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1.0 PURPOSE AND APPLICABILITY

This standard operating procedure (SOP) describes the procedures for real-time video recording. This SOP specifically describes procedures to:

- Initialize a VCR in real-time recording mode.
- Respond to, locate, and record in real-time, identified visual events of interest to the monitoring program.
- Deliver the recorded real-time videotapes to ARS.

Documenting visibility or visual events and trends is an important aspect of evaluating existing or potential impairment in visibility-sensitive areas. Photography is an efficient way to document these events and trends and is an effective method of presenting program goals, objectives, and results to decision-makers and to the public. Camera-based monitoring, referred to as scene monitoring, is an effective, economical component of any visibility monitoring program.

A video camera monitoring station can document the dynamics of visibility events or other events of interest to the monitoring program, including:

- Environmental monitoring such as wildlife, waterflow, and source monitoring.
- Security monitoring for remote industrial sites and storage depots.
- Construction monitoring for building sites or highway and bridge construction.
- Event monitoring for remote weather documentation or highway and airport conditions.
- Recreation monitoring for ski areas and river rafting.

The following technical instruction (TI) provides detailed information regarding specific real-time recording procedures:

- TI 4280-3500 *Real-Time Video Recording of Visual Events for the Healy Clean Coal Project*

2.0 RESPONSIBILITIES

2.1 PROJECT MANAGER

The project manager shall coordinate with the site operator and data coordinator concerning the requirements for recording a real-time visual event.

2.2 DATA COORDINATOR

The data coordinator shall:

- Coordinate with the site operator and project manager concerning the requirements for recording a real-time visual event.
- Provide assistance to the site operator in proper videotape handling procedures.
- Supply the site operator with videotape cassettes and all necessary monitoring supplies.

2.3 SITE OPERATOR

The site operator shall:

- Coordinate with the data coordinator and project manager concerning the requirements for recording a real-time visual event.
- Mail videotape cassettes and accompanying documentation to ARS.
- Maintain a supply of videotapes properly labeled for event recording.
- Record and document reported visual events using procedures described in this TI.
- Deliver the event videotapes to ARS.

3.0 REQUIRED EQUIPMENT AND MATERIALS

Equipment and materials used to record real-time videotapes of visual events include:

- SVHS videotape cassettes.
- An SVHS video cassette recorder with microphone.
- A review monitor.
- A joystick transmitter/controller.
- Video Monitoring Visual Anomaly Event Logs.
- Videotape labels.
- Mailing envelopes.

4.0 METHODS

This section includes three (3) major subsections:

- 4.1 Preparing to Record Real-Time Events
- 4.2 Recording and Narrating Real-Time Events
- 4.3 Delivering Recorded Videotapes

4.1 PREPARING TO RECORD REAL-TIME EVENTS

When a visual event of interest is reported, the site operator should respond as quickly as possible to document the event. Specific procedures will vary depending upon the manufacturer and model of the equipment used, and are discussed in individual technical instructions.

In general, power up all monitoring components for operation, including the VCR, monitor, and video camera remote control joystick controller. Select a new videotape cassette, label it, and load it into the VCR. Configure the VCR settings for real-time recording. If any problems are encountered in the system setup, refer to the technical instructions regarding troubleshooting and emergency maintenance procedures pertinent to the specific equipment used.

4.2 RECORDING AND NARRATING REAL-TIME EVENTS

Start the VCR to begin real-time recording. As the videotape is being recorded, the same view can be seen on the monitor. Position the camera accordingly with the joystick controller and narrate the scene, as it is being recorded, using a microphone. Include verbal comments that may be of interest to the goals and objectives of the monitoring, such as:

- A description of any visible plume or haze.
- Any change in the camera attitude.
- Weather characteristics including noticeable wind, clouds, precipitation, or fog.
- Information regarding any facility operations, animal, traffic, or construction activity, etc.

Document the event on a Video Monitoring Visual Anomaly Event Log. At the conclusion of recording the visual event, stop recording and realign the video camera to its normal operating position. Complete the event log, remove the videotape from the VCR, and complete the videotape label. Turn all equipment off.

4.3 DELIVERING RECORDED VIDEOTAPES

After recording the event, the site operator must prepare the videotape and documentation for shipment to ARS. Place the videotape in a padded mailing envelope, attach the completed Video Monitoring Visual Anomaly Event Log, and mail immediately to:

Air Resource Specialists, Inc.
1901 Sharp Point Drive Suite E
Fort Collins, CO 80525
Attention: Photographic Data Coordinator

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1.0 PURPOSE AND APPLICABILITY

This technical instruction (TI) describes the procedures for real-time video recording of visual events for the Healy Clean Coal Project. This TI specifically describes procedures to:

- Initialize a VCR in real-time recording mode.
- Respond to, locate, and record in real-time, identified visual events of interest to the monitoring program.
- Deliver the recorded real-time videotape to ARS.

2.0 RESPONSIBILITIES

2.1 PROJECT MANAGER

The project manager shall coordinate with the site operator, plant operator, and data coordinator concerning the requirements for recording a real-time visual event.

2.2 DATA COORDINATOR

The data coordinator shall:

- Coordinate with the site operator, plant operator, and project manager concerning the requirements for recording a real-time visual event.
- Supply the plant operator with videotape cassettes and all necessary monitoring supplies.

2.3 SITE OPERATOR

The site operator shall:

- Coordinate with the plant operator, data coordinator, and project manager concerning the requirements for recording a real-time visual event.
- Provide assistance to the plant operator in proper videotape handling procedures.
- Mail videotape cassettes and accompanying documentation to ARS.

2.4 PLANT OPERATOR

The plant operator shall:

- Coordinate with the site operator, data coordinator, and project manager concerning the requirements for recording a real-time visual event.

- Maintain a supply of videotapes properly labeled for event recording.
- Record and document reported visual events using procedures described in this TI.
- Deliver the event videotape to the site operator for shipping to ARS.

3.0 REQUIRED EQUIPMENT AND MATERIALS

Equipment and materials used to record real-time videotapes of visual events include:

- SVHS videotape cassettes
- An SVHS video cassette recorder with microphone
- A review monitor
- Joystick transmitter/controller
- Video Monitoring Visual Anomaly Event Logs
- Videotape labels
- Mailing envelopes

4.0 METHODS

In addition to daily automatic time-lapse video monitoring, real-time taping of visibility events can be useful in tracking and documenting events. Two (2) VCRs exist in the Healy Power Plant control room. One VCR (the time-lapse VCR) is programmed to record time-lapse images. The second VCR (the event VCR) is available for recording real-time video during identified visibility events. Visibility events are declared by National Park Service Personnel. This section presents the methods used to perform real-time video recordings of visual events for the Healy Clean Coal Project.

This section includes three (3) major subsections:

- 4.1 Preparing the SVHS VCR for Recording Real-Time Events
- 4.2 Recording and Narrating Real-Time Events
- 4.3 Delivering Recorded Real-Time Event Videotapes

All procedures described in this TI refer to the Panasonic AG-6740 SVHS VCR, Sony color monitor, and Pelco MPT9500 Series Transmitter/Controller. Schematic diagrams of the video system components are provided as Figures 4-1 through 4-3.

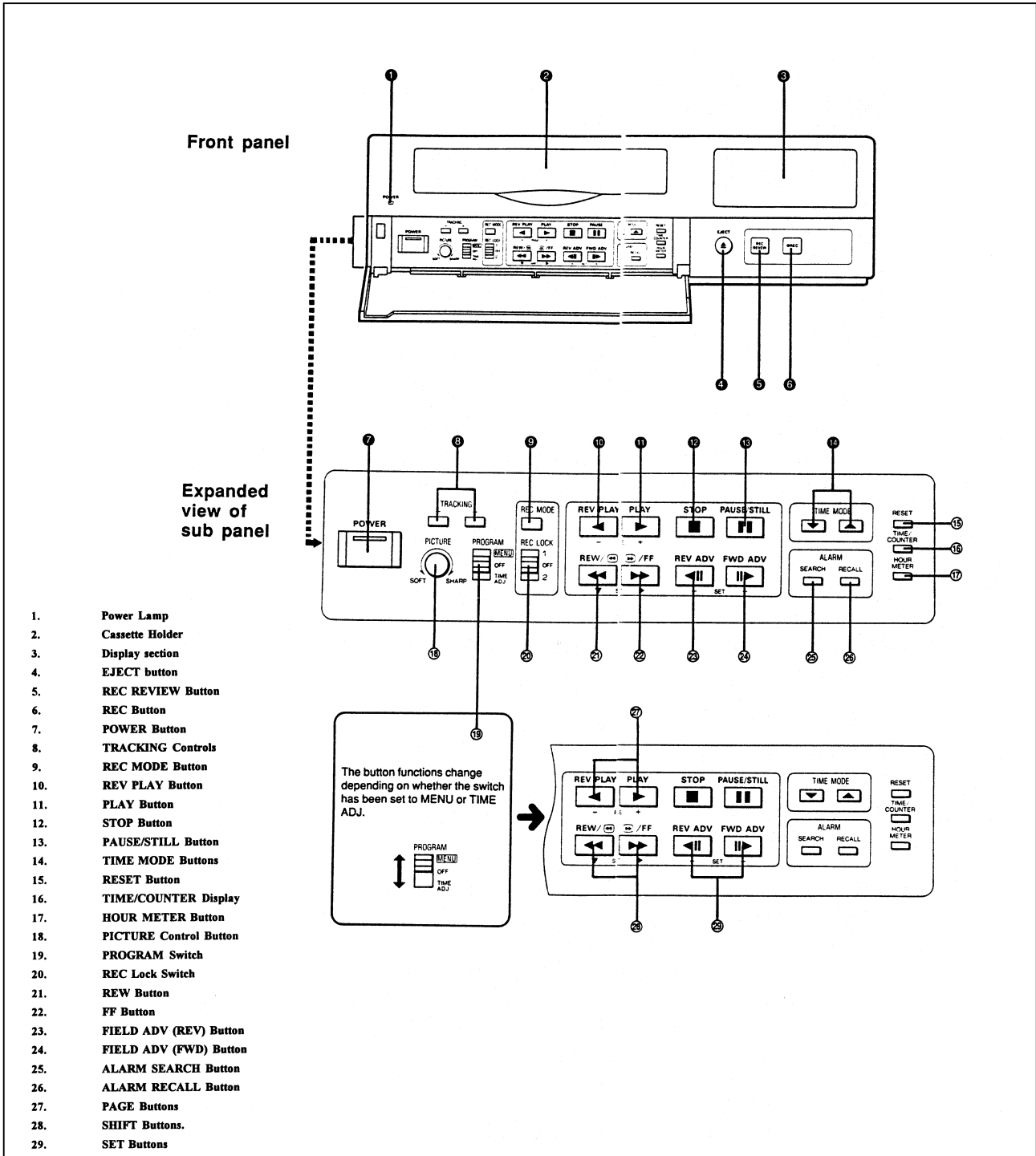


Figure 4-1. Panasonic AG-6740 Time-Lapse VCR Control Schematic.

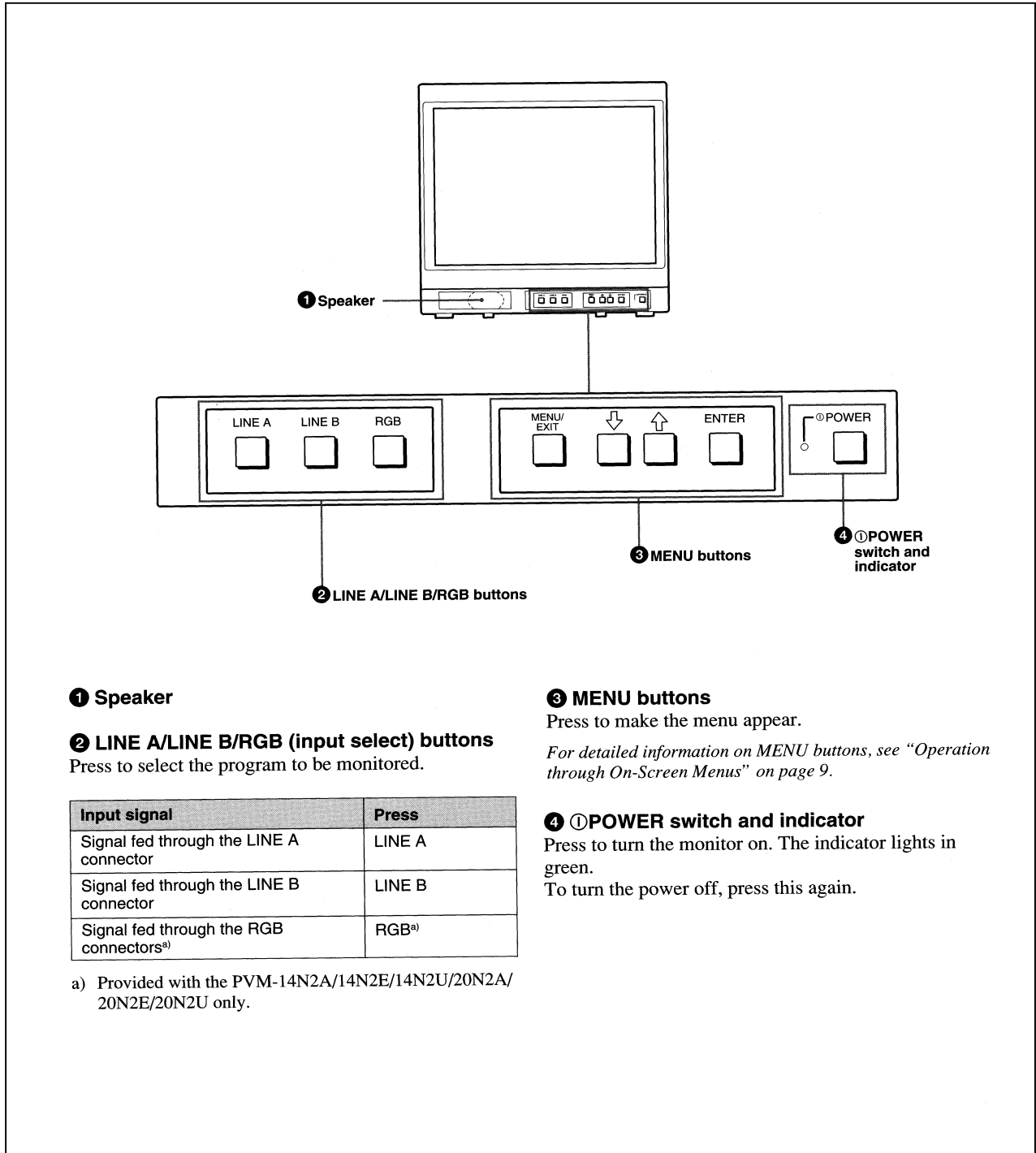


Figure 4-2. Sony Color Monitor Schematic.

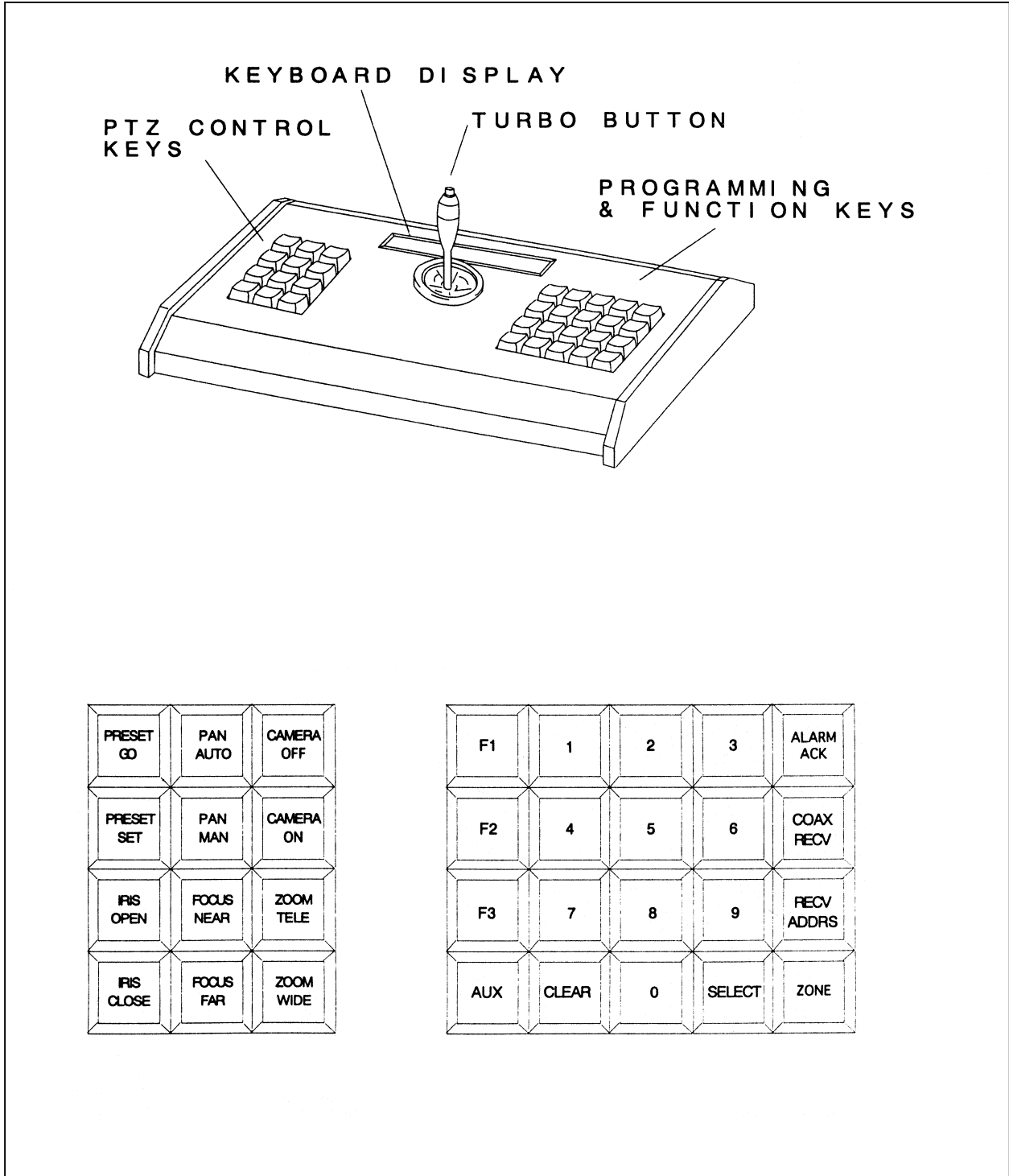


Figure 4-3. Pelco Transmitter/Controller Function Diagram.

4.1 PREPARING THE SVHS VCR FOR RECORDING REAL-TIME EVENTS

When a visual event is reported to the HCCP control room, the plant operator should respond as quickly as possible to document the event by performing the procedures below.

POWER UP
THE EVENT VCR
AND MONITOR

Turn the event VCR on by opening the subpanel door and pressing the **POWER** button on the subpanel. Turn the monitor on by pressing its **POWER** button.

VIDEO CAMERA
REMOTE
CONTROL

The display on the joystick transmitter/controller must read "RS485". If this is not displayed, press the number **1** key on the joystick transmitter/controller and then press the **RECV ADDR5** key on the same device. The display will default to the "RS485" mode after approximately 5 seconds.

VIDEOTAPE
CHECK AND
VCR SETTINGS

Select a blank videotape provided with the monitoring supplies. Look to make sure that it has not been used and that it is completely rewound. Rewind if necessary using the REW (◀◀) button on the VCR.

Complete a new videotape cassette label with the date, time, and tape counter number (should be "0:00:00" for a new videotape) and place it on the spine of the new videotape to be inserted. An example videotape cassette label is provided as Figure 4-4.


	Tape #	_____	Date	_____	Time	_____	Counter #	_____
	Site	_____	Begin	_____	_____	_____	_____	_____
	Operator	_____	End	_____	_____	_____	_____	_____

Figure 4-4. Example Videotape Cassette Label.

Load the videotape into the VCR and check the VCR's display. The tape counter should read "0:00:00". If the display is reading time, press the **TIME/COUNTER** button to display the counter. (The display toggles between the time and the counter each time the button is pressed).

Press the **RESET** button (while the counter value is displayed) to set the tape counter to "0:00:00".

The videotape speed should be set to "2H". If "2H" is not displayed, press the TIME MODE buttons (▼ and ▲) until the display reads "2H".

The monitoring system components are now configured for real-time recording. If any problems are encountered in the system setup, refer to TI 4120-3760, *Troubleshooting and Emergency Maintenance Procedures for SVHS Time-Lapse Video Camera System at HCCP – Panasonic AG-6740 SVHS VCR and Sony Monitor*.

4.2 RECORDING AND NARRATING REAL-TIME EVENTS

BEGIN RECORDING

After ensuring that the correct videotape is in the event VCR, press the red record button (● REC) on the VCR front panel. The recording symbol (REC) and forward arrow (▶) will appear in the VCR's LCD display while recording is in progress. Real-time video of the view as seen on the monitor will now be recorded on the videotape.

Begin completing a Video Monitoring Visual Anomaly Event Log by documenting the start date, time, and counter number (see Figure 4-5).

POSITION CAMERA

Use the transmitter/controller joystick to move the video camera to view the reported visual event. The view seen on the monitor screen will be the view that will be recorded.

NARRATE THE SCENE

A microphone is provided to record verbal comments on the videotape about the scene as it is recorded. The microphone is always in the "on/record" mode. Speak slowly and clearly into the microphone. Include verbal comments such as:

- A description of any visible plume or haze.
- Any change in the camera attitude.
- Weather characteristics including noticeable wind, clouds, precipitation, or fog.
- Information regarding plant operations.

STOP RECORDING AND REALIGN THE CAMERA

At the conclusion of recording the visual event, press the **STOP** (■) button on the front panel of the VCR.

Return the camera to its home position using the joystick. The HCCP plant should be centered on the monitor screen, two inches from the bottom of the screen.

COMPLETE THE EVENT LOG

Following the recording process, complete the Video Monitoring Visual Anomaly Event Log with all details requested, including the videotape stop time and counter reading.

REMOVE VIDEOTAPE

At the conclusion of recording the visible event:

- Rewind the videotape by pressing the REW button (◀◀) on the subpanel of the VCR.
- Remove the videotape from the VCR by pressing the blue EJECT (▲) button.

VIDEO MONITORING VISUAL ANOMALY EVENT LOG

Project: HCCPVID Operator: _____

Site: Healy Power Plant Video Control and Viewing Center

Date _____ Start Time _____ Count _____
Stop Time _____ Count _____

VCR Operating Mode: Real-Time Time-Lapse (circle one)

Checklist:

- Power up
- Record mode on _____
- Is the reported visual anomaly visible to you? (y/n) _____
- Narration complete _____
- Tape stopped _____
- Tape removed _____
- Tape and hardcase labeled and stored _____
- New tape inserted _____
- Power down complete _____
- Event log complete and stored with tape _____

Event Description:

Apparent impact to Class I area? (y/n) _____ Describe: _____

General Weather Conditions (give best estimate from camera view if possible):

- Wind Speed: _____ (calm, light, moderate, strong)
- Wind Direction: _____ (approximate)
- Sky: _____ (clear, partly clear, partly cloudy, cloudy)
- Precipitation: _____ (rain, drizzle, mist, fog, snow, sleet)
- Temperature: _____ (approximate)

Discussion:

Enclose this Event Log with the labeled videotape cassette and send to:



Figure 4-5. Example Video Monitoring Visual Anomaly Event Log.

LABEL
VIDEOTAPE Complete the videotape label with the event's ending date, time, and tape counter reading.

POWER DOWN
THE VCR
AND MONITOR After removing the videotape, turn the event VCR off by pressing the **POWER** button on the subpanel and closing the subpanel door. Turn the monitor off by pressing its **POWER** button.

4.3 DELIVERING RECORDED REAL-TIME EVENT VIDEOTAPES

After recording the event, the plant operator must prepare the videotape and documentation for shipment to ARS:

PREPARE
VIDEOTAPE
FOR SHIPMENT Remove the videotape overwrite protection tab from the back of the videotape to prevent accidental overwriting or erasing of the tape.

DELIVER
VIDEOTAPE The plant operator should then deliver the videotape and completed Video Monitoring Visual Anomaly Event Log to the site operator.

Once the site operator receives a completed event videotape:

PREPARE THE
VIDEOTAPE
FOR SHIPMENT Place the videotape in a padded mailing envelope. Attached the completed Video Monitoring Visual Anomaly Event Log. Mail the videotape immediately to:

Air Resource Specialists, Inc.
1901 Sharp Point Drive Suite E
Fort Collins, CO 80525
Attention: Photographic Data Coordinator