Primary Interest Groups
Transmission Operators (TOP), Load-Serving Entities (LSE), Distribution Providers (DP)

Overview
Registered Entities implemented controlled load shedding in response to directives issued by the Reliability Coordinator (RC) during an Energy Emergency Alert (EEA) event.

Details
Registered Entities reported several issues and concerns during the implementation of controlled load shedding during the EEA event.

1. SCADA alarms were not distinguishable between normal circuits and circuits operated during the controlled load shed.
2. The number of circuits available for controlled load shed was limited by exempt customers, critical loads, and underfrequency/undervoltage load-shedding circuits. This increased the duration and frequency of outages to a small number of customers.
3. Several circuits were not correctly identified as critical load, including hospitals and jails.
4. Issues were identified with the duration of the controlled load shed for individual circuits, primarily problems with re-energizing circuits due to high cold-load pickup inrush currents.
5. No process was available to identify and respond to outages outside of the controlled load shed circuits.
6. Real-time communications were primarily by phone, making it difficult to keep circuit status documented.
7. Entities used manual spreadsheets to track and update controlled load shed circuit status.
8. Maps of area outages were not immediately available to meet the needs of management, stakeholders, and media.
9. Communications processes were not fully defined or fully implemented with other local government agencies, local law enforcement, local emergency management teams, and other critical facilities.

Corrective Actions
In spite of issues encountered, the implementation of the controlled load shed successfully arrested the frequency decline experienced during the EEA event.

Lessons Learned

1. Periodic System Operator training proved to be invaluable for this event.
2. Operational tools and Energy Management System (EMS) displays must be available to System Operators to manage load shed events, show outages and durations. Automatic load-shedding applications within the SCADA/EMS system is a possibility.

3. Registered Entities must have procedures in place to periodically review and update circuit data for efficiency and flexibility for possible load shed events, to keep critical customer lists updated and underfrequency/undervoltage load-shed circuit lists updated.
4. Registered Entities should have fully defined communication processes with other local government agencies, local law enforcement, and local emergency management teams. Periodic exercises should be in-place to test these communication processes.