

**Evaluating Digital Delivery Technologies for Continuing Education  
in Western Federal Lands – Highway Division**

**Request for Funding FY 2001-02**

**Project Title: Developing DVD job safety training disk and evaluating the effectiveness of DVD for continuing education and training.**

**Problem Statement:**

Continuing education, re-certification, and training is vital in any professional field. This is particularly important in construction and engineering where new technologies are being employed and new practices developed at a constant and rapid rate. In most cases training is accomplished through lectures and presentation at colleges, universities or the region offices requiring personnel to lose valuable time and productivity in travel. In some cases instructional videotapes have been created to provide this training in the field, however, this is less than satisfactory due to the need for television equipment and videotapes do not allow interactivity or navigation through the material without tedious rewinding of fast-forwarding.

Western Federal Lands – Highway Division has funded the development of interactive instructional modules using CDROM technology on portable computers in the field. The first module, “Tieback Anchor Inspection” produced by Portland State University, has been delivered and has received excellent reviews from WFL-HD personnel and external reviewers. This module uses textual materials, video, process animation, and self-assessment along with self-paced instruction and random navigation allowing the learner to move through the activities to find needed information or linearly to cover all the materials.

The CDROM technology used for this module along with the increased processor speed of the new laptop computers has proven to be effective in providing on-time, effective, continuing education for WFL-HD staff. However, the finite space available on the disk for instructional materials limits the types and amount of materials that can be stored such as full-screen, full-length training video presentations.

**Proposal:**

WFL-HD has training videos in its library which are little used due to the difficulty in getting them to staff in remote location or by limited time available during scheduled training sessions in the Division office. One pressing need for distribution of these materials is in the area of job site safety in highway construction.

Using DVD technology WFLD could address this training on a as needed basis instead of waiting for formal annual training; provide just-in-time training on critical issues; maximize available resources by reducing travel costs and lost field time for training; provide randomly accessible materials to improve field training; and provide multiple language training where available.

Digital Versatile Disks (DVD) are now readily available on desktop and laptop computers replacing the CD-ROM drive. The DVD holds 4.7 gigabytes of information on one of its two sides, or enough for 133minutes of video, rich multimedia presentations, or very high quality multi-channel audio. In addition the DVD format allows for self-paced menu driven navigation through video materials on the computer or TV set top players.

This proposal requests funding to develop a demonstration DVD disk from existing WFLHD safety video tapes testing the viability of this technology for continuing education of staff needing video materials in the field. The safety video tapes will be divided into chapters and navigation provided for random access of video materials by the learner. It is believed that this access directly to the content of interest will increase the use of these materials by the staff. This proposal will also create an PowerPoint presentation covering all aspects of the project including an evaluation of the process required to create the DVD, the random access programming, an assessment of the advantages and disadvantages of DVD verses CDROM for this type of training, and feedback from staff about this type of training material.

**Resources/Cost:**

Project Design, Development and Management Mark Kramer .2 FTE (inc OPE)	\$16,146
2 Student Assistants for 6 mos.	\$8,310
Equipment	\$10,950
Video / Digital Converters	
DVD Production Computers	
DVD Duplication	
Video Equipment	
<b>Total Direct Cost</b>	<b><u>\$35,676</u></b>
PSU Indirect Costs @40%	<u>\$14,270</u>
<b>Total Project Costs</b>	<b><u>\$49,676</u></b>

**Duration:**

Completion of DVD and Digital Report is expected to be a period of one year.

**Principal Investigator**

*Mark T. Kramer* is Director of Instruction and Research Services at Portland State University with 27 years of experience in the design and development of instructional materials, integrating new technologies into teaching and learning, management of instructional support services, and teaching and professional service. Mr. Kramer has a Masters degree in Educational Media from Kent State University.

**Submitter:**

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