Use Case 24: Remote Supervisory Control - KCPL

Summary:

An operator on the DFMS or a System Operator in the control center initiates a remote supervisory device control command to be executed on the EMS, using the EMS SCADA front end processor and links to field devices.

Actor(s):

Name	Role description
DFMS Operator	Monitors and controls real-time operation of distribution devices via the EMS SCADA system.
System Operator	Monitors and controls real-time operation of transmission services via the SCADA system
Application Program	Example is Capacitor Bank Controller that automatically initiates supervisory control command

Probable Participating Systems:

System	Services or information provided
SCADA or legacy EMS	SCADA DAC or Legacy EMS with wrapper that provides SCADA data, AGC, and network applications
DFMS	Computer Aided Dispatch System (CADS) interface to share real-time data
Alarm Processor	Processes events and issues alarms
Historian	Records events
Topology Processor	Updates state of connectivity

Pre-conditions:

Describe conditions that must exist prior to use case initiation.

Assumptions / Design Considerations:

State any known assumptions, limitations, constraints, or variations that may affect this use case. Consider:

- Timing requirements
- When initiated by a process, about 20 requests per second are possible. When initiated by an operator, about one request every 2 seconds is expected.
- Sizing characteristics, etc.

Normal Sequence:

Use Case Step	Description
Step 1	Operator on DFMS or EMS initiates control action from GUI, identifying the device and operation (or giving point number/name)
Step 2	EMS receives control action request, processes and if authorized, sends command to device for execution. Alarm processing receives notification of outstanding control command and issues alarm. Historian records event.
Step 3	EMS checks for outstanding control commands issued. When a new scan from RTU is completed, it compares the status of the points expected to change when command is executed with the most recent scan. When status has changed indicating remote control action is complete, a confirmation is published, the initiator processes the confirmation and updates the operator display. The Alarm processor captures and

	displays the confirmation. The Historian logs the change.
Step 4	Topology Processor processes status change to determine effect on connectivity. If connectivity/topology changes, Topology Processor publishes state change event (handled in TP Use Case for real time data)

Exceptions / Alternate Sequences:
> **Exception:** The status point does not change within allowed time, a failure message is published by EMS.   Initiator updates displays, Alarm processor issues alarm, and Historian logs.

Post-conditions:
> Describe conditions that must exist at the conclusion of the use case.

References:
> Use Cases referenced by this use case, or other documentation that clarifies the requirements or activities described.

Issues:

ID	Description	Status
1.		

Revision History:

No	Date	Author	Description
0.	4/24/98	P. Brown	
1.	1/30/99	T. Saxton	Include use case description from Ivan Principe on Supervisory Control, 7/28/99

Use Case Diagram: