Q. **Reference: At page 61 of the report, Liberty states that "Good utility practice and basic common sense dictates that any system test sequence should be designed and executed under the primary criterion that the system function as intended".**

Please provide the "good utility practice" standard that supports this comment with respect to test sequences and indicate where that standard comes from.

A. Please refer to the EPRI document "Guidelines for Maintaining Steam Turbine Lubrication Systems", discussed in the response to PR-NLH-PUB-016. As stated in that document, "this Guidebook was prepared to satisfy the need of electric generating plant personnel for a comprehensive manual that identifies and describes pertinent testing and maintenance practices applicable to the lubricant and lubrication system for reliability." In describing testing requirements for emergency DC lube oil pumps, the Guidelines state at pages 2-30:

> *Other tests include measurement of operating current and* ***determination that the motor can indeed drive its load*** [our emphasis]. *Although these tests may be performed infrequently (e.g., on a yearly basis or at turbine overhaul), it is highly desirable that they be conducted.*

The critical nature of assuring functionality is also emphasized at pages 2-31:

> *Current dc motor inspection and test practice varies widely within the electric power utility industry. Frequency of testing ranges from daily to annual. Scope of inspection may be as minimal as manual actuation of the motor starter followed by visual determination that the motor is running or as complete as starting the motor by simulating loss of oil pressure (i.e., opening the pressure-switch bleed valve) followed by measurement of motor rotational speed, motor current, and pump discharge pressure. Although the first case verifies that power is available, the starter works, and the motor rotates,* ***it does not ensure that the pressure switch is working or that the motor comes up to full operating speed*** [our emphasis]. *In the second case, however, all of these factors are tested and verified.* ***There have been cases in the utility industry where a dc emergency pump motor passed the minimal type of inspection, but failed during a trip-out situation because the motor could not come up to operating speed*** [our emphasis] *and, hence, could not deliver the required oil pressure and volume. In view of this experience, it seems reasonable to perform the more extensive checks at least part of the time.*

In describing annual testing of DC motors, the Guidelines state at pages 3-44:

> *When the motor is started by bleeding pressure from the pressure switch, final operating speed . . . should be recorded for future reference.*

The Guidelines also require that annual testing of all motors include an "operational test of motor characteristics to verify adequate performance" (pages 4-12).

Liberty believes that the above examples meet the RFI's request for the "good utility practice" standard and make it clear that the verification of the functionality of the system is a necessary priority. Liberty continues to believe that the functionality criterion is common sense and it is validated by the standard.