

# Table of Contents

- Preface** . . . . . xi
- 1 Introduction**
  - 1.1 Purpose and Scope . . . . . 1-1
  - 1.2 Target Audience . . . . . 1-1
  - 1.3 Reason for GR-3115-CORE, Issue 2 . . . . . 1-1
  - 1.4 Use and Structure of This Document . . . . . 1-1
  - 1.5 Cabinet Configuration . . . . . 1-2
  - 1.6 Requirements Terminology . . . . . 1-2
  - 1.7 Requirement Labeling Conventions . . . . . 1-3
    - 1.7.1 Numbering of Requirement and Related Objects . . . . . 1-3
    - 1.7.2 Requirement, Conditional Requirement, and Objective Identification . . . 1-4
- 2 General Information**
  - 2.1 Product Description . . . . . 2-1
  - 2.2 Operating Environment . . . . . 2-1
  - 2.3 General Requirements . . . . . 2-1
  - 2.4 Test Environmental Criteria . . . . . 2-2
    - 2.4.1 Ambient Laboratory Conditions . . . . . 2-2
    - 2.4.2 Environmental Tests . . . . . 2-2
    - 2.4.3 Thermal Soak Time . . . . . 2-2
  - 2.5 Safety Precautions . . . . . 2-2
  - 2.6 Measurements . . . . . 2-3
  - 2.7 Laboratory Conditions . . . . . 2-3
  - 2.8 Sample Preparation . . . . . 2-3
  - 2.9 Calibration . . . . . 2-3
  - 2.10 Standard Conflicts . . . . . 2-4
  - 2.11 Force and Weight Tolerances . . . . . 2-4
  - 2.12 Damage Definition . . . . . 2-4
  - 2.13 Re-Testing . . . . . 2-4
    - 2.13.1 Re-Testing Matrix . . . . . 2-5
- 3 Detailed Requirements**
  - 3.1 Product Samples . . . . . 3-1
  - 3.2 Product Changes . . . . . 3-1
  - 3.3 Safety and Reliability Considerations . . . . . 3-1
    - 3.3.1 Listing . . . . . 3-2
  - 3.4 Metallic Materials . . . . . 3-2
  - 3.5 Polymeric and Other Non-Metallic Materials . . . . . 3-3
  - 3.6 Finish . . . . . 3-10
    - 3.6.1 Color . . . . . 3-11
    - 3.6.2 Appearance . . . . . 3-12
    - 3.6.3 Paint Adhesion . . . . . 3-12
    - 3.6.4 Flexibility . . . . . 3-13
    - 3.6.5 Paint Adhesion After Exposure . . . . . 3-13
    - 3.6.6 Ultraviolet Resistance . . . . . 3-14

3.7 Graffiti-Resistant Paint . . . . .	3-15
3.8 Screens and Filters . . . . .	3-15
3.9 Insect Intrusion . . . . .	3-16
3.10 Door Restrainers (Vertically Hinged Doors) . . . . .	3-17
3.11 Horizontally Hinged Doors . . . . .	3-20
3.12 Lifting Details . . . . .	3-21
3.13 Security . . . . .	3-22
3.14 Roof Compression . . . . .	3-26
3.15 External Icing . . . . .	3-28
3.16 Bonding and Grounding . . . . .	3-28
3.17 Splicing Compartment . . . . .	3-29
3.18 Pole-Mounted, Aerial Cabinets . . . . .	3-30
3.19 Documentation . . . . .	3-30
3.20 Marking, Packaging, and Shipping . . . . .	3-31
3.21 Installation and Maintenance . . . . .	3-33
3.22 Quality . . . . .	3-35
3.23 Thermal Shock . . . . .	3-35
3.24 Water and Dust Intrusion, and Water Resistance . . . . .	3-37
3.24.1 Wind-Driven Rain . . . . .	3-38
3.24.2 Rain Intrusion . . . . .	3-39
3.24.3 Lawn Sprinklers . . . . .	3-40
3.24.4 Weathertightness . . . . .	3-42
3.25 Wind Resistance . . . . .	3-43
3.26 Pole-Mount and Wall-Mount Equipment . . . . .	3-47
3.27 Impact Resistance . . . . .	3-49
3.28 Firearms Resistance . . . . .	3-50
3.29 Fire Resistance . . . . .	3-51
3.30 Corrosion Resistance . . . . .	3-52
3.30.1 Salt Fog . . . . .	3-52
3.30.2 Temperature Cycling/High Humidity . . . . .	3-53
3.31 Shock and Vibration . . . . .	3-55
3.31.1 Transportation Shock . . . . .	3-55
3.31.2 Transportation Shock (Rail) . . . . .	3-55
3.31.3 Transportation Vibration . . . . .	3-55
3.31.4 Installation Shock . . . . .	3-55
3.31.5 Environmentally Induced Vibration . . . . .	3-56
3.31.6 Earthquake Resistance . . . . .	3-56

## **Appendix A: Evaluating Dust Accumulations and Wind-Driven Rain Test**

A.1 Observational Standard for Evaluating Dust Accumulation . . . . .	A-1
A.2 Wind-Driven Rain Test Set-Up Calibration Suggested Procedure . . . . .	A-2
A.2.1 Purpose . . . . .	A-2
A.2.2 Test Set Calibration . . . . .	A-2

## **Appendix B: OSP Cabinet Retrofit/Augment Guidelines**

B.1 Background . . . . .	B-1
B.2 Basic Guidelines . . . . .	B-1
B.3 Retrofit Parameters . . . . .	B-1
B.3.1 Physical Space – Parameter 1 . . . . .	B-2
B.3.2 DC Power – Parameter 2 . . . . .	B-2

- B.3.3 Power/Battery Reserve – Parameter 3 . . . . . B-3
- B.3.4 AC Power – Parameter 4 . . . . . B-4
- B.3.5 Thermal Capacity – Parameter 5 . . . . . B-4
- B.3.6 Signal/Transmission Capacity – Parameter 6 . . . . . B-5
- B.3.7 Electromagnetic Interference (EMI) – Parameter 7 . . . . . B-6
- B.3.8 Bonding and Grounding Safety – Parameter 8 . . . . . B-6
- B.3.9 Acoustic Noise - Parameter 9 . . . . . B-6
- B.4 Testing . . . . . B-6
- B.5 Documentation . . . . . B-7
- B.6 Installed Equipment Compliance . . . . . B-7
- B.7 Additional Passive Fiber Optic Components . . . . . B-7

**Appendix C: References**

- C.1 Telcordia Documents . . . . . C-1
- C.2 Non-Telcordia Documents . . . . . C-2
- C.3 To Obtain Additional Reference Material . . . . . C-3
- C.4 Telcordia Document Sets—Family of Requirements (FR) and Family of Documents (FD) . . . . . C-4
- C.5 Reference Notes . . . . . C-5
  - C.5.1 Contact Customer Service . . . . . C-5
  - C.5.2 Order Documents Online From the Telcordia SuperStore . . . . . C-5
  - C.5.3 Web Sites for Generic Requirements Information . . . . . C-6
  - C.5.4 Licensing Agreements for Telcordia Documents . . . . . C-6

**Appendix D: Glossary**

**Requirement-Object Index**

## List of Figures

Figure 3-1	Three-Point Test Fixture . . . . .	3-6
Figure 3-2	Insect Intrusion . . . . .	3-17
Figure 3-3	Dynamic Wind Test . . . . .	3-19
Figure 3-4	Example 1 of Locking Mechanism . . . . .	3-24
Figure 3-5	Example 2 of Locking Mechanism . . . . .	3-25
Figure 3-6	Roof Compression . . . . .	3-27
Figure 3-7	Temperature Cycle - Thermal Shock . . . . .	3-37
Figure 3-8	Top View . . . . .	3-41
Figure 3-9	Side View . . . . .	3-42
Figure 3-10	Application of Force to Pole-Mounted Cabinet . . . . .	3-45
Figure 3-11	Overturning Moment Applied to Pad-Mounted Cabinet . . . . .	3-47
Figure 3-12	Firearms Resistance Test . . . . .	3-51
Figure 3-13	Temperature Cycle – Temperature Cycling/High Humidity . . . . .	3-54
Figure A-1	Observational Standard . . . . .	A-1
Figure A-2	Wind Speed and Rainfall Verification Fixture . . . . .	A-3
Figure A-3	Reduction of Water Collection Aperture With an Inclined Rain Gauge During Wind-Driven Rain Testing . . . . .	A-4

## List of Tables

Table 3-1	Description of Required Samples, Sample Count, and Exposure Duration . . . . .	3-3
Table 3-2	Ultraviolet Resistance Sources . . . . .	3-9
Table 3-3	Description of Required Samples, Sample Count, and Exposure Duration . . . . .	3-10
Table 3-4	Ultraviolet Resistance Sources . . . . .	3-15
Table 3-5	Steps, Temperatures, and Duration . . . . .	3-36
Table 3-6	Steps, Temperatures, Humidities, and Durations . . . . .	3-54

