

## **Interpretation Question On SCTE-77 2007 “Specification for Underground Enclosure Integrity”**

### **QUESTION ON ACCEPTANCE CRITERIA:**

“Gentlemen, I am in need of some clarification for certifying our products for the various Tier Level requirements. The SCTE 77 2007 Specification for Underground Enclosure Integrity, Section 7.4 (loading acceptance criteria) states “Failure shall not occur at less than the test load.” It also states “maximum deflection at the design load is 0.5 inch for vertical tests and 0.25 inches per foot for lateral tests.” I am trying to determine what exactly is considered *failure*.”

“For example, a Tier 8 product has a design load of 8000 pounds and a test load of 12000 pounds. If the maximum deflection allowed for a vertical test is 0.5 inch and my deflection recorded at 8000 pounds load is 0.49 inch and 0.59 inch deflection at 12000 pounds load, do I pass the test requirement for a Tier 8 rating? The way the spec is written sounds like a contradiction between design and test load. I have been testing our products with the assumption that if an enclosure is designed to a Tier 8 rating of 8000 pounds then the test load of at least 1.5 times that (12000 pounds) is the load I apply and record the deflection. If my deflection reaches .501 inches before a 12000 load has been applied then my product has failed. Please advise on what exactly failure is and correct any misassumptions I am making.”

### **ANSWER:**

SCTE-77 sections 7.1, 7.2, 7.3 & 7.4 require the enclosure/cover be subjected to 10 cycles at the Design Load, with the maximum deflection measured while at the Design Load, not the Test Load. In each of the sections 7.1 & 7.2 & 7.3, there is a requirement that after the Design Load is applied 10 times, the enclosure/cover “shall then be loaded to failure”, where the phrase “loaded to failure” in this context means a failure that is caused by an excessive load, exceeding the strength of the enclosure/cover, causing it to break/collapse/implode/etc. Section 7.4 invokes two criteria to satisfy the requirements for a particular TIER level, specifically the maximum deflection allowed and the minimum ultimate load that is required. Thus, to determine the requirements for an enclosure rated for TIER 8, first go to Table 1 to determine the magnitude of the loads, enter the Table at the TIER 8 row, and read the four categories of “Loading Requirements” that must be satisfied to be rated for that particular TIER level, which are: Vertical Design Load = 8000 lb., Vertical Test Load = 12000 lb., Lateral Design Load = 600 lb./sq.ft., Lateral Test Load = 900 lb./sq.ft. Then go to sections 7.1, 7.2 and 7.3 and apply the load/deflection requirements that are applicable to the 3-position tests to evaluate the TIER rating. For example, comparing section 7.1 with 7.2 with 7.3, it can be seen that section 7.1 “Lateral Sidewall Load Test” has no vertical deflection requirements, and section 7.2 “Vertical Sidewall Load Test” has both lateral and vertical requirements, and section 7.3 “Cover Vertical Load Test” has no lateral deflection requirements.

Therefore, assuming that this is a Cover Vertical Load Test (since no lateral deflection is mentioned in the question), then the answer to the question is YES the product passes the Cover Vertical Load Test requirements in sections 7.3 & 7.4 for the Tier 8 rating because the vertical deflection requirement of 0.5” is satisfied for each of the ten Design Load cycles at 8000 lb, and the vertical Test Load is satisfied since the product apparently sustained the 12000 lb.