

**LCMR Work Program—July 1, 1993**  
**LCMR Final Status Report**

1. Video Education Research & Demonstration Project  
Education 17

Program Manager: James E. Carufel  
 Senior Vice President and Chief  
 Financial Officer  
 Twin Cities Public Television  
 172 E. 4th St.  
 St. Paul, MN 55101  
 (612) 229-1453  
 Appropriation: \$ 100,000  
 Balance: \$ -0-

A. M. L. 91 Ch. 254, Art 1, Sec. 14, Subd: 5 (c)

**Video Education Research and Demonstration Project**

This appropriation is from the Minnesota environment and natural resources trust fund to the commissioner of education for a grant to Twin Cities Public Television to develop a video education demonstration project and a model for a statewide video environmental education communication network.

B. N/A

C. N/A

II. Narrative

Twin Cities Public Television will work with a variety of partners to research, create and test video options which will provide video environmental resources for educators and heighten environmental awareness for the general public. To accomplish this goal, TCPT will research the most effective ways to use modern video technology for environmental video education in MN, culminating in the development of a video demonstration project. Research will include needs assessment and the development of a model for a statewide environmental education communication network.

With the mandate of K-12 environmental education and the increasing need for citizen involvement in environmental issues, the need for a Video Education Research and Demonstration Project is clear.

The information that this project will provide for educators and the general population about environmental issues is the first step toward generating citizen action.

III. Objectives

A. **Conduct a needs assessment to identify methods of incorporating video environmental education into teacher training.**

A1. Narrative

The purpose of this objective is to determine how video environmental education can best be utilized to fulfill continuing education needs for educators as they focus on K-12 learner outcomes.

A2. Procedures

Needs assessment will be conducted through surveys of educators and through cooperative efforts with other organizations, primarily the Minnesota State Department of Education.

A3. Budget

a. Amount Budgeted: \$ \$30,291  
 b. Balance: \$ -0-

A4. Timeline for Products/Tasks

	July 1, 91	Jan. 1, 92	July 1, 92	Jan. 1, 93
June 30, 93				
Initial Identification of environmental continuing education needs of educators and preliminary report			-----	
	July 1, 91	Jan. 1, 92	July 1, 92	Jan. 1, 93
June 30, 93				
Complete needs assessment and final report			-----	

Identification of existing video systems -----

A5. Status

The needs assessment portion of the project has been completed with very significant findings. Focus group discussions (recorded on videotape) have occurred in six locations across the State of Minnesota involving numerous educators. As a result of these meetings, wide and varied needs have been identified. A sample list of these needs includes: video resource library of environmental educational materials, teacher training regarding educational environment and video, production of Minnesota based environmental education videos (offering current and historical perspectives), acquisition and editing of video and generation of educator friendly interactive video, all relative to curriculum. Research summaries have been submitted including complete transcripts and an edited highlight tape of the focus group sessions. A copy of the approximately twelve hours of original videotape of the focus group sessions is available upon request. Additionally, a complete set has been put on file at the Department of Education. The highlight tape referenced above constitutes an elaboration of this status report section.

A6. Benefits:

Completion of the objectives stated above will provide a comprehensive needs assessment data base which will be utilized in final video demonstration project development.

B. Objective

Create options for a statewide video environmental education communication network and develop a model plan.

B1. Narrative

Twin Cities Public Television will work with partners to identify and evaluate state wide video network options which will serve the video environmental education communication needs of educators and the general public.

B2. Procedures

Based on the identification of options and the evaluation above, Twin Cities Public Television, in conjunction with the Minnesota Public Television Association stations and other partners, will prioritize options and develop a model plan.

B3. Budget

- a. Amount Budgeted: \$ 20,873
- b. Balance: \$ -0-

B4. Timeline for Products/Tasks

July 1, '91 Jan. 1, '92 July 1, '92 Jan. 1, '93

June 30,'93

Identify and meet -----  
with potential partners

Identify and evaluate -----  
options in conjunction

with other MPTA  
stations

Develop model plan -----

B5. Status

This part of the project is complete. Our meetings and contacts with a wide variety of organizations and individuals in the State have provided invaluable input. A model plan is being finalized which will include an integrated system of teleconferences, broadcast outlets, curriculum and video production, and public awareness campaigns. The key to the model will be its high level of impact and cost efficiencies. The model will include a broad range of technical options packaged for easy turn-key operation. These will include uplink options and downlink sites and coordination, production capacities and outreach linkages to specific audiences and school districts and "other last mile" distribution systems. Sample "user models" and technology systems are included in the attached Exhibits.

B6. Benefits

No other video education network for non-governmental purposes exists in Minnesota. Since education is increasingly recognized as a key to assuring future environmental resources in Minnesota, an efficient video network model plan is necessary.

C. Objective  
Develop Video Education Demonstration Project.

C1. Narrative  
Based on the examination of the needs assessment noted in Objective A and the options noted in B above, Twin Cities Public Television, in cooperation with other partners and the other Minnesota Public Television stations, will develop a Video Education Demonstration Project to serve identified educator needs and the environmental education needs of the general public.

C2. Procedures  
Twin Cities Public Television will use video to test, document and evaluate the video education network model plan noted in B above.

C3. Budget:  
a. Amount Budgeted: \$48,836  
b. Balance: \$-0-

C4. <u>Timeline for Products/Tasks</u>	
July 1, 91 Jan. 1, 92 July 1, 92 Jan. 1, June 30, 93	
Develop the approach, criteria and distribution	
Video Education Dem.	-----
Project & General Public	
Produce Video Ed. Dem. Project	-----
Distribute Video Education Dem. Project	-----

C5. Status  
Our research has identified three key areas where public television can be instrumental to environmental education both in the classroom and at environmental learning centers. These three areas include; 1) training/in-services on use of video in the classroom; 2) reliable access to videos pertaining to the environment and 3) overall public awareness via regular public television broadcasts on environmental issues and targeted videoconferences.

To demonstrate No. 1 above, Twin Cities Public Television has participated in a teacher training institute with North Dakota Public Television, Fargo/Moorhead. Participating lead teachers (master teachers) from Minnesota and North Dakota have worked in teams over a three month period to develop curriculum which includes use of video and hands on experiments of the type to satisfy learner outcomes identified by the Department of Education. After the master teachers developed the curriculum, over 100 teachers from Minnesota and North Dakota gathered for a two day workshop on the use of technology in the classroom with the education emphasis on science and the environment. These master teachers are spreading the word to their school districts to further the breadth of the institute. Follow-up with T.T.I. trained teachers and students in New York found increases in the 80% - 90% range in the use of video and perceived learning by the students.

To demonstrate public awareness, six videos ("Enviro-Tips") were produced and broadcast over 800 times by the six public television stations serving Minnesota. A 1-800 viewer response line recorded overwhelming support and request for expansion of the "Enviro-Tips." As a start on the Video Resource Library, a first compilation of environmental classroom videos was cataloged by subject and distributor. Overall, the essential elements of User Models have been identified and a wide variety of specific, practical applications constructed for in-service classroom, video

conferencing, data and broadcast delivery. An important by-product of this demonstration project are the numerous partnerships and collaborations which have developed to pursue in practice many of the findings of the project.

C6. Benefits

The Video Education Demonstration Project will provide specific information about the best means to meet stated education needs and the needs of the general public. The Video Education Demonstration Project will also include components which will be used to enhance environmental awareness for the citizens of Minnesota.

IV. Evaluation

The project can be evaluated by its ability to 1) accurately assess the video education needs of environmental educators 2) analyze the effectiveness of existing video education systems and meet precise identified needs 3) identify and evaluate options for a statewide video environmental education communication network and develop a model plan and 4) create a video education demonstration project which can be utilized by educators and the general public.

V. Context

- A. There has been no cohesive statewide plan for the use of video in the area of environmental education. With the mandate for K-12 environmental education in Minnesota, there is an even stronger need to develop effective means for educators to use technology which will be conducive to achieving designated learner outcomes and to effectively and efficiently enhance the level of professional understanding of environmental issues. Video is ideally suited for this purpose.
- B. Since a plan for integrating environmental education into the curriculum is being developed by the State Department of Education in Minnesota, development of

video material can supplement this effort. Teacher in-service training programs to support the implementation of the new integrated curriculum will also be developed by the Minnesota State Department of Education. Videos as well as videoconferencing can be important components of this effort. In addition, the Video Education Demonstration Project can supplement current environmentally oriented television broadcasts by focusing on specific Minnesota needs and projects.

- C. Related past accomplishments without LCMR funds include Video Services Productions, including videoconferences, with a variety of clients. For the past thirty years Twin Cities Public Television has been at the forefront of environmental concerns with its commitment to broadcasting programs that highlight nature and our environment. In 1989 KTCA won an Emmy Award for Newton's Apple which includes educational and environmentally oriented subjects. There has been no previous funding from LCMR. However, depending on the outcome of this project, it is anticipated that LCMR funding will be sought for further enhancement of video environmental education, teacher training and further development of video for broadcast to the general project.
- D. Not applicable
- E. Biennial Budget System Program Title and Budget:

VI. Qualifications

- 1. Program Manager: James E. Carufel  
Senior Vice President and  
Chief Financial Officer  
Twin Cities Public Television

M. B. A. University of Minnesota, 1973  
B. A. Magna Cum laude, St. Thomas, 1968

With fifteen years of experience as an executive in the television industry, Jim Carufel has been involved in all aspects of Twin Cities Public Television's operation. As Chief Financial Officer and Senior Vice President, Jim

has broad, corporate-wide responsibility with specific senior management responsibility for all financial, legal and fundraising functions. He has held a variety of business and government management positions dating back to 1967.

2. Major Cooperators:

Elise Marquam-Jahns  
Manager, Planning and Development, KTCI-TV  
M.A., English, Cleveland State University, 1973  
B.A., Cum laude, English, Miami University (Ohio), 1970

A Phi Beta Kappa graduate of Miami University (Ohio), Elise Marquam-Jahns is Manager of Planning and Development for KTCI-TV. Elise has fifteen years of experience in public broadcasting in the areas of development and marketing. She has taught at both the high school and community college levels and is a published author.

VIII. Reporting Requirements

Semiannual status reports will be submitted not later than January 1, 1992, July 1, 1992, January 1, 1993 and a final status report by June 30, 1993.

## 1991 RESEARCH PROJECT ABSTRACT

FOR THE PERIOD ENDING JUNE 30, 1993

This project was supported by the Minnesota Environment and Natural Resources Trust Fund

TITLE: Video Education Research & Demonstration Project  
PROGRAM MANAGER: James E. Carufel  
ORGANIZATION: Twin Cities Public Television, Inc.  
LEGAL CITATION: M.L. 91, Chp. 254, Art. 1, Sec. 14, Sec. Subd: 5(c)  
APPROP. AMOUNT: \$100,000

### STATEMENT OF OBJECTIVES

To research and develop a video education demonstration project and create a model for statewide video environmental education and communication networks. In service of this goal, we will: (1) conduct needs assessment to identify methods of incorporating video E.E. into teacher training; (2) create options for statewide video E.E. networks and develop model plans; and (3) develop a Video Demonstration Project.

### OVERALL PROJECT RESULTS

Please refer to Video User Models videotape for summary of this report and Exhibits for details. Primary research to evaluate teacher's needs was conducted throughout the state via interviews, surveys and focus groups (Ex. 1). Information obtained thereby was combined with secondary research and the results of our telecommunications inventory and mapping. (Ex. 2). After thorough analysis, it was determined that there is a significant unmet need which could be filled by developing in-service video training programs, teacher friendly video curriculum, teacher training via teleconferencing, a video resource library (Ex. 3) of reliable videos, localized (Minnesota) and timely information delivered via broadcast on environmental and teaching developments (e.g. a bulletin board for new videos and seminars; regular E.E. news ) all supported by cost effective existing video and data networks (e.g. Quicklink). Public awareness vehicles were also researched and a demonstration project using statewide broadcast tested (see project results below). New partnerships were created (Ex. 4 ) and user models constructed (Ex. 5).

### PROJECT RESULTS USE AND DISSEMINATION

The documentation of this research project is extraordinarily comprehensive including two professionally prepared videotapes, one summarizing the focus groups (six statewide sites, over twelve hours of videotape delivered to the Department of Education) and the second a summary of the entire project. Both tapes including complete unedited focus group tapes (twelve hours) are available for State uses. We also tested a teacher training model as part of our demonstration project by assisting a North Dakota- Minnesota video training institute which is part of a nationally funded project. The "Teacher Training Institute" (Ex. 6) has proven to be over 90% effective in improving teacher use of video and student learning. As a demonstration project for public awareness, for 6 months over 6 different stations and broadcast some 800 times were the specially produced "Enviro-Tips" with a 1-800 telephone feedback line. The summary videotape includes one of the Enviro-Tips. The format is both informative and interesting. Feedback has been most positive (Ex. 7). The accomplishments of this project far transcend the stated objectives. The needs and models are clear, new partnerships have begun, and the people and environment of Minnesota will be the better for it.