station, network, and cable scenarios. Lack of a space segment for any program distribution dependent on satellite delivery will preclude that service from implementation. To the extent that HDTV requires additional transponder channels, this could be a seriously limiting factor. Systems that can reuse or share existing transponder space can ameliorate this situation.

C. Broadcaster Interests in Staged Implementation

The FCC proposal for a tight time schedule for implementation based upon "regulatory incentive" does not comport well with broadcaster infrastructure and their interests in a staged implementation of HDTV. IS/WP-2 has found that adequate design personnel resources are available for the staged implementation to the pass-through milestone sought by broadcasters and documented by CBS. No such findings have been made regarding the faster implementation desired by the Commission. In fact, there is very strong evidence that in a large number of cases, especially in larger cities, broadcasters will not be able to achieve the Commission's timetable, at least for full facilities, no matter how hard they try and no matter what resources they apply.

D. Availability of Consumer Receivers

Consumer HDTV receivers may very well not be generally available in the marketplace as quickly as has been predicted in some quarters. Detailed study by receiver manufacturers shows that it will take some 2½-3 years following the FCC decision on a system to begin delivery of consumer receivers into the distribution channels. This is very likely to be a gating item in HDTV implementation. It is of such significance that a wider range of inputs is being sought from consumer electronics manufacturers.

E. Availability of Professional Equipment

Professional equipment must be available to a wide range of participants in the production and delivery of programming before HDTV can regularly be produced and delivered to viewers. Certain assumptions have been made in developing the transition scenarios that depend heavily on professional equipment being available. Reality may not match the assumptions, and this may become a gating item in the implementation of HDTV. Because of the importance of this item, a survey of manufacturers will be taken again to try to gain a better understanding of the timing of the availability of professional equipment.

Appendix A

Survey of TV Station Group Owners

Summary

The resources available for conversion to HDTV can affect the implementation schedule. The Implementation Subcommittee asked IS/WP-2 to supplement its survey of individual stations with an inquiry into additional resources which may be available. It was decided to gather relevant information from TV station group owners. The survey objectives were: 1) to obtain estimates for current human and financial resources and for the manpower which could be made available to supplement that already available at their stations for a major design and construction project, and 2) to elicit the HDTV implementation intentions of group owners.

Methodology/Administration

Station group owners were chosen as the target for the survey because they represented a means to gather information relating to a large number of stations with a smaller survey contact list. All groups listed in the TV Fact Book with three or more stations plus some well-known groups with two stations were selected. The survey was executed on a "pro bono" basis by members of the Working Party. The survey was administered via mail with responses coded for privacy. A second mailing was undertaken to encourage cooperation of non-respondents. The survey was conducted in the summer of 1991. Note that this was before the Notice of Proposed Rulemaking by the FCC on November 8, 1991. No conclusions can be drawn regarding the results that might have been obtained had the proposal for "regulatory incentive" contained in the Notice been known to the respondents.

Response Rate

Questionnaires were sent to 107 groups. Responses were received from 62 groups for a 58 per cent response rate. There were a total of 265 stations covered by the responses.

Statistical Significance

No analysis of the response distribution was undertaken. Given the nature of the selection of the sample, no projection to all TV stations is reasonable. Given the sensitivity of the issues involved, there may be significant non-response bias, and the results should be used with caution. Non-response may have been for reasons of privacy, inertia, or disinterest. Some groups may not have envisioned implementing HDTV in the six year period covered by the questionnaire.

Questionnaire Design

The questionnaire had three major sections. The first section was designed to gather information about the engineering resource on staff and available for a major project. Questions were also asked about the group operation so that responses potentially could be correlated with those of the Chief Engineer survey. The next section was designed to determine the size of the past annual capital budget for the five largest stations in the group. The third section was designed to obtain an estimate of when the group owners thought they would implement HDTV at these five stations. See the attached questionnaire for the specific questions.

Analysis of Responses

The survey yielded helpful information about the implementation expectations of group owners and the amount of engineering manpower available.

1. Implementation Timing

Addressing the implementation timing first, the respondents were asked in which years following FCC adoption of a system they expected to start construction and to complete pass-through facilities for HDTV. The survey respondents' estimate of the interval from start to pass-through, as compiled by IS/WP-2, had the distribution in Table 1 below. The average of these durations is between 1 and 2 years.

Table 1

#	Duration in Years — Station Start to Pass-Through
24	<1
123	1-2
22	2-3
7	3-4

is the Number of Stations projected to achieve Pass-Through operation in the duration (from starting implementation to reaching pass-through) shown in the right-hand column.

The expectations of the respondents with regard to the years following an FCC decision in which they think they will start implementation and achieve pass-through operation are indicated in Table 2 below. The percentages are based upon all stations in the groups that responded. The results cannot be extrapolated to all stations in the U.S. because of the sample design.

Considering the groups themselves, there were 43 groups of the 62 responding that expected to start implementation at their first station within the first three years after a final FCC decision on a system. 66 per cent of the stations represented were expected to start implementation in the first five years following the FCC decision on a system. 58 per cent of the stations covered were expected to achieve pass-through in the first five years.

Table 2

	Implementation Start			Achieve Pass-Through			Percent
Year	Number	Percent	Cum %	Number	Percent	Cum %	Active
1	47	18%	18%	8	3%	3%	17%
2	33	12%	30%	37	14%	17%	30%
3	48	18%	48%	34	13%	30%	46%
4	25	9%	57%	39	15%	45%	54%
5	23	9%	66%	35	13%	58%	58%
6	20	8%	74%	24	9%	67%	56%
6+	30	11%	85%	24	9%	76%	59%

The table also shows the percentage of these groups' stations that are active in construction during each year. Percent active is the number of stations that have started but not completed full implementation of HDTV. Because the end period given in the study is 6+ years and because of the large number of entries in that period, the data does not support an analysis of the average duration to full implementation of HDTV. The overall conclusion can be drawn from the data, however, that most large group stations are not expected to complete full implementation of HDTV by the end of the first six years.

In addition to the stations covered in the preceding table, there were 37 stations included in the responses for which the group owners either did not provide any starting information or said the stations would not convert to HDTV.

2. Resource Availability

The data on personnel resource available to support implementation is best used in the aggregate. The number of sample points decreases to too low a level for confidence with more than a single division. Various analyses with high vs. low capital spending do not show better correlations than the total data. The data does show that about 31% of the groups have no group level or sister station personnel resource to apply to station implementation efforts.

The resource available from the remaining 69% of the groups is very limited. For transmitter implementation, the groups could provide about 1/2 person per station assuming all stations were active at the same time. Those groups with more than 5 stations would have even less. The situation improves significantly to over 2 persons per station if stations are time phased. The loaning of resource between sister stations is a significant contributor to this increase.

The table below shows the average resource available based upon the groups' forecast of implementation timing.

Table 3

Pass-Through Implementation — Transmitter Design								
Year [1]	1	2	3	4	5	6	6+	Sample Size
All Groups [2]	1	2	1.7	1.5	1.4	1.2	1.3	62
w/Resource [3]	1.7	3.6	2.7	2.3	2.1	1.8	2	42

1 "Year" is the year number following an FCC Report and Order establishing an HDTV service.

2 "All Groups" represents the number of personnel per station that could be made available to supplement station personnel when the available supplemental personnel are averaged over all the groups responding.

3 "w/Resource" represents the number of personnel per station that could be made available to supplement station personnel when the available supplemental personnel are averaged only over those stations owned by groups that indicated they have personnel to support their station, either from the groups or from sister stations.

Studio implementation resource data is similar to the transmitter implementation data shown above. It was apparent from the questionnaires that many respondents assumed that the studio and transmitter implementations would be sequential; so the total resource is less than the sum of transmitter and studio estimates. Nevertheless, the data appears reasonably in agreement with the small station Chief Engineers' expectations of 1.7 man-days per week of support from their groups.

It was anticipated that the capital expenditure responses would be useful in segmenting the responses in order to better correlate the Group Owners survey with the Chief Engineers survey. This did not turn out to be the case.

May 12, 1991

Name~
Title~
Company~
Address~
City, State, Zip~

Dear Salutation~:

As you are aware, the FCC has established an Advisory Committee to help set the HDTV transmission standards for the U.S. We are writing to you because our Working Party, which is studying the implementation of the various alternative systems, needs information from a sample of TV station group owners to facilitate its work.

Two aspects of the implementation with which we would like your help both relate to how fast the changeover to HDTV will occur. We believe conversion to HDTV will depend on market requirements, and, more importantly, on the availability of technical and financial resources. Groups are expected to stagger conversion of their stations both in the start of conversion and in the degree of HDTV capability as a function of time. We need your help in determining the approximate rate of conversion, that is likely to occur.

For your reference, current estimates are that it will cost between $ 10,000,000 and $ 25,000,000 to fully convert to HDTV program origination at the station, the price tag being a function of the size of the station operation and the timing of the conversion. Conversion of a typical station to initial operation for passing through network originated programming is estimated to require about $ 2,000,000 to $ 5,000,000. Each station will have to continue to broadcast in NTSC for the foreseeable future.

We are in the process of conducting a survey of local station engineers to learn more about technical resources available at the station level. We recognize, however, that group plans and capabilities are perhaps even more important in assembling models for implementation. This leads to the parallel survey of group owners we are now conducting. We would very much appreciate your taking a few minutes to answer the attached questionnaire or your forwarding it to someone in your organization with instructions to do so.

For your protection in supplying the potentially confidential data we are requesting, we have coded the forms. We will destroy the document that links your group with your particular questionnaire once we have finished the survey. We hope this will remove any obstacles to your providing detailed information.

We are attempting to gather information from only a small sample of groups, so your cooperation is important. If you feel that you cannot provide all the requested information, please return the questionnaire with as many blanks filled in as possible.

When our survey is complete, we will send a summary of the results to the respondents.

Thank you, in advance, for your assistance with this very significant effort for the future of our industry.

Very truly yours,

S. Merrill Weiss, Vice Chairman
FCC Advisory Committee on Advanced Television Service
Implementation Subcommittee Working Party 2 on Transition Scenarios

Attachment

Please Reply to:

Art Allison
c/o EMC^2
700 Brighton Knolls Dr.
Brinklow, MD 20862

FCC Advisory Committee on Advanced Television Service
Implementation Subcommittee Working Party 2 on Transition Scenarios

Survey of Group Owners

In the following questions, if you do not have any of the capabilities listed, please answer with a zero.

How many members do you have on your group level technical staff? (1) _____

How many of the group's technical staff are capable of designing a new production facility? (2) _____

How many are capable of designing a new transmitter facility? (3) _____

How many person-days per year are spent on designing new equipment installations by these group personnel? (4) _____

Approximately how much outside consultant time do you currently use for design of new installations? (Person-days per year) (5) _____

Please characterize your group as

Commercial (6) _____ Non-Commercial (7) _____

One way to address the conversion project would be to shift skilled personnel among stations in order to get one station on the air at a time. Do you have the capability and the willingness to make this reallocation of personnel? If the answer is no, please put zeros in the appropriate blanks.

For studio type tasks first:

How many person-days per week from group personnel with the skills to design the production facility could be made available for HDTV conversion? (8) _____

How many person-days per week do you think could be provided from sister stations? (9) _____

Now for the transmitter:

How many person-days per week could be provided from group personnel? (10) _____

How many person-days per week could be provided from sister stations? (11) _____

Can you give us the name of any external consultant or consultants you would use for design help?

(12)_____

_____

Could you please circle the current approximate annual capital budget that most closely fits each of the five largest stations in your group? Please include capitalizable labor. If you do not wish to provide call letters, please use the following codes to identify each station's market size according to ADI rank:

A = 0-10: B = 11-25: C = 26-50: D = 51-100: E = 101-150: F = 151+.

Station	I	II	III	IV	V
Call Letters/Size	_____/	_____/	_____/	_____/	_____/
Capital budget in $ Millions	>2	>2	>2	>2	>2
	2	2	2	2	2
	1.5	1.5	1.5	1.5	1.5
	1	1	1	1	1
	.5	.5	.5	.5	.5
	.25	.25	.25	.25	.25
	<.25	<.25	<.25	<.25	<.25

Assuming you will have the opportunity to broadcast HDTV in a new, simulcast channel, you will have to make decisions regarding its implementation by your stations. Given that there are likely to be limited capital and personnel resources for the implementation of HDTV at your group's operations, it seems probable that you will prioritize the implementation among your stations. In thinking through your plan for each station, use the cost estimates indicated in the cover letter to this questionnaire. Please take account of the competition you can expect from competing media (e.g. cable, DBS, pre-recorded tape) that will be implementing HDTV on an accelerated schedule. Remember that other stations in your markets will be facing the same competition.

To help the Working Party understand how you might structure your group's implementation of HDTV, please fill in the following chart for the five largest stations in your group. Use the same stations and in the same order as in the chart on the preceding page. Year one should be taken as the year following the final FCC decision. Indicate for each station when work would begin by inserting the letter "S." Show when network or equivalent program pass-through will be achieved with the letter "P." Use the letter "C" to indicate when conversion to local HDTV program origination will be completed. Show any of these events which you foresee occuring later than year 6 in the column at the right end of the chart.

Station	Year 1	2	3	4	5	6	6+
I	___	___	___	___	___	___	___
II	___	___	___	___	___	___	___
III	___	___	___	___	___	___	___
IV	___	___	___	___	___	___	___
V	___	___	___	___	___	___	___

Thank you very much for your time and cooperation.

Appendix B

Survey of TV Station Chief Engineers

Summary

The personnel resources available for conversion to HDTV can significantly affect the implementation schedule. IS/WP-2 decided to gather relevant information from a sample of Chief Engineers. The survey objectives were to obtain estimates of the current personnel resources and the personnel resources that could be made available for a conversion project, for each individual station. Of particular concern was the presence of personnel capable of doing the necessary design work, since such skilled and experienced design personnel were believed to be in short supply. Questions were also asked about the station operation and size so that responses from similar stations could be grouped.

Sample Design

The TV Fact Book list of all stations was the basis of the sample. The entries were listed and a random number used to determine the start point. A skip interval of 22 was used to produce a list of 150 selections. Each selection was assigned a control number. A subsample consisting of the first 120 control numbers was used to conduct the survey. The list was reviewed and translator stations were removed.

Methodology/Administration

The survey was administered via telephone using one interviewer. The objective was to obtain 100 completed questionnaires. Contact with each of the 120 primary sample respondents was attempted once before contact with any was attempted a second time. A second attempt was made to reach all those not contacted in the first round, again in order, before a third attempt. Third (final) attempts were then made. On the third try, messages were left requesting return phone calls from those persons not reached. Therefore, call-backs could have biased the contact rate somewhat. After completing the primary sample following this approach, there were 86 completed questionnaires. Since this was an inadequate number of completed questionnaires, calls were made to the remaining sample. Seven completed questionnaires were obtained from this group before the end of the survey period. The survey administrator recommended that work stop at that point, and the recommendation was accepted by the Working Party. The data reduction effort uncovered a need for clarification about the VTR format, and several stations were recontacted to clarify their responses.

Response Rate

Collection and calculation of contact and response rate statistics was not part of the survey administration for budgetary reasons. Only two Chief Engineers who were

reached did not take the time to respond to all the questions. The contact rate for the primary sample was 73 per cent. The cooperation rate of those contacted was 98 per cent. Including the supplemental sample, the overall response rate is estimated at 70 per cent or better.

Questionnaire Design

The questionnaire had three major sections. The first section was designed to gather information to be used to characterize the station. The next section was designed to assess capability and size of the engineering staff. The third section was designed to obtain an estimate of the personnel resource available to the station for a major technical project. See the attached questionnaire for specific questions.

Data Reduction

The data from 93 respondents was first organized into a spreadsheet format so that it was all contained in one table. In analyzing this data, IS/WP-2 decided that it should be grouped into three categories of small stations (one studio), medium stations (two studios), and large stations (three or more studios) in order to show any differences due to station size. The results of this grouping are given in the attached spreadsheet for the 39 questions asked in the survey. For each station size category there are three columns giving the total, mean, and standard deviation of the responses. A grand total (sum of the three categories) of the responses is also included.

A breakout of the percentage of stations, as a function of how many studios they have, can be seen in the attached pie chart. Here one can see that about two-thirds of the stations surveyed have only one studio.

For the type and ownership of station, the data shows that 80% were commercial versus non-commercial and that 65% were part of a group.

The first part of the questionnaire deals with the type and quantities of facilities and equipment each station has. As seen in questions 1 through 15 on the spreadsheet, the mean quantities per station increase with increasing station size.

Of particular interest to IS/WP-2 were the results of the questions on staff capable and available to do design of a new production (studio) facility and a new transmitter facility. Also of particular interest was the level of support each station expected from its Group/Owner or Co-owned station(s). These data are shown plotted on the attached 3-D graphs. The first graph (people available for crash design of production facility) was generated by taking the product of the number of people capable of doing the design (question 18) and the percentage of their availability (question 35). This reveals that there is no significant difference in available design people due to station size. On average, slightly more than one person per station is available. The second graph (people available for crash design of transmitter facility) shows similar results

except that the average is somewhat less than one person per station. The next two graphs show what effort (in man-days/week) is expected from their Group/Owner or Co-owned station(s) for design of new studio and transmitter respectively. About 95% of the stations expect no help at all. The graphs depict this but also indicate that the 5% expecting help is composed almost entirely of the small stations.

Statistical Significance

No sophisticated analysis of the response distributions was undertaken. Based upon a Gaussian distribution, there is a 68 per cent probability that a single question's mean response, plus or minus a standard deviation, is representative of the universe of television stations. Since the distributions do not appear to be Gaussian, the results should be used with caution.

RESOURCE QUESTIONNAIRE **Control #_____**

Good morning/afternoon Mr/Mrs/Ms. _____

The FCC has established an advisory committee to help set the HDTV standards for the US. The subcommittee I am working with is trying to figure out how HDTV would be implemented.

We are conducting a survey to learn more about the real world of station operations. We will use the results in our implementation plans. We have called you because we think you are the person at your station with the best information about your station's technical capabilities. We would really appreciate it if you could spare a few minutes to answer some questions. If at any time you feel the questions could be better answered by someone else, please tell me. When our survey is complete we will send you a summary of the results, if you wish.

Check if desires summary results _____

If respondent asks how long this will take: [12 to 15 minutes]
If respondent can't talk now, fill out attempt log on cover sheet and make appointment for call back.

First, we would like some information about your station:

How many studios do you have? (1)_____

What is the total number of studio cameras? (2)_____

How many post-production editing rooms (or areas) are there? (3)_____

Is your on-air playback and switching computer-control? (4)_____

Approximately what is the total number of VTRs in the station. excluding ENG? (5)_____

What is the primary format used? (6)_____

How many separate ENG editing areas (or rooms)? (7)_____

How many VTRs are there in the ENG areas? (8)_____

How many portable VTRs are there for ENG? (9)_____

What is the ENG format? (10)_____

How many ENG trucks do you have? (11)_____

How many external feeds into the station? (12)_____
How many of these are from satellite receivers? (13)_____
How many of these are from microwave? (14)_____
How many of these are from land line? (15)_____

Thank you. Next we would appreciate some general information about the station staff.

How many people does it take at any one time to maintain your on-air operation? (16)_____

How many man-weeks are spent each week doing system design, equipment maintenance; or new equipment installation? (17)_____

Notes:_____

Of the station's technical staff, including you, how many are capable of designing a complete new production facility? (18)_____

How many are capable of designing a new transmitter facility? (19)_____

Taking these two groups together, what is the total number of people? (20)_____

Do you have anyone dedicated to designing new equipment installations? (21)_____

If yes: How many? (22)_____

If no: What part of someone's time is spent on this task (man-days/year)? (23)_____

Please classify your station as

Commercial (24)_____ or Non-Commercial (25)_____

Are you part of a group ? (26) Yes _____ No _____

If yes: What is the group's name? (27)_____

If no: What is the owner's name? (28)_____

Choose the appropriate word from [ ] below.

Do you have regular technical design help from your [group]/[owner] or some co-owned station? (29) Yes _____ No _____

If yes: How many man-days per year? (30)_____

Do you have regular technical design help from equipment vendors? (31) Yes _____ No _____

If yes: How many man-days per year? (32) _____

Do you utilize service contracts for equipment maintainance? (33) Yes _____ No _____

Approximately how much outside consultant time do you use for design of new installations? (man-days per year)? (34)_____

You have been very helpful. We only have a few more questions; for these, I would like you to assume that you have been told by your management that you need to undertake a large technical project such as building a new NTSC station on a crash basis. There is no budget established and you have been told that cost is secondary. Also assume that all regulatory requirements and permits will be handled by someone else.

We would like you to think about the amount of design manpower for such a project that would be provided by your current staff or by group personnel. You should assume that all other new equipment/projects would be canceled in order to work on this project. In other words, the station would have to be kept on the air; but any non-critical tasks would be deferred until this one was complete. The total project duration will be many months long; so sustainable levels, as contrasted with two week push levels are what we are after. Both the studio and the transmitter would be worked on in parallel.

If concern expressed by respondent about estimates:

[We know that the quality of the estimates would be better if you had more specifics and time to consider this; but we really need your best estimates at this time.]

For the studio first:

What fraction of the previously mentioned _____ *<take number from question (18)>* people with the skills to design the production facility could be made available for this? (35)_____

How many man-days per week do you think could be provided by your owner/group or sister station employees? (36)_____

Now for the transmitter:

What fraction of the ____ *<take number from question (19)>* people you mentioned earlier could be made available for the transmitter design? (37)_____

How many man-days per week could be provided by owner/group or sister station employees? (38)_____

Can you give us the name of any outside consultant or consultants you would use for design help? (39)_____

_____

_____

Thank you very much for your time and cooperation.

Rev. 3.4: 12/19/90

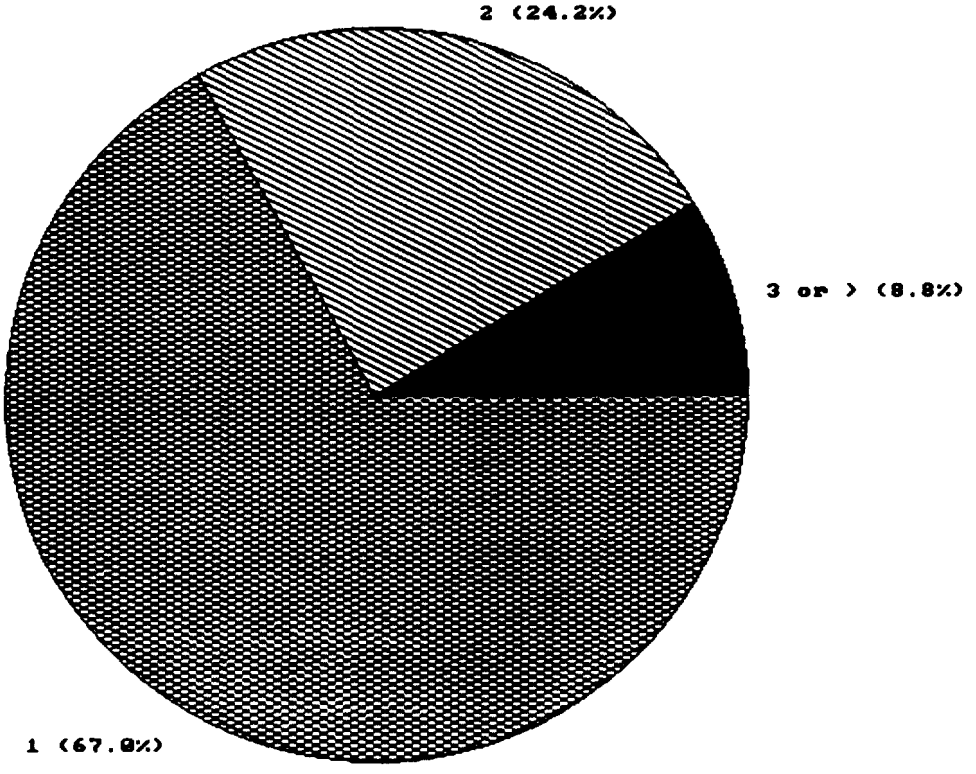
FILE: ISWP2DAC 8-30-91

TION INFORMATION		GRAND TOTAL	TOTAL	SMALL MEAN	STD
(1) Number Of Studios		131	61	1	0
(2) Number Of Studio Cameras		313	166	2.72	0.73
(3) Number Of Post-Production Editing Rooms/Areas		141	91	1.49	1.05
(4) On-Air Playback/Switching Computer- Controlled	YES	18	9	0.15	0.35
	NO	73	52	0.85	0.35
(5) Total Number Of VTR's (excluding ENG)		1556	970	15.9	8.5
(6) Primary Format Used	1"	40			
	M2	11			
	BETA SP	8			
	D2	2			
	BETA	13			
	2"	7			
	3/4"	32			
	3/4"SP	4			
	SVHS	1			
(7) Number Of Separate ENG Editing Areas		345	168	2.8	2.9
(8) Number of VTR's In ENG Areas		979	466	7.6	10.7
(9) Number Of Portable VTR's For ENG		636	329	5.4	4.7
(10) ENG Format	M2	5			
	Beta SP	5			
	1"	2			
	BETA	30			
	3/4"	48			
	3/4"SP	4			
	SVHS	3			
	Hi 8	3			
(11) Number Of ENG Trucks/Cars		97	45	0.74	0.99
(12) Number Of External Feeds Into Station		869	488	8	3.85
(13) From Satellite Receivers	SATELLITE	618	376	6.16	2.64
(14) From Microwave	MICROWAVE	215	95	1.56	2.16
(15) From Land Line	LAND LINE	33	17	0.28	1.37
STAFF INFORMATION					
(16) Number Of People To Maintain On-Air Operation		176.5	108	1.77	1.82
(17) Man-Weeks/Week For Sys. Design, Equipment Maintenance, Or New Equipment Installation		386.7	205.3	3.37	2.8
(18) Staff Capable Of Designing New Production Facility		218	124	2.03	0.99
(19) Staff Capable Of Designing New Transmitter Facility		174	100	1.64	0.91
(20) Total People To Do Both Designs		254	140	2.3	1.21
(21) Dedicated Staff For New Equipment Installation	YES	4	2	0.03	0.18
	NO	87	59	0.97	0.18
(22) How Many Dedicated People For (21)		8			
(23) Partial Effort (Man-Days/Year)		4726.3	2556.8	41.9	49.5
Total Effort (Man-Days/Year)= 260*(22)+(23)		6806.3	3856.8	63.2	138
OWNERSHIP INFORMATION					
(24) Commercial — COMMERCIAL	YES	73	53	0.87	0.34
(25) Non-Commercial — NON-COMMERCIAL	YES	18	8	0.13	0.34
(26) Part Of A Group — PART OF GROUP	YES	59	43	0.7	0.46
	NO	32	18	0.3	0.46
(27) Group's Name					
(28) Owner's Name					
SUPPORT INFORMATION					
(29) Design Help From Group/Owner/Co-Owned Station	YES	5	4	0.07	0.25
	NO	86	57	0.93	0.25
(30) Man-Days/Year For (29)		109	107	1.78	7.81
(31) Design Help From Equipment Vendors	YES	22	14	0.23	0.42
	NO	69	47	0.77	0.42
(32) Man-Days/Year For (31)		152	97	1.59	4.6
(33) Service Contracts Used	YES	10	4	0.07	0.25
	NO	81	57	0.93	0.25
(34) Consultant Time (Man-Days/Year) Used For Design Of New Instalations		231	146	2.39	8.55
CRASH DESIGN OF NEW FACILITY					
STUDIO					
(35) Percent Of (18) Available				47.4%	26.0%
(36) Man-Days/Week Provided By Owner/Group/Sister Station		110.3	102.8	1.69	3.28
TRANSMITTER					
(37) Percent Of (19) Available				37.1%	29.9%
(38) Man-Days/Week Provided By Owner/Group/Sister Station		58.45	55.2	0.91	2.21
(39) Can You Name Outside Consultants You Would Use	YES	36			
	NO	57			

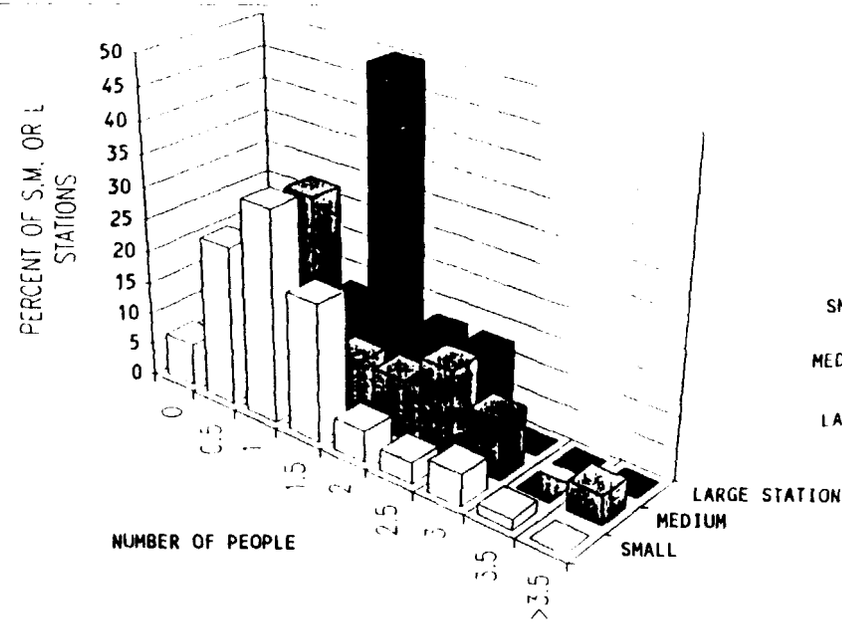
	STATION SIZE MEDIUM			LARGE	
TOTAL	MEAN	STD	TOTAL	MEAN	STD
44	2	0	26	3.25	0.43
92	4.18	1.59	55	6.88	2.62
35	1.59	0.72	15	1.88	1.05
6	0.27	0.45	3	0.38	0.48
16	0.73	0.45	5	0.63	0.48
405	18.4	10.2	181	22.6	10.9
124	5.6	4.2	53	6.6	4.8
361	16.4	13.8	152	19	13.2
203	9.2	6.4	104	13	9.7
33	1.5	1.16	19	2.38	1.32
242	11	5.46	139	17.38	13.67
176	8	3.8	66	8.25	2.73
54	2.45	2.13	66	8.25	12.89
12	0.55	1.88	4	0.5	1.32
48.5	2.2	0.89	20	2.5	1.32
127.2	5.78	2.67	54.2	6.78	3.12
71	3.23	1.76	23	2.88	0.93
55	2.5	0.89	19	2.38	0.86
84	3.82	1.72	30	3.75	1.39
1	0.13	0.33	1	0.13	0.33
21	0.95	0.21	7	0.88	0.33
1158.5	52.7	53.3	1011	126.4	105.7
1678.5	76.3	109.9	1271	158.9	101.8
17	0.77	0.42	3	0.38	0.48
5	0.23	0.42	5	0.63	0.48
11	0.5	0.5	5	0.63	0.48
11	0.5	0.5	3	0.38	0.48
1	0.05	0.21	0	0	0
21	0.95	0.21	8	1	0
2	0.09	0.42	0	0	0
6	0.27	0.45	2	0.25	0.43
16	0.73	0.45	6	0.75	0.43
42	1.91	3.33	13	1.63	3.31
4	0.18	0.39	2	0.25	0.43
18	0.82	0.39	6	0.75	0.43
75	3.41	8.13	10	1.25	3.31
	38.6%	25.3%		43.0%	21.9%
6.5	0.3	1.07	1	0.13	0.33
	33.1%	30.4%		39.5%	18.5%
3	0.14	0.46	0.25	0.03	0.08

(1) NUMBER OF STUDIOS/STATION

1=SMALL, 2=MEDIUM, 3 or >=LARGE STATION



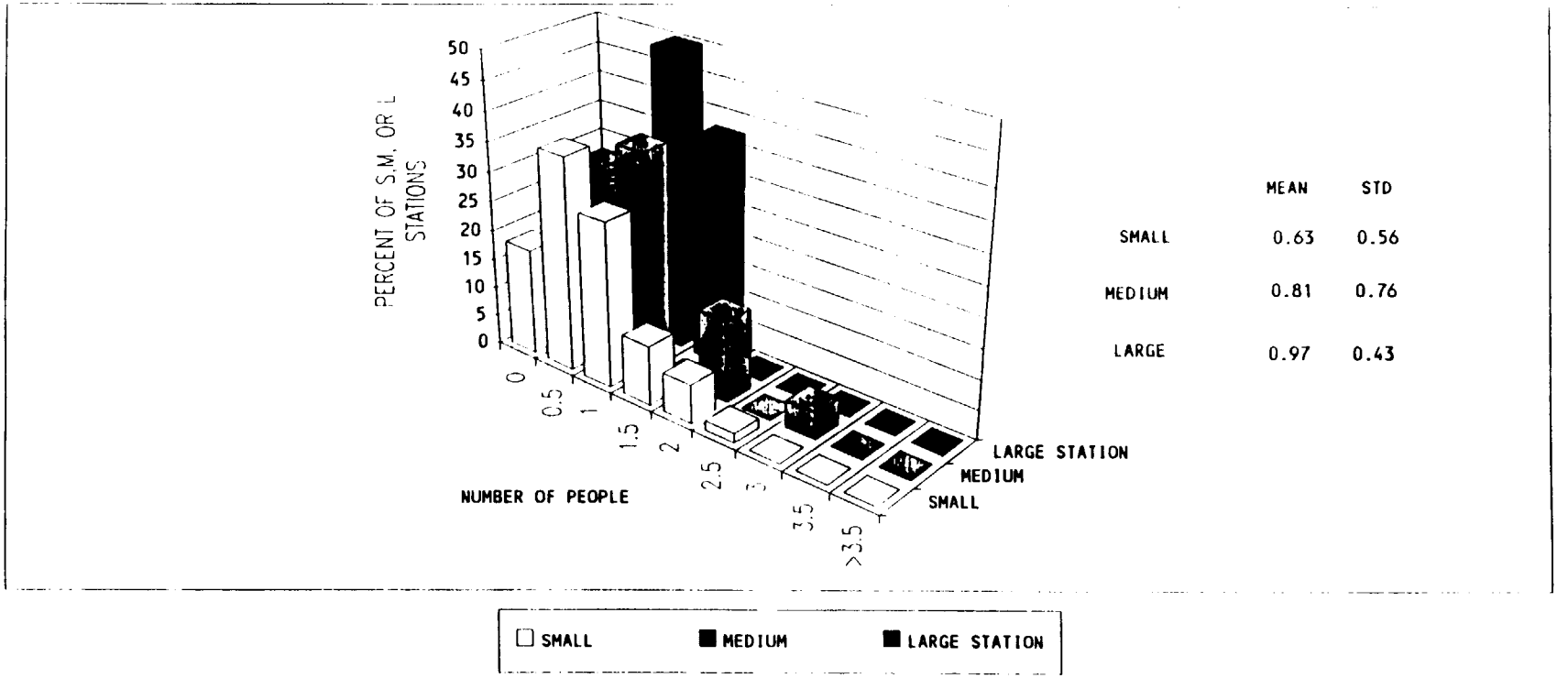
PEOPLE AVAILABLE FOR
CRASH DESIGN OF PRODUCTION FACILITY



	MEAN	STD
SMALL	1.00	0.77
MEDIUM	1.30	0.97
LARGE	1.30	0.61

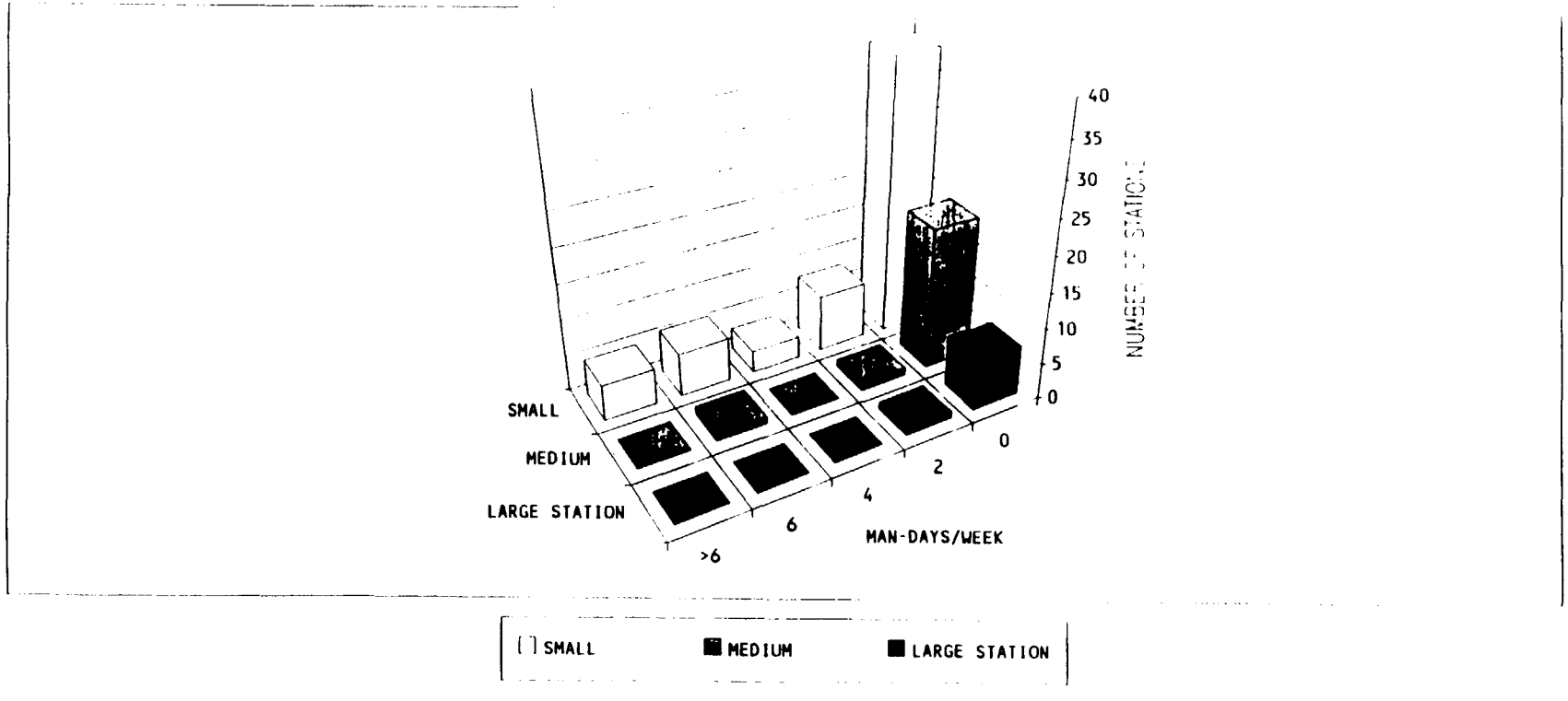
SMALL MEDIUM LARGE STATION

PEOPLE AVAILABLE FOR
CRASH DESIGN OF TRANSMITTER FACILITY

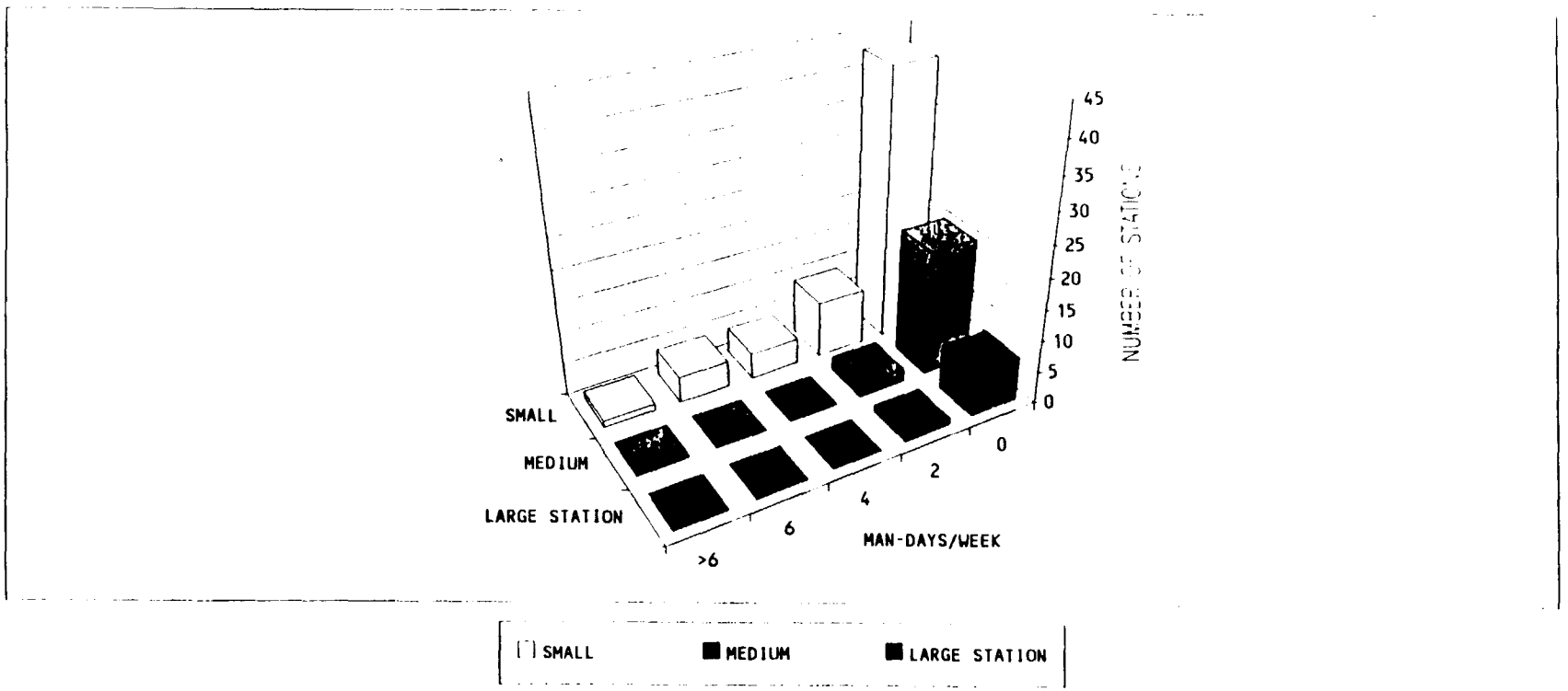


	MEAN	STD
SMALL	0.63	0.56
MEDIUM	0.81	0.76
LARGE	0.97	0.43

(36)EFFORT PROVIDED BY OWNER/GROUP
FOR CRASH DESIGN OF NEW STUDIO FACILITY



(38)EFFORT PROVIDED BY OWNER/GROUP
FOR CRASH DESIGN OF NEW XMTR FACILITY



Appendix C

REPORT OF IS/WP-2: STUDY RESULTS AND PRELIMINARY CONCLUSIONS

As part of its work in producing Implementation Plans for Advanced Television, IS/WP-2 has developed significant information that can be of substantial use to the FCC and to other parts of the Advisory Committee while IS/WP-2 is completing its work. The information derives from a series of surveys and studies conducted to date by the Working Party. This report provides the highlights of that data in the hope that others will find it both important and helpful. Note that this report and the data that supports it were developed prior to an FCC rulemaking on implementation issues anticipated to be released on 10/24/91.

The Working Party has identified the tasks required for implementation by all industry segments. With the participation of experts from each industry segment, it has determined the time required for completion of each of these tasks. From this data, it has constructed a series of PERT networks and timelines showing the overall process and timing for completion of the transition to HDTV.

IS/WP-2 has surveyed the owners of all station groups having 3 or more stations and some additional groups with 2 stations (107 in all), seeking their expectations for implementation of HDTV transmission and looking at the problems they will face. It has surveyed the chief engineers of approximately 100 stations, looking at the resources each has and will require to carry out the implementation. It has also instigated discussions among the television stations in some of the larger markets both to understand the problems they may face and to give them a head start in addressing them. The results of some of this work underlie the data reported herein.

Both CBS and PBS have provided input on their expectations for a transition to HDTV, and their results have been incorporated into the Working Party's output. IS/WP-2 has become cognizant of the work done by PS/WP-5 in projecting the penetration of HDTV among the viewing public. This report attempts to bring coherence to these several efforts, all of which concern the relationship between the HDTV transition and time.

Station Conversion Will Be Time Phased

Because of limited resources, both capital and personnel, group owners intend to stagger the conversion of their stations. A similar approach, in which increasing numbers of stations started the transition process in succeeding years, was adopted in the CBS study. As in the CBS study, the owners plan to start with the stations in the largest markets first, moving later to the smaller markets.

Many television station owners anticipate a relatively early start of conversion to HDTV simulcast operation. Of the 61 respondents to date, representing 260 stations in their responses, 42 groups expect to start conversion of their first station within years 1, 2, and 3 following the final FCC decision on a system. They further indicate that half of the stations covered by the survey responses will start their conversions within those three years. On average, owners expect to take 1½ to 2 years after start to reach the stage of being able to "pass through" the