

1. Record Nr.	UNINA9910155417403321
Autore	Scheschy Herbert
Titolo	Albert Drach und die Literaturgeschichtsschreibung : Ein Diskurs über "falsche Moral" und "falsche" Literatur / / Herbert Scheschy ; Mit einem Vorwort von Bernhard Fetz
Pubbl/distr/stampa	Frankfurt am Main, [Germany] : , : PL Academic Research, , 2017 ©2017
ISBN	3-631-71402-5 3-631-71401-7
Descrizione fisica	1 online resource (185 pages)
Disciplina	838.91409
Lingua di pubblicazione	Tedesco
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.

2. Record Nr.	UNINA9911007176803321
Autore	Amundsen Thomas
Titolo	Substation Structure Design Guide : Recommended Practice for Design and Use
Pubbl/distr/stampa	Reston : , : American Society of Civil Engineers, , 2023 ©2023
ISBN	0-7844-8518-6 0-7844-8517-8
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (345 pages)
Collana	Manuals and Reports on Engineering Practice Series ; ; v.113
Altri autori (Persone)	BlackwellT. Alan ClarkMichael DioknoMarella D EdwardsKurt FarahaniMajid R. J FujisakiEric GardnerTodd GemarJennifer A GilleStefanie
Disciplina	621.31/26
Soggetti	Electric substations Structural engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Cover -- Title Page -- Copyright Page -- Manuals and Reports on Engineering Practice -- Contents -- Preface -- Blue Ribbon Panel Reviewers -- Acknowledgments -- Dedication -- Chapter 1 : Introduction -- References -- Chapter 2 : Definitions, Electrical Equipment, and Structure Types -- 2.1 Purpose -- 2.2 Definitions, Substation Types, and Components -- 2.2.1 Substation -- 2.2.2 Switchyard or Switching Station -- 2.2.3 Unit Substation -- 2.2.4 Transmission Line -- 2.2.5 Air-Insulated Substation -- 2.2.6 Gas-Insulated Substation, GIS -- 2.2.7 Electrical Clearance -- 2.2.8 Buswork System -- 2.2.9 Short-Circuit Force -- 2.2.10 Dead-End Structures -- 2.2.11 Box-Type Structure -- 2.2.12 Shielding Mast

- 2.2.13 Lightning Mast -- 2.3 Electrical Equipment and Supports
- 2.3.1 Power Transformer and Autotransformer -- 2.3.2 Shunt Reactor -- 2.3.3 Current-Limiting Inductor or Air Core Reactor -- 2.3.4 Line Trap -- 2.3.5 Coupling Capacitor Voltage Transformer -- 2.3.6 Disconnect Switch -- 2.3.7 Circuit Switcher (Load Interrupter Switch) -- 2.3.8 Circuit Breaker -- 2.3.9 Potential and Current Transformers -- 2.3.10 Capacitor Bank -- 2.3.11 Surge Arrester -- 2.3.12 Neutral Grounding Resistor -- 2.3.13 Cable Terminator -- 2.3.14 Insulator -- 2.3.15 Bus Duct -- 2.3.16 Fire Barriers -- 2.3.17 Control Enclosures -- 2.3.18 Transformers -- 2.4 Definition of Responsibilities -- 2.4.1 Owner -- 2.4.2 Structure Designer -- 2.4.3 Supplier or Fabricator -- References -- Chapter 3 : Loading Criteria for Substation Structures -- 3.1 Basic Loading Conditions -- 3.1.1 Dead Loads -- 3.1.2 Equipment Operating Loads -- 3.1.3 Terminal Connection Loads for Electrical Equipment -- 3.1.4 Wire Tension Loads -- 3.1.5 Extreme Wind Loads -- 3.1.6 Ice Loads with Concurrent Wind. -- 3.1.7 Seismic Loads -- 3.1.8 Short-Circuit (Fault) Loads -- 3.1.9 Construction and Maintenance Loads -- 3.1.10 Wind-Induced Oscillations -- 3.1.11 Loading Criteria for Deflection Limitations -- 3.1.12 National Electrical Safety Code Loads -- 3.1.13 State and Local Regulatory Loads -- 3.2 Application of Loads -- 3.3 Load Factors and Combinations -- 3.4 Alternate Design Loads and Load Factors -- 3.5 Serviceability Considerations -- References -- Chapter 4 : Deflection Criteria (For Operational Loading) -- 4.1 Structure Classifications and Deflection Limits -- 4.1.1 Deflection Analysis and Criteria -- 4.1.2 Class A Structures -- 4.1.3 Class B Structures -- 4.1.4 Class C Structures -- 4.2 Special Considerations for Deflection Analysis -- 4.2.1 Multiple-Use Structures -- 4.2.2 Rotational Limitation -- 4.2.3 Anchorage and Member Connection Restraints -- 4.2.4 Gross versus Net Deflections -- 4.2.5 Shielding Masts and Other Tall, Slender Structures -- 4.2.6 Rigid Bus Vertical Deflection Criteria -- 4.3 Summary -- Reference -- Chapter 5 : Method of Analysis -- 5.1 Overview -- 5.2 Stress Criterion versus Deflection Criterion -- 5.3 The Structure Model -- 5.3.1 Individual Members and Connections -- 5.3.2 Truss Model -- 5.3.3 Frame Model -- 5.3.4 Finite-Element Model -- 5.3.5 Loads and Support Conditions -- 5.4 Static Analysis Method -- 5.4.1 Approximate Analysis -- 5.4.2 First-Order Elastic Analysis -- 5.4.3 Second-Order Elastic Analysis -- 5.4.4 First-Order Inelastic Analysis -- 5.4.5 Analysis Requirements in Commonly Used Documents -- 5.5 Dynamic Analysis Method -- 5.5.1 Steady-State Analysis -- 5.5.2 Eigenvalue Analysis: Natural Frequencies and Normal Modes -- 5.5.3 Response Spectrum Analysis -- 5.6 Recommendation for an Analysis Method -- 5.6.1 Static Analysis. -- 5.6.2 Dynamic Analysis -- 5.7 Analysis of Short-Circuit Events -- 5.7.1 Rigid Bus Analysis Methods -- 5.7.2 Rigid Bus Analysis Methods Discussion -- 5.7.3 Short-Circuit Analysis Considerations -- References -- Chapter 6 : Design -- 6.1 General Design Principles -- 6.2 Design Methods -- 6.3 Steel Structures -- 6.3.1 Ultimate Strength Design -- 6.4 Concrete Structures -- 6.4.1 Reinforced Concrete Structures -- 6.4.2 Prestressed Concrete Structures -- 6.4.3 Prestressed Concrete Poles -- 6.5 Aluminum Structures -- 6.5.1 Typical Substation Alloys and Tempers -- 6.5.2 Applications to Substation Structures -- 6.5.3 Use Limitation with Aluminum Substation Structures -- 6.5.4 Aluminum Connections -- 6.5.5 Aluminum Design Resources -- 6.6 Wood Structures -- 6.6.1 Ultimate Strength Design -- 6.6.2 Allowable Strength Design -- 6.7

Seismic Design Guidelines -- 6.7.1 Structures That Support Electrical Equipment Qualified for IEEE 693 -- 6.7.2 Structures Not Covered by IEEE 693 -- 6.8 Base Plate Design -- 6.8.1 Determination of Anchor Rod Loads -- 6.8.2 Determination of Base Plate Thickness -- 6.8.3 Anchor Rod Holes in Base Plates -- 6.8.4 Base and Flange Plate Design for Deflection-Sensitive Structures -- 6.9 Rigid Bus Design -- 6.9.1 Bus Layout Configuration -- 6.9.2 Rigid Bus Materials and Shapes -- 6.9.3 Fittings and Couplers -- 6.9.4 Insulators -- 6.9.5 Bus System Design -- 6.9.6 Rigid Bus Seismic Considerations -- 6.10 Special Considerations -- 6.10.1 Precautions Regarding the Magnetic Fields of Air Core Reactors -- 6.10.2 Vortex-Induced Oscillation and Vibration -- 6.10.3 Galvanizing Steel Considerations -- 6.10.4 Painted or Metallized Steel Considerations -- 6.10.5 Member Connection Design -- 6.10.6 Weathering Steel Structures -- 6.10.7 Guyed Substation Structures. 6.10.8 Aluminum with Dissimilar Materials -- References -- Chapter 7 : Foundations -- 7.1 Foundation Types -- 7.1.1 Shallow Foundations -- 7.1.2 Deep Foundations -- 7.1.3 Direct Embedment -- 7.1.4 Helical Screw Anchor Piles -- 7.2 Geotechnical Subsurface Exploration -- 7.2.1 General -- 7.2.2 Existing Geological Data -- 7.2.3 Site-Specific Subsurface Exploration -- 7.3 Additional Design Considerations -- 7.3.1 Frost Action -- 7.3.2 Expansive or Collapsible Soils -- 7.3.3 Corrosion -- 7.3.4 Seismic Loads and Dynamic Loads -- 7.3.5 Soil-Structure Interaction -- 7.4 Loading Considerations -- 7.4.1 Load Application -- 7.4.2 Load Combinations -- 7.5 Durability of Concrete -- 7.6 Special Considerations -- 7.6.1 Operational Loads -- 7.6.2 Construction Loads -- 7.6.3 Group Effects -- 7.6.4 Slopes and Excavations -- 7.6.5 Constructability -- 7.6.6 Settlement, Rotation, and Deflection -- 7.6.7 Uplift -- 7.6.8 Seismic Base Isolation -- 7.6.9 Grounding -- 7.6.10 National Electrical Safety Council District Loading and Foundation Design -- References -- Chapter 8 : Connections to Foundations -- 8.1 Foundation Types and Anchorage Systems -- 8.1.1 Spread Footing Foundation -- 8.1.2 Drilled Pier Foundation -- 8.1.3 Anchor Rods Installed without Grout Beneath Base Plates -- 8.1.4 Embedded Structural Steel -- 8.2 Anchor Materials -- 8.3 Anchor Arrangements and General Design Considerations -- 8.3.1 Base Plates Supported by Anchor Rods with Leveling Nuts -- 8.3.2 Anchor Rods with Base Plates on Concrete or Grout -- 8.4 Anchors Cast in Place -- 8.4.1 Types of Anchors -- 8.4.2 Design Considerations for Anchor Steel -- 8.4.3 Design Considerations for Concrete -- 8.5 Post-installed Anchors in Concrete -- 8.5.1 Types and Application -- 8.5.2 Design -- 8.5.3 Installation. References -- Chapter 9 : Quality Control and Quality Assurance -- 9.1 General -- 9.2 Steel Structures -- 9.2.1 Material -- 9.2.2 Welding -- 9.2.3 Fabrication Inspection -- 9.2.4 Structure Coating -- 9.3 Aluminum Structures -- 9.3.1 Material -- 9.3.2 Welding -- 9.3.3 Fabrication -- 9.3.4 Inspection -- 9.3.5 Structure Coating -- 9.4 Concrete Structures -- 9.4.1 Reinforced Concrete -- 9.4.2 Prestressed Concrete Poles -- 9.4.3 Inspection -- 9.5 Wood Structures -- 9.5.1 Material and Treatment -- 9.5.2 Manufacturing and Fabrication -- 9.5.3 Inspection -- 9.6 Shipping -- 9.7 Handling and Storage -- References -- Chapter 10 : Construction, Maintenance, and Testing -- 10.1 Construction -- 10.2 Maintenance -- 10.3 Worker Safety -- 10.4 Full-Scale Structural Proof Tests -- References -- Chapter 11 : Retrofit of Existing Substation Infrastructures -- 11.1 General -- 11.2 Alternative Methods for Retrofit or Reinforcement of Substation Infrastructures --

11.2.1 Types of Structures That May Require Reinforcement/Repair --
11.2.2 Retrofit Methods -- 11.2.3 Methods of Anchorage Retrofit --
11.2.4 Considerations When Retrofitting Steel Structures -- 11.2.5
Structure Finish and Its Consideration to the Retrofit Process -- 11.3
Environmental Concerns When Retrofitting Substations -- 11.3.1
Asbestos in Existing Substations -- 11.3.2 Demolition Activities --
11.3.3 Renovation Activities -- 11.3.4 Soil Contamination in
Existing Substations -- 11.4 Enhancing Security and Resilience of
Electrical Substations -- 11.5 Retrofit Design Considerations -- 11.6
Installation -- References -- Chapter 12 : Oil Containment and Barrier
Walls -- 12.1 General -- 12.2 Oil Containment -- 12.2.1 General
-- 12.2.2 Containment Systems -- 12.2.3 Oil Retention Drainage.
12.2.4 Design Considerations.

Sommario/riassunto

MOP 113, Second Edition, documents electrical substation structural design practice and gives guidance and recommendations for the design of outdoor electrical substation structures.
