TABLE OF CONTENTS

DIGGERS HOTLINE
Telephone Numbers - Alliant Energy – Web Site Information & Cable Location

CHAPTER 1 – GENERAL INFORMATION ..... PAGE

100. General 1
101. Purpose 1
102. Scope 1
103. Word Application 2
104. Continuity of Service 2
105. Point of Service 2
106. Codes And Rules 2
107. Application For Service 3
108. Service Voltages And Maximum Amperage (600 V. or Less) 4
109. Number of Services 5
110. Short Circuit Duty Requirements 9
111. Inspections and Maintenance 12
112. Service Connections 12
113. Identification of Conductors 12
114. Capacity 12
115. Addition To Existing (Rewire) 13
116. Company Equipment On Customer Premises 13
117. Sequence of Disconnecting Service And Meter 14
118. Customer Installation 14
119. Communication Tower Installation 15

CHAPTER 2 – OVERHEAD SERVICE

200. Scope 17
201. Attachment of Service Drops 19
202. Service Mast Construction 19
203. Service Mast Installation of Flat or Low Roofed Buildings Up to 1200 Amps – 480 Volts Maximum 21
204. Service Attachment to Brick or Masonry Walls and Metal Buildings Up To 1200 Amps – 480 Volts Maximum 22
205. Service Riser Requirements 23
206. Wall or Through – The Roof Installation 24
207. Pole Mounted Service Entrance Up to 300 Amp-240 Volts Maximum – Optional Construction Where No Building is Available 25

208. Overhead Temporary Services 26
209. Overhead Secondary Metering 29
210. Meter Locations 29

211. Meter Installations……32
212. Metering Clearance Requirements……33
213. Identification of Meters……34
214. Meter Seals……34
215. Separation of Metered and Un-Metered Conductors……34
216. Meter Socket Requirement……35
217. Self-Contained 120/240 1PH……36
218. Self-Contained 120/208 1PH……36
219. Self-Contained 3PH Four Wire ……36
220. Self-Contained 277/480 ……37
221. Self-Contained Multiple/Group Metering……38
222. Modular Metering……39
223. Metering Shield……40
224. Instrument Transformer Installations……41
225. Metering Transformer OH Installations……43
226. Wall-Mounted Transformer Cabinet ……45
227. Combined Instrument Transformer Multi-Metering……47
232. Grounding &Bonding……51
233. Grounding Electrode System……51
234. Bonding……53
235. Bonding Conductor Sizing……53
236. Overhead Clearance Requirement Table……55

CHAPTER 3 – CLEARANCES ..... PAGE

301. Minimum Clearances for Services 300 Volts and Below 57
302. Min. Clearances for Service 300 Volts and Below over Pools 59
303. Clearance for Services Over State and Federal Highways 59
304. Service Conductor Clearance From Signs 59
305. Service Mast Installation – Roof Clearances of Service Drop Terminating on Support Mast 300 Volts or Less 60
307. Clearance Envelope for Grain Bins Filled by Portable Augers, Conveyors, and Elevators 62
308. Special Horizontal Clearances for Overhead Cable Services (0-480 Volts)..... 63
309. Pad-Mount Transformers Locations 64
309. Non-Combustible Building Walls 66
309. Combustible Building Walls..... 67
310. Barriers 67
311. Fire Escapes 68
312. Single Phase Pad-mounted Transformer - Protection..... 68
313. Three Phase Pad-mounted Transformer Protection 69

CHAPTER 4 – UNDERGROUND SERVICE

400. General..... 71

401. Sizing Underground Facilities 72
402. Location of Alliant Energy Secondary Voltage Cables 72
403. Underground Service Installations 73
404. Outdoor Meter Socket, Single-Phase & Three-Phase, 300 Amps Max., 240 Volts Max. 75
405. Wall Mounted Pedestal Service – Single or Duplex – Single or Three Phase – 300 Amps Max. - 240 Volts Max. 76
406. Free Standing Pedestal Service Entrance – Single Phase & Three Phase – 300 Amps Max. 240 Volts Max. 78
407. Rigid Conduit 80
408. Pad Specifications for Three-Phase Pad-Mount Transformer 75-2500 KVA 82
409. Pad Layout for Three-Phase Pad-Mount Transformers 75-2500 KVA 83
410. Single Phase Box Pad 84
411. Transformer Pad Foundation Wall 85
412. Box Pad Specification for 3 PH Transformer 75 to 750 KVA 87
413. Box Pad Specification for 3 PH Transformer 1000 to 3360 KVA 87
414. Underground Temporary Services 88
417. Metering Facilities 94
418. Location of Meters 97
421. Identification of Meters 99
422. Meter Seals 99
423. Separation of Metered and Un-Metered Conductors 99
424. Meter Socket Requirements 100
425. Self-Contained Meters 101
428. Self-Contained Multiple Group & Modular Metering 103
433. Meter Shield 108
434. Field-Built Structures 109
435. Instrument Transformer Installation 111
436. Wall-Mounted Metering Transformer Cabinets 114
438. Pad-Mounted Metering Transformer Cabinets 116
439. Modular/Group Metering 118
440. Grounding and Bonding 124
441. Grounding Electrode System. 124
442. Bonding 126
443. Bonding Conductor 126
445. Secondary Clearances 128

CHAPTER 5 – DISTRIBUTION GENERATION

500. Scope 131
501. Safety 131
..... 131
502. Transfer System Requirements 132
503. Transfer Switch Options 132
504. Transfer Switches 132

505. Connection and Switching Requirements……133
506. Standby Generator Installation……...135
507. Scope 137
508. Availability 137
509. Permission to Connect 137
510. Electric Rate 137
511. Metering 137
512. Company Distribution System 137
513. Technical Information 138
514. Contract 138
515. Insurance 138
516. Generator Operation 138
517. Generator Maintenance 138
518. Generator Protection 138
519. Isolation 138
520. Synchronizing 139
521. Transformation 139
522. Power Factor and Capacitors 139
523. Optional Standby Generator Used With Parallel Generation 139
524. Drawings 139
533. Grounding……...156
535. Bonding……...158

CHAPTER 6 – SPECIAL EQUIPMENT AND MOTORS

600. Service Impairing Equipment 161
601. Phase Balance Equipment 161
602. Power Factor Correction 161
603. ARC Welders 161
604. Protection and Control 162
605. Motor Specifications 162

CHAPTER 7 – HUD MANUFACTURED HOMES

700. Scope 165
701. Definitions 165
702. General Requirements 168
703. Mobile/Manufactured Home Courts 169
704. Mobile/Manufactured Home Service Entrance Pedestal 100-200 Amp, Single-Phase, 3-Wire – 120/240 Volt – Underground 170
705. Field Built Service Entrance for HUD Mobile/Manufactured Homes, 100-200 Amp – 3-Wire – 120/240 Volt – Overhead 172

CHAPTER 7 – HUD MOBILE/MANUFACTURED HOMES (Continued)..... PAGE

706. Field Built Service Entrance for HUD Mobile/Manufactured Homes, 100-200 Amp, 3-Wire – 120/240 Volts, Underground 174
707. Manufactured Home Service Pedestal, Mounted on the Frost Wall, Permanent Foundation, Single-Phase, 100-200 Amp, 120/240 Volts 176
708. Manufactured Home Service Pedestal, Mounted on Full Basement, Permanent Foundation, Single-Phase, 100 – 200 Amp, 120/240 Volts 177
709. Grounding 178
710. Grounding Electrode System 178
711. Bonding ……..180

CHAPTER 8 – FARM SERVICES

801. Scope 183
802. Farm Service Yard Pole or Structure 183
803. Overhead Service to a Farm Yard Pole-With Grade Level Disconnect and Overcurrent Protection, 300 Amp Max., & 240 Volt Max. 185
804. Overhead Service to a Field Built Stricture, with Grade Grade Level Disconnect and Overcurrent Protection, 300 Amp Max & 240 Volt Max. 187
805. Overhead Service to a Farm Yard Pole-With Pole Top Transfer Switch 190
806. Overhead Service for Farm/ Irrigation Service, 100-800 Amp, 277/480 Volt, Three Phase..... 192
807. Underground Service from an Overhead Transformer to a Farm on Field Built Structure, 300 Amps Max., 240 Volts Max. 194
808. Underground Service to a Farm on Field Built Structure with Overcurrent Protection, 301-1200 Amp, 480Volts Max. 196
809. Underground Service to a Farm From a Pad Mount Transformer with Pad Mount Current Transformer Cabinet……199
810. Grounding 200
811. Grounding Electrode System……..200
812. Bonding……...203

CHAPTER 9 – UTILITY / CATV

900. General 209
901. Pole-Mount Service, 120/240 Volt, Single-Phase,3-Wire, 200 Amp Max..... 210
902. Underground Service, 120/240 Volt, Single-Phase, 3-Wire, 200 Amp……..212

CHAPTER 10 – PRIMARY SERVICES

1000. General 215
1001. Overhead Primary Service 218
1002. Underground Primary Service 220
1003. Underground Primary Service With Overhead Metering 224
1004. Underground Primary Service to Metering Enclosure 226