

APPENDIX D: VERIFICATION PLAN SAMPLE CASES

Case Number	Case Name	Case Description	High-Level Requirement Number	High-Level Requirement
1	Access Control	<p>This verification case will test the access control requirements of the DMS Management System. Requirements include the DMS System Manager assigning access control to the other user roles as well as the DMS Management System allowing the various users to monitor and change messages on DMS Field Equipment. The requirements also cover the DMS System Maintainer running diagnostics and testing. The DMS System user access control capabilities will be verified in accordance with their corresponding requirements. No additional hardware or software besides the DMS Management System itself is envisioned to accomplish this verification test.</p>	3.1.1	Access Control
2	DMS Management System Configuration	<p>This verification case will test the system configuration requirements of the DMS Management System. Requirements include the DMS Management System allowing DMS System User configuration of the DMS Management System as well as arbitration and configuration of the parameters for data logging and number of users. In addition, requirements also include managing DMS message priority and scheduling and general DMS Field Equipment configuration.</p>	3.1.2	Configure DMS Management System

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3	DMS Field Equipment Monitoring	This verification case will test the DMS Field Equipment monitoring requirements of the DMS Management System. Requirements include the DMS Management System allowing the DMS System User to select which DMS Field Equipment to view its message being displayed as well as allowing the DMS System Manager to monitor the DMS Field Equipment control source and performance.	3.1.3	Monitoring DMS Field Equipment
4	DMS Field Equipment Control	This verification case will test the DMS Field Equipment control requirements of the DMS Management System. Requirements include the DMS Management System allowing the DMS System User to control what message is displayed on the sign face from both remote and local locations. The requirements include activation of a stored message, message override and scheduling messages.	3.1.4	Controlling DMS Field Equipment
5	External Device Control	This verification case will test the External Device control requirements of the DMS Management System. Requirements include the DMS Management System allowing the DMS System User to control External Devices independently from the message being displayed on the sign.	3.1.5	Controlling External Devices
6	System Logging	This verification case will test the system logging requirements of the DMS Management System. Requirements include the DMS Management System allowing the DMS System Maintainer to specify what is logged by the DMS Management System as well as access to the log.	3.1.6	DMS Management System Logging

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7	DMS Management System Maintenance	This verification case will test the DMS Management System maintenance requirements. Requirements include how the DMS System Maintainer will maintain DMS System operations, the durability of the DMS Management System equipment, DMS Field Equipment that complies with environmental standards, the serviceability of the DMS Field Equipment, availability of serviceable parts, ability of the DMS System Maintainer to remotely test devices, ability of the DMS System Maintainer to access DMS Field Equipment diagnostic information, ability of the DMS System Maintainer to set DMS Management System failure conditions that trigger alarms visible to the DMS System User, and allow the DMS System Maintainer to remotely update software and firmware.	3.1.7	DMS Management System Maintenance
8	DMS Field Equipment Characteristics	This verification case will test the DMS Field Equipment characteristics requirements of the DMS Management System. Requirements include the DMS Management System and DMS Field Equipment capabilities and characteristic information based in NEMA TS 4 and NTCIP 1203 that is stored within the DMS Management System.	3.1.8	DMS Field Equipment Characteristics

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9	DMS Field Equipment Siting	This verification case will test the DMS Field Equipment siting and viewing requirements of the DMS Management System. Requirements include how the DMS System Designer located DMS Field Equipment to provide travelers with actionable information based on the sign's location. In addition, requirements include taking into account DMS Field Equipment operations and maintenance activities.	3.1.9	DMS Field Equipment Siting
10	Interfaces	This verification case will test the DMS Management System constraints and external interface requirements in compliance with NTCIP 1203. Requirements include the interoperability and interchangeability of DMS Field Equipment with different interface standards within the DMS Management System, accommodating existing communications interfaces, and accommodating agency IT policies.	3.1.10	Interfaces
11	DMS Management System Performance	This verification case will test the DMS Management System performance requirements. Requirements include the accommodation of multiple DMS System Users on the DMS Management System at one time, accommodation of simultaneous DMS System Users controlling DMS Field Equipment and accommodation of multiple users accessing the DMS Management System software at one time.	3.1.11	DMS Management System Performance

Case Number	Case Name	Case Description	High-Level Requirement Number	High-Level Requirement
12	DMS Management System Fault Management	This verification case will test the DMS Management System handling of faults. Requirements include detection and reporting of suspected system faults, running system diagnostics and detection and reporting of suspected communications faults.	3.1.12	Fault Management