

THE NAVAJO NATION:

RAPTOR ELECTROCUTION PREVENTION REGULATIONS

I. POLICY

- A. It is the Policy of the Navajo Nation to have electrical power companies reduce the likelihood of electrocution of raptors (birds of prey) on the Navajo Nation by enforcing raptor-safe power pole design standards for new power line constructions within Raptor Sensitive Areas (R.S.A.s) to protect Golden Eagles, Bald Eagles and Ferruginous Hawks.
- B. These regulations apply to projects involving repairs or upgrades to existing power lines within Raptor Sensitive Areas, by requiring raptor-safe power pole designs when poles are replaced, and retrofitting of existing power poles on a case-by-case basis, with techniques to minimize the risk of raptor electrocution.
- C. The Department of Fish and Wildlife (DFW) has identified Raptor Sensitive Areas for these regulations from its knowledge of raptor breeding areas and wintering concentrations. Breeding Area R.S.A.s are depicted as circular areas, centered on nests, that are equal to the average home range size for that species. Breeding Area R.S.A.s are depicted for Golden Eagles (*Aquila chrysaetos*), Bald Eagles (*Haliaeetus leucocephalus*) and Ferruginous Hawks (*Buteo regalis*) because these are native breeding species of the Navajo Nation, susceptible to electrocution, and are listed as “endangered” on the Navajo Endangered Species List. Wintering Concentration R.S.A.s are depicted by the outline of areas known to harbor aggregations of raptors during the winter.

II. PURPOSE

The purpose of these regulations is to help protect threatened and endangered raptors on the Navajo Nation by establishing guidelines for all entities constructing power lines on the Navajo Nation to comply with raptor-safe power pole designs (as identified in the Avian Power Line Interaction Committee [APLIC] ¹) within areas designated by the DFW as sensitive for raptors. These poles designs have proven to be effective at reducing electrocution of raptors, and will be implemented in areas most used by Navajo Nation’s sensitive raptors. These areas were derived from known locations of nests for Golden Eagles (*Aquila chrysaetos*), Bald Eagles (*Haliaeetus leucocephalus*) and Ferruginous Hawks (*Buteo regalis*) on the Navajo Nation. Also included, are areas known to have concentrations of wintering raptors.

III. PRINCIPLE TENETS

- A. Providing electricity to the Navajo People is a crucial means of improving the quality of life of the Navajo Nation's residents. The various providers of electricity, the largest being Navajo Tribal Utility Authority, have an important role in improving residents' quality of life. Navajo Tribal Utility Authority has demonstrated concern for the safety of raptors in the vicinity of power lines and has assisted in development of these regulations. Comments were sought from NTUA officials on an earlier draft of this document from January to March 2008. A series of informational meetings were held at the NTUA districts in 2008, including: Dilkon (Jan. 16) Fort Defiance (Jan. 17), Shiprock (Jan. 28), Tuba City (Feb. 11) and Kayenta (Feb. 12).
- B. Most species of raptors use power poles for perching, resting, and roosting. Large raptor species are susceptible to electrocution on power poles because the design and spacing of conductors and associated hardware allow simultaneous contact with positive and neutral components with the birds' wings, feet, or other body parts.
- C. Raptors (eagles, hawks, falcons, and owls) are traditionally important to the Navajo People and are an important part of naturally-functioning ecosystems of the Navajo Nation.
- D. It is the responsibility of the DFW to protect, conserve, and manage raptors on Navajo Lands. The Golden Eagle, Bald Eagle, and Ferruginous Hawk are native breeding species of the Navajo Nation that are considered 'endangered', and protected from take, under Navajo Nation Code (Chapter 17 § 507a). The Golden and Bald Eagles, and their nests, are protected from unlawful take under Navajo Nation Code Chapter 17 § 505, the federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), and The Migratory Bird Treaty Act (16 U.S.C. 703-712). Violations of federal laws can result in fines and/or imprisonment; misdemeanor fines may be \$100,000 for individuals and \$250,000 for organizations, while felony violations may incur a fine up to \$250,000 for individuals and \$500,000 for organization.

IV. RAPTOR INTERACTIONS WITH POWER LINES

- A. Raptors commonly use power poles and transmission towers on the Navajo Nation as perch sites for hunting, resting, feeding, and territorial defense. Raptors are fatally electrocuted if they simultaneously contact two energized phases or an energized conductor and grounded hardware. Most electrocutions are caused by simultaneous skin-to-skin, foot-to-skin, and beak-

to-skin contacts with two conductors or a conductor and ground wire or associated hardware. Dry feathers conduct no measurable current flow; however when wet, feathers are capable of conducting dangerous amperage levels at about 5,000 volts.

- B. Power line design governs the relative safety for raptors. If phase conductors are separated by more than the wingspread of the raptor, the raptor is unlikely to be electrocuted. If the distance between the ground wire (and associated hardware) and an energized conductor is greater than the wingspread, and the overall body length, of the raptor, it is unlikely to be electrocuted.
- C. In numerous studies of electrocuted raptors, Golden Eagles were the most frequently electrocuted raptor in North America. In 1996, APLIC² reported that the proportion of Golden Eagles that died from electrocution, compared to other raptors, ranged from 51-93%; the proportion of electrocuted *Buteos* (including Ferruginous Hawks) ranged between 8 and 15%; while Bald Eagles composed from 1 to 10% of the electrocution mortalities. From the 1960s to the mid-1990s, the APLIC¹ reported that electrocution accounted for 25% of Golden Eagle, and 12% of Bald Eagle deaths. Among other raptors, Red-tailed Hawks (*Buteo jamaicensis*) were reportedly one of the most commonly electrocuted species (APLIC)¹, while less other *Buteos* were found electrocuted.

V. DEVELOPMENT OF RAPTOR SENSITIVE AREAS

- A. Since power lines become permanent structures within raptor habitats, the DFW considers the home-range size of its breeding raptors as the most appropriate measure in determining Raptor Sensitive Areas (RSAs). On the Navajo Nation, three nesting raptor species are considered for RSAs as they will benefit most from these regulations (Golden Eagle, Bald Eagle and Ferruginous Hawk). Each of these species is known to be endangered or threatened on the Navajo Nation, and each is known to be subject to power line electrocutions. The year-round home range size is used for Golden Eagles since they are permanent residents to The Navajo Nation; however, Bald Eagles and Ferruginous Hawks are migratory, therefore their nesting-season home range sizes were used for the RSAs.
- B. Pursuant to these regulations, Raptor Sensitive Areas (RSAs) are further identified as polygons formed by encircling each nest with an area equal to the most-accepted, or scientifically-reported, home range size for each species. Additionally, conterminous home-range polygons,

and those nearly adjoining, are combined to form larger Cumulative Raptor Sensitive Areas (CRSAs).

- C. Kochert, et.al³ compiled at least seven studies of Golden Eagle in the western U.S. to determine a year-round home range of 7.7 - 12.7 mi². R. Olendorff⁴ summarized the reported Ferruginous Hawk home range sizes and estimated an average home range size of 2.7 mi² for 69 individuals or pairs. In three studies of breeding Bald Eagles, D.Buehler⁵ reported home range sizes of 2.5, 2.7, and 8.3 mi².
- D. An area equal to 12.7 mi² encircles all known Golden Eagle nests, while an area of 2.7 mi² is used for Ferruginous Hawks and Bald Eagles. The outline of Navajo Agricultural Products Industry (N.A.P.I.) is used to define The Navajo Nation's largest concentration of wintering raptors.
- E. An ArcView shapefile with RSAs and CRSAs will be maintained and updated, as needed, by the Natural Heritage Program of the DFW. Decisions on proposed power line locations that require compliance with these regulations will be made to the Electricity Provider through the Data Request/Data Response and Environmental Review processes.

VI. MINIMIZING RISK OF RAPTOR ELECTROCUTION

- A. Two practices are recognized to minimize power line electrocutions of raptors; modification measures are methods of retrofitting existing lines, while raptor-safe construction involves engineering designs for new or rebuilt lines. Both practices are based on providing minimum spacing of 60 in. between energized phases or between phases, ground wires, and associated hardware. For new or rebuilt lines, enlarging the physical dimensions of the pole, crossarm, or ground wire spacing is used to achieve 60 in. of clearance. Retrofitting of existing poles typically involves covering (insulating) exposed energized and/or neutral lines, wires and hardware, or installing special devices to discourage raptor perching in unsafe locations.
- B. Power lines built to older construction standards likely present high electrocution risk to raptors because energized phases and ground wire are typically spaced less than 60 in. apart; this is of special concern to the DFW in areas where raptors are known to breed, aggregate during winter, or occupy throughout the year.

VII. POWER LINE DESIGNS

- A. Transmission lines as defined by the Rural Utility Service range in voltage from 34.5kV through 230kV. Power lines of 34.5kV or less are distribution lines and are used to serve electricity to residences, businesses, industrial complexes, and agricultural developments. Despite carrying higher voltages, transmission lines rarely electrocute raptors because the line configuration does not allow simultaneous contact with conductors (generally spaced 7 - 30 ft. apart - APLIC, Fig. 5.4, pg. 57)¹.
- B. Single-Phase designs (APLIC, Figs. 5.6 - 5.10; pgs. 61 - 65)¹ are used for distribution lines, and are constructed with two conductors. One type of single-phase design (APLIC, Fig. 5.6, pg. 61)¹ has the energized phase mounted on pole-top, and one neutral (grounded) conductor mounted on the side of the pole. Raptor electrocution can occur as the feet of a perched bird contacts the grounding conductor while another part of the bird contacts the phase conductor. Single-Phase with Crossarm designs (APLIC, Fig. 5.8, pg. 63)¹ have a pole-top neutral conductor and a phase conductor supported on crossarms. Electrocution can occur as raptors attempt to perch on the crossarm and simultaneously contact the phase and grounding conductors.
- C. Three-Phase designs (APLIC, Figs. 5.11 - 5.19; pgs. 66 - 74)¹ are used for distribution and transmission lines. Three-Phase transmission lines are constructed with three energized conductors, and may have one or two overhead ground wires. Three or four conductors may be present in Three-Phase distribution lines. If only three conductors are present, each one is energized. In a Four-Conductor system, the fourth is a neutral, and may be placed on the top of the pole, or below the three phases. Typical Three-Phase power line designs use poles ranging from 30 – 65 ft. in length. The spacing between distribution phases is generally 3 ft. 11 in. apart when an 8 ft. crossarm is installed. This spacing (of less than 60 in.) between phases, and between phases and grounded hardware, increases the potential for raptor electrocution, especially if there are additional wires, jumper wires, switches, transformers, ground and other protective devices. Dead-end Distribution structures are designed for directional changes, line terminations, and lateral taps. These structures typically have anchor and guy wires, energized jumper wires, and carry greater electrical loads, all of which pose electrocution risk to raptors.

- D. A Horizontal Post design (APLIC, Fig. 5.20 and 5.34, pgs. 75 and 89)¹ is commonly used for 34.5 - 69 kV power lines. Conductors are mounted on 20 - 27 in. horizontal post insulators, and where lightning protection is necessary, a ground wire runs the length of the pole. A raptor perching on the horizontal insulator can be electrocuted by simultaneously touching the energized conductor and grounded hardware.
- E. Corner Poles (APLIC, Fig. 5.22 – 5.25, pg. 77 - 80)¹ are designed to provide directional changes in power lines; jumper wires are normally required to complete electrical connections and the 42 in. or less spacing between conductors is insufficient to prevent raptor electrocution. Corner Transmission Structures (APLIC, Fig. 5.42, pg. 97)¹ may electrocute raptors by making simultaneous contact with uncovered phase jumpers and the grounded structure, or by the arcing of electricity from the conductor to the bird.
- F. The Wishbone configuration (APLIC, Fig. 5.36 - 5.38, pgs. 91 - 93)¹ is commonly used for 34.5 - 69 kV distribution lines. The distance from the top of the phase to the lower arm can be less than 36 in., and presents electrocution risk for raptors perching on the lower crossarm. Birds may touch the energized conductor just above their head along with the grounding conductor or bonded hardware at their feet.
- G. Poles with transformers, capacitor bands, reclosers, regulators, disconnect switches, cutouts, arresters, or overhead-to-underground transitions (APLIC, Figs. 5.44 - 5.50; pgs. 99 -105)¹ present additional electrocution risks since wires, grounded hardware, switches, and lightning arresters are typically spaced close together and not insulated.
- H. Fiberglass, reinforced concrete, and steel poles (APLIC, Figs. 5.26 - 5.33; pgs. 82 -88)¹ are becoming more widely used in the U.S.; these poles often have the same, or greater likelihood, for causing raptor electrocutions as wooden poles. Steel and concrete poles, and their crossarms, can create additional conductive pathways and, therefore, increase raptor electrocution potential.

VIII. CONSTRUCTING RAPTOR-SAFE POWER LINES

- A. **All designs recommended below are from APLIC (2006)¹. They are presented here as proven-effective and accepted methods; specific design modifications unique to each Electricity Provider are allowed, especially considering improvements in technology, provided that they follow the general guidelines set forth here and are proven to minimize/prevent raptor electrocution. Essentially, whether retrofitting an existing facility or constructing a new facility, the basic considerations are proper conductor separation and grounding procedures (see VI. above).**
- B. Follow APLIC Figs. 5.7, 5.9, or 5.10 (pgs. 62, 64, 65)¹, or other approved design modifications that provide sufficient conductor separation and/or covering to minimize raptor-electrocution potential, for retrofitting or new-construction of Single-Phase power lines.
- C. Follow APLIC Figs. 5.12, 5.13, 5.14, 5.16, 5.18, 5.19, and 5.21 (pgs. 67, 68, 69, 71, 73, 74, and 76)¹, or other approved design modifications that provide sufficient conductor separation and/or covering to minimize raptor-electrocution potential, for retrofitting or new-construction of various Three-Phase power lines.
- D. Follow APLIC Figs. 5.23, 5.24, and 5.25 (pgs. 78, 79, and 80)¹, or other approved design modifications that provide sufficient conductor separation and/or covering to minimize raptor-electrocution potential, for retrofitting or new-construction of Three-Phase Corner poles.
- E. Follow APLIC Fig. 5.35, 5.37, 5.38, 5.39, 5.41, and 5.43 (pgs. 90, 92, 93, 94, 96, and 98)¹, or other approved design modifications that provide sufficient conductor separation and/or covering to minimize raptor-electrocution potential, for retrofitting or new-construction of Horizontal Post, Wishbone, Steel Bayonet, and Suspension Transmission designs.
- F. Follow APLIC Figs. 5.46 - 5.50 (pgs. 101 - 105)¹, or other approved design modifications that provide sufficient conductor separation and/or covering to minimize raptor-electrocution potential, for retrofitting or new-construction of transformer banks and pole-mounted switches.
- G. Follow APLIC Figs. 5.28, 5.30, 5.31, 5.32, and 5.33 (pgs. 83, 85, 86, 87, and 88)¹, or other approved design modifications that provide sufficient conductor separation and/or covering to minimize raptor-electrocution potential, for retrofitting or new-construction involving steel, reinforced concrete, or fiberglass poles.

IX. RAPTOR SENSITIVE AREAS

- A. For construction of new electric facilities of Single- and Three-Phase designs, all power poles within RSAs will comply with all aspects of “Constructing New Facilities and Retrofitting Existing Facilities for Raptor-Safety” as outlined above.
- B. For repair or rebuild of existing power lines within RSAs, all power poles will comply with all aspects of “Constructing New Facilities and Retrofitting Existing Facilities for Raptor-Safety” if power poles are replaced.
- C. The DFW encourages retrofitting of existing power lines that may pose a threat of electrocution to raptors on the Navajo Nation; the DFW recognizes that this may be accomplished voluntarily as funds and materials become available.
- D. Within CRSAs, there is no requirement to comply with the provision of “Constructing New Facilities and Retrofitting Existing Facilities for Raptor-Safety.” However, based on many aspects of the power line placement in relation to RSAs, the Electricity Provider may voluntarily follow, or the DFW may recommend, raptor-safe power line designs for power poles within all or parts of the CRSAs. These factors include, but are not limited to:
 - 1. The DFW’s knowledge of adjacent home ranges.
 - 2. Distance from the power line to the adjacent raptor home range(s).
 - 3. Cost increase of compliance with these regulations.
 - 4. Amount of human development in the area that may limit/encourage raptor use of power poles.
 - 5. Local habitat in the area that may limit/encourage raptor use of power poles.
- E. If raptors are found dead beneath power lines/poles anywhere within The Navajo Nation, and are proven to have been killed by electrocution by a veterinarian or person trained in animal necropsy, all procedures existing prior to these regulations will continue, including,
 - 1. The DFW notifies, in writing, the Electricity Provider all details regarding the electrocution mortality, including the location of, and power pole number (if known). A deadline for remediation of this power pole/line of 2 months is also provided in this letter.
 - 2. The Electricity Provider, must within the specified time, determine the cause of electrocution and remediate the power pole/line to comply with “Constructing New

Facilities and Retrofitting Existing Facilities for Raptor-Safety ” to prevent future electrocutions.

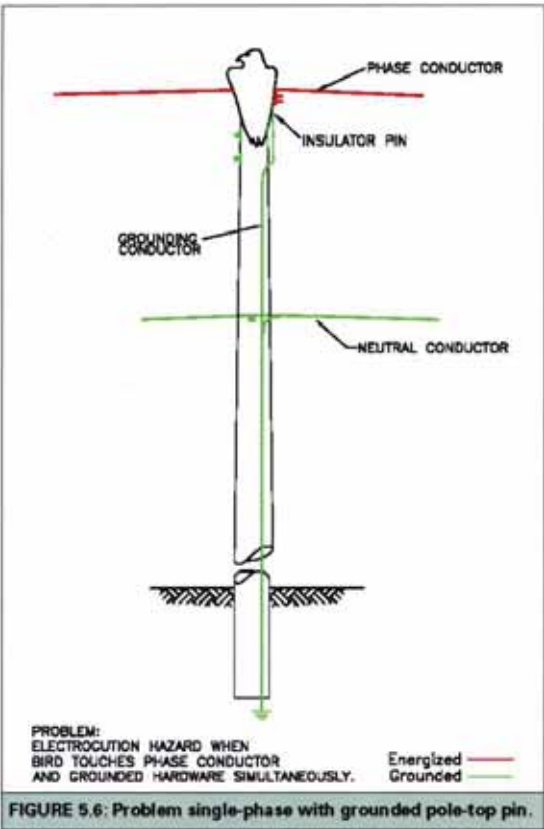
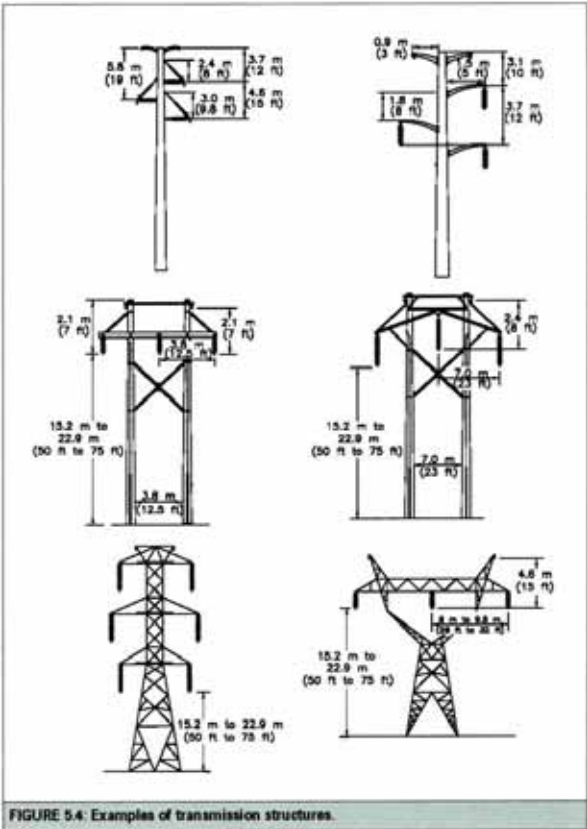
3. The electricity provider should examine the remainder of the power line at this time to determine if additional poles are potentially hazardous to raptors; modifications to all non-raptor-safe poles must be completed in a timely manner.
4. The Electricity Provider must then notify the DFW, in writing, when modifications are completed. A member of the DFW may follow-up with a site visit to confirm modifications.

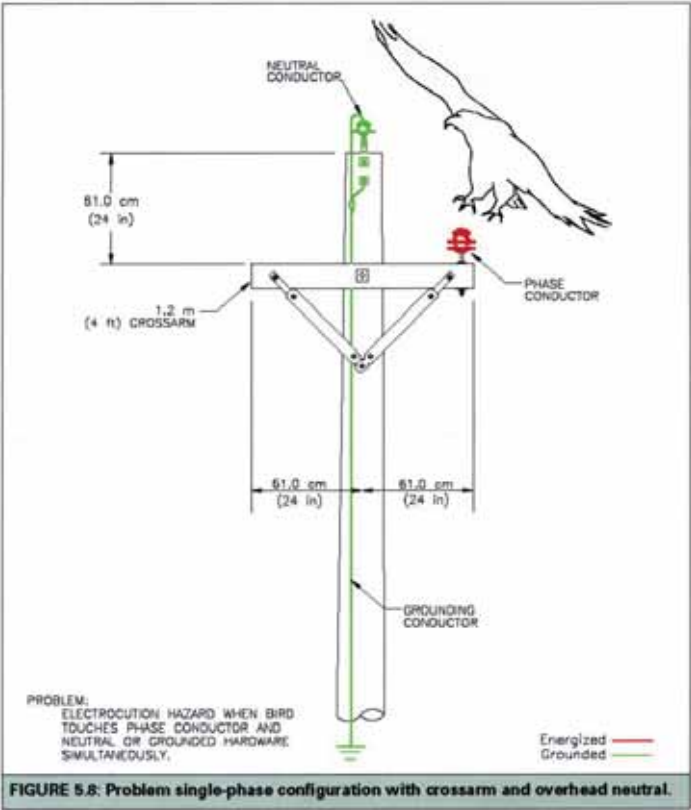
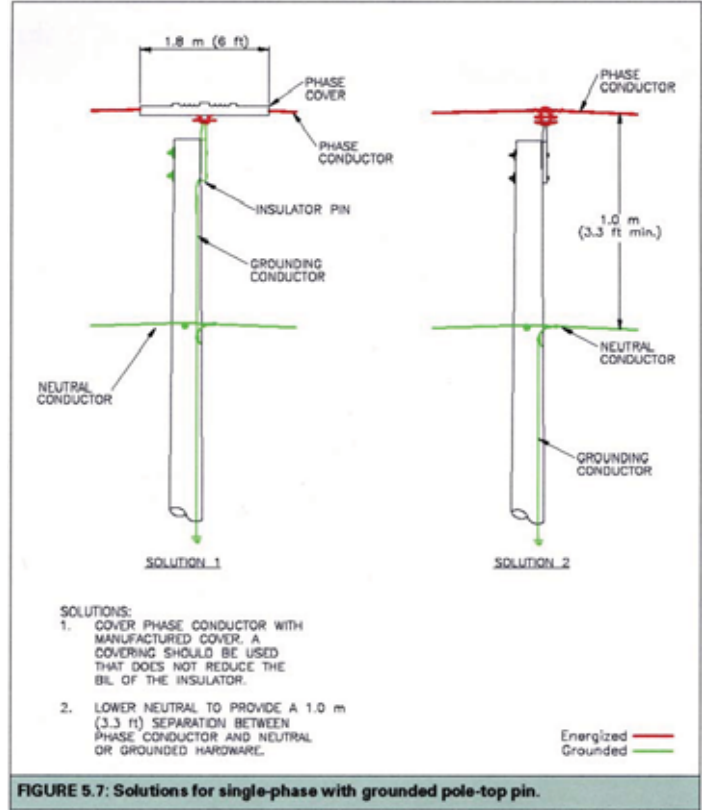
F. All aspects of these regulations are subject to future review and revision as new information is gathered and new technologies are developed.

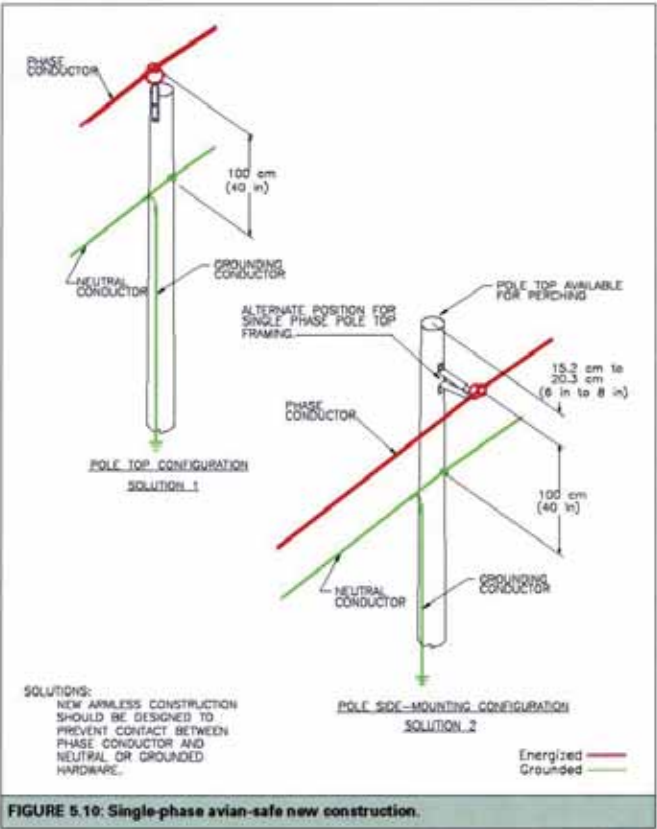
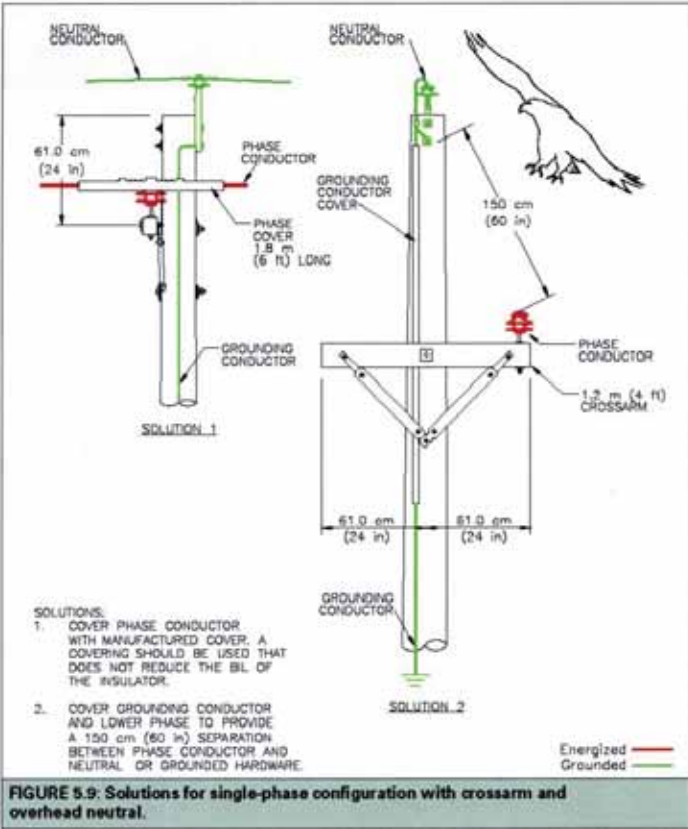
X. REFERENCES

- ¹ Avian Power Line Interaction Committee (APLIC). 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA.
- ² Avian Power Line Interaction Committee (APLIC). 1996. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 1996. Edison Electric Institute and APLIC, Washington, D.C.
- ³ Kochert, M.N, K. Steenhof, C.L. McIntyre, and E.H. Craig. 2002. Golden Eagle (*Aquila chrysaetos*). In The Birds of North America, No. 684 (A. Poole and F. Gill, eds.). The Birds of North America Inc., Philadelphia, PA.
- ⁴ Olendorff, R.R. 1993. Status, biology, and management of Ferruginous Hawks: a review. Raptor Research and Technical Assistance Center, Special Report. U.S. Dept. Interior, Bureau of Land Manage., Boise, ID.
- ⁵ Buehler, D.A. 2000. Bald Eagle (*Haliaeetus leucocephalus*). In The Birds of North America, No. 506 (A. Poole and F. Gill, eds.). The Birds of North America Inc., Philadelphia, PA.

XI. FIGURES







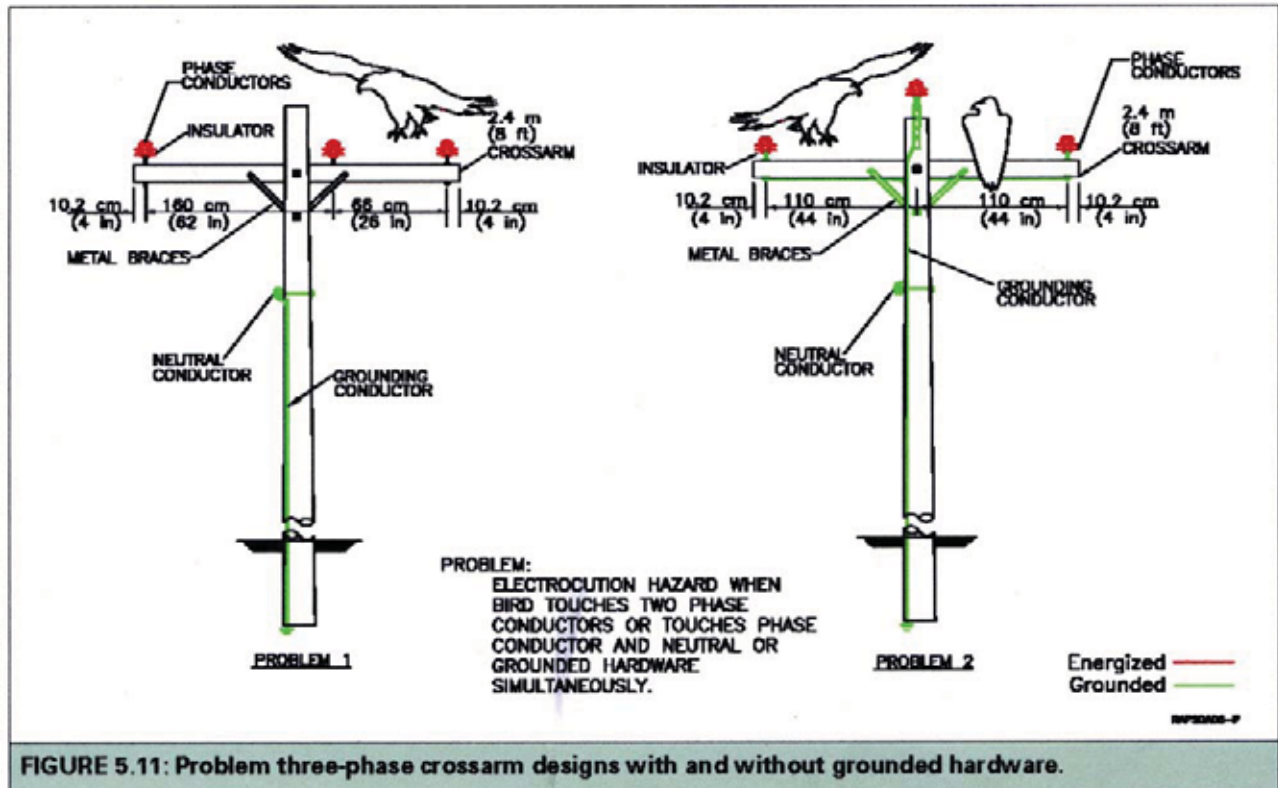


FIGURE 5.11: Problem three-phase crossarm designs with and without grounded hardware.

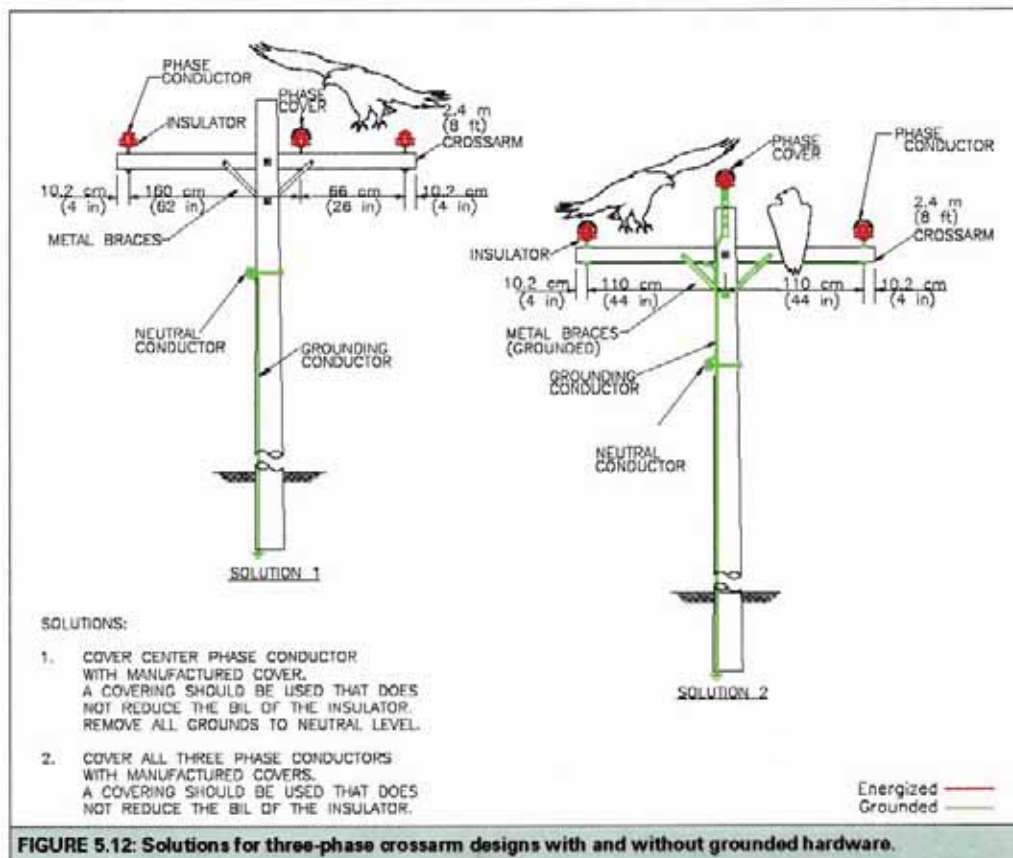
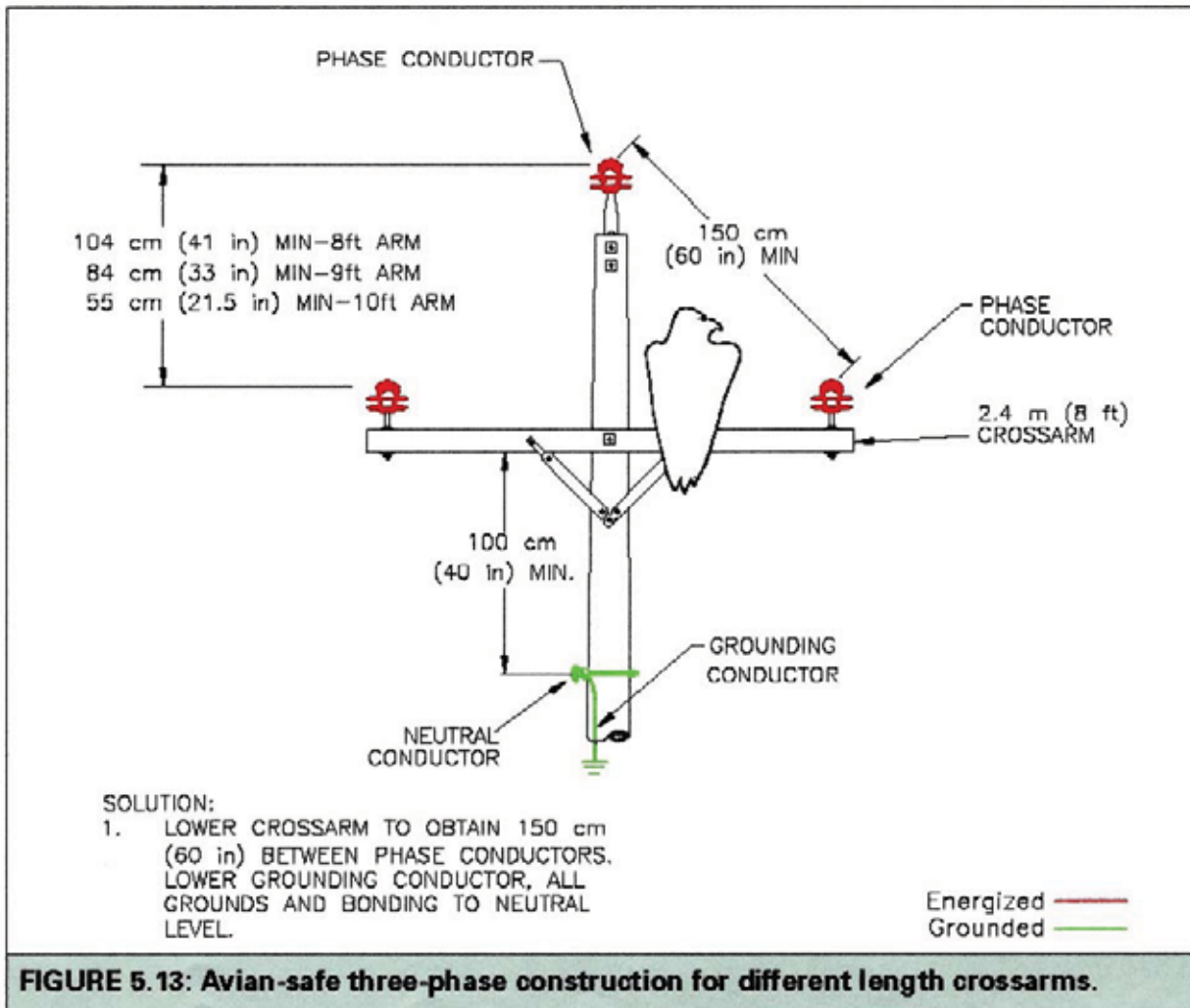
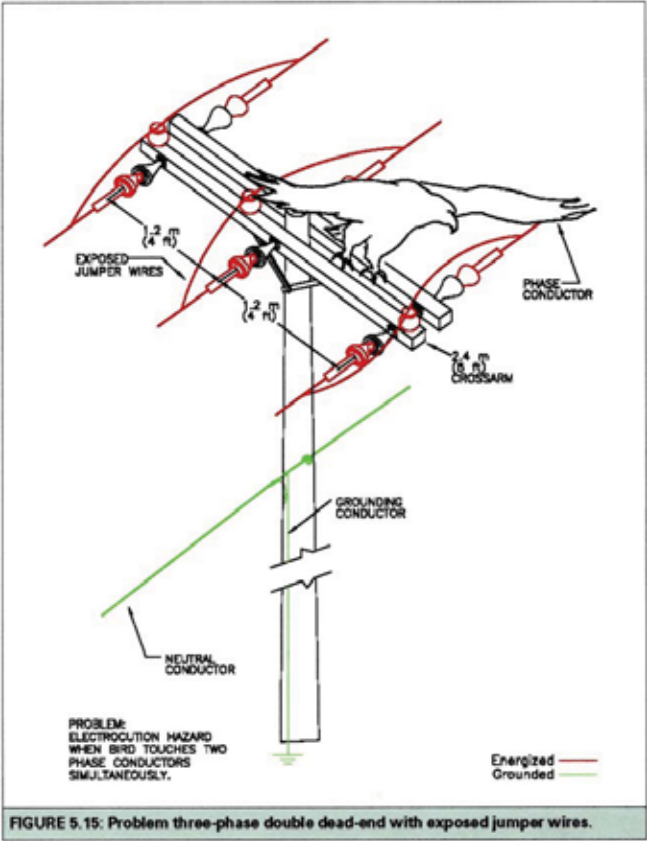
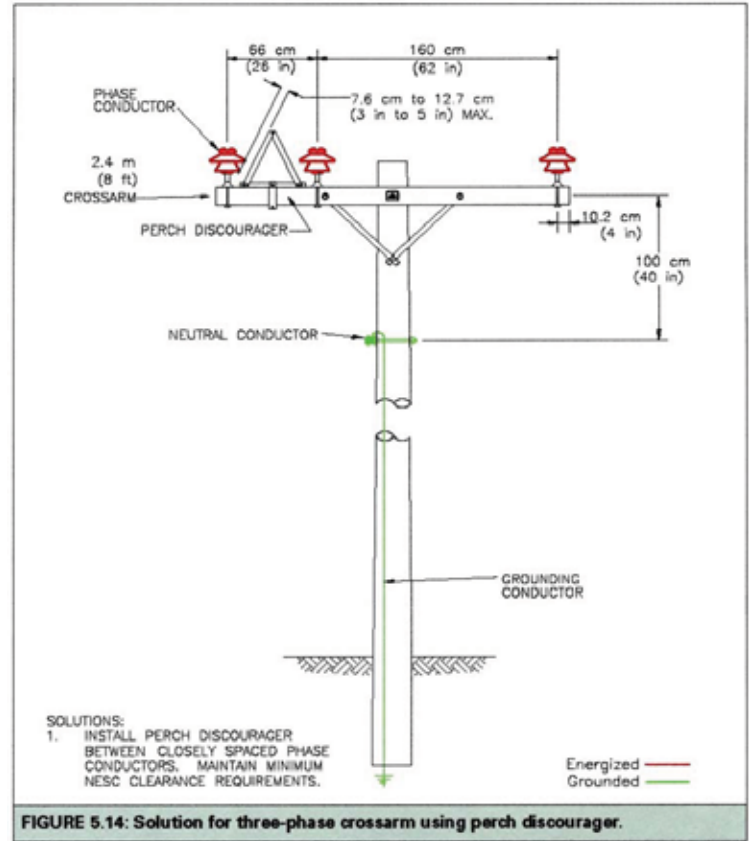
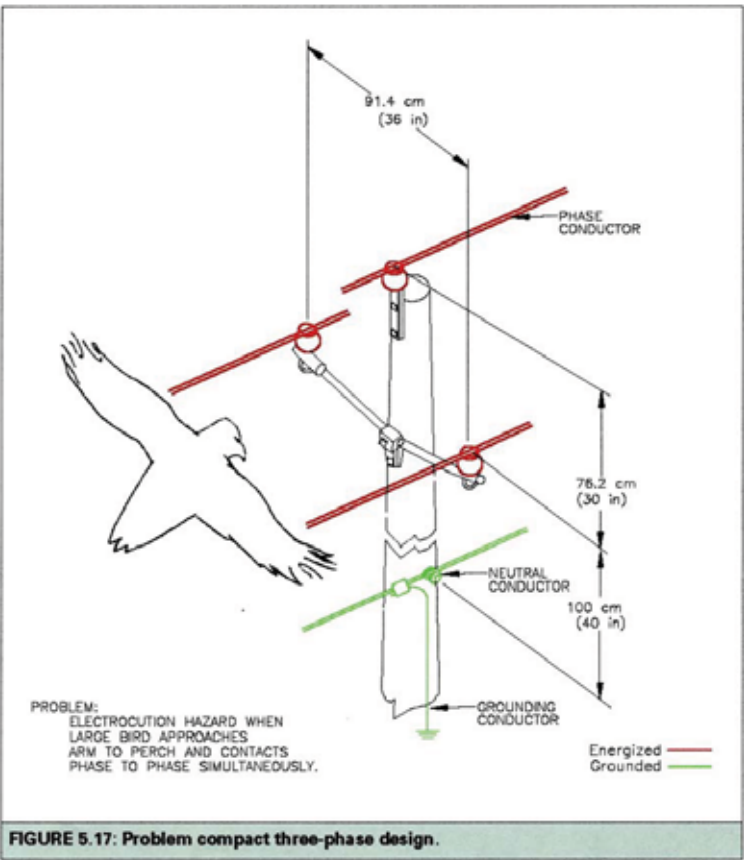
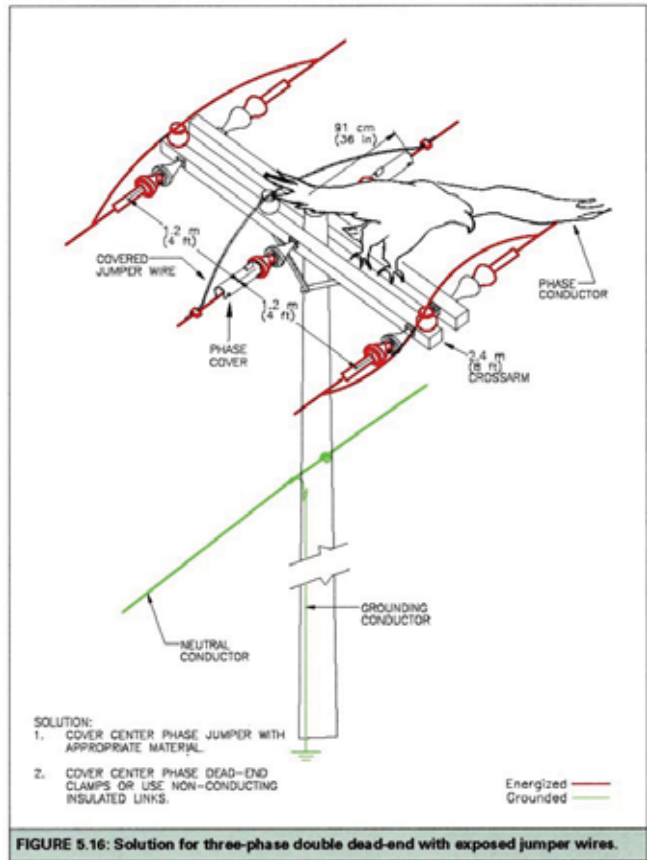
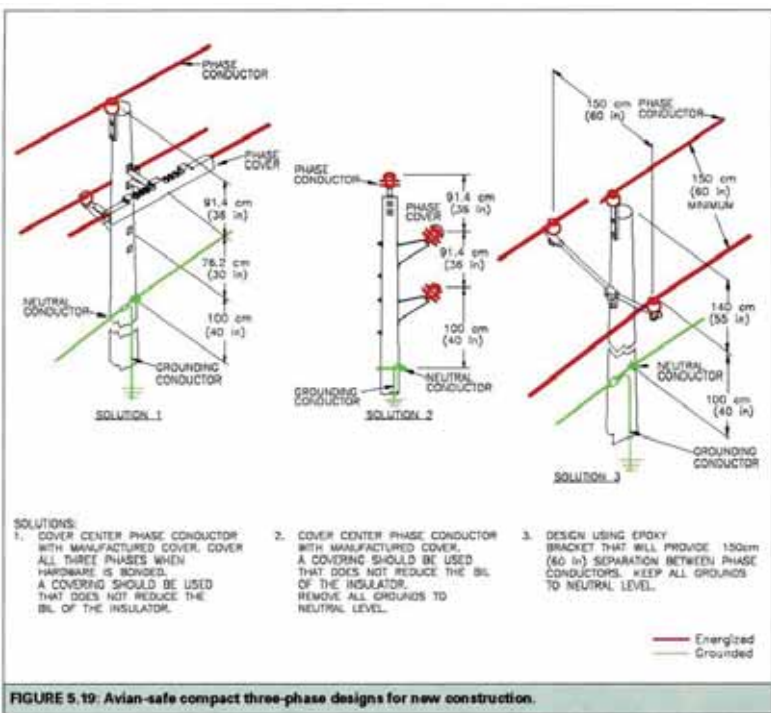
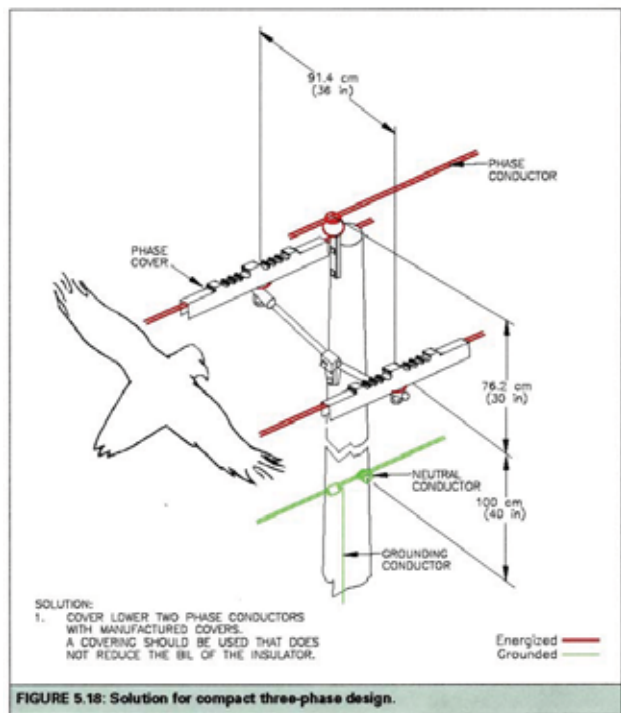


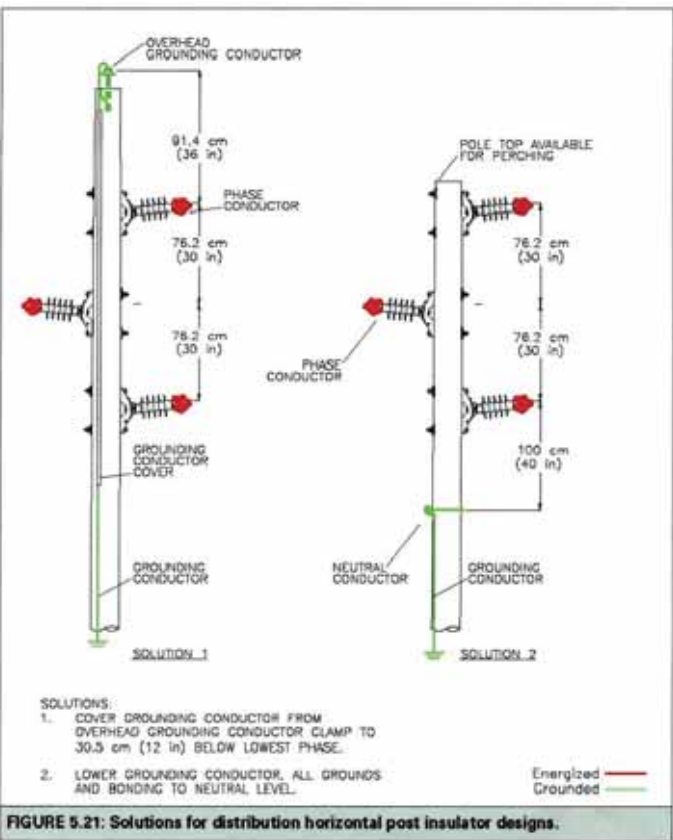
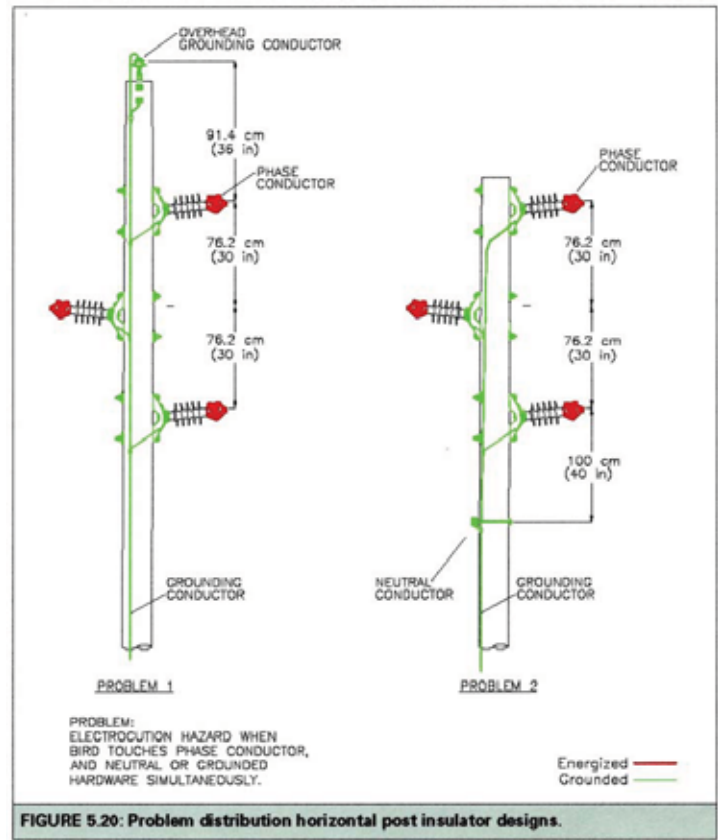
FIGURE 5.12: Solutions for three-phase crossarm designs with and without grounded hardware.

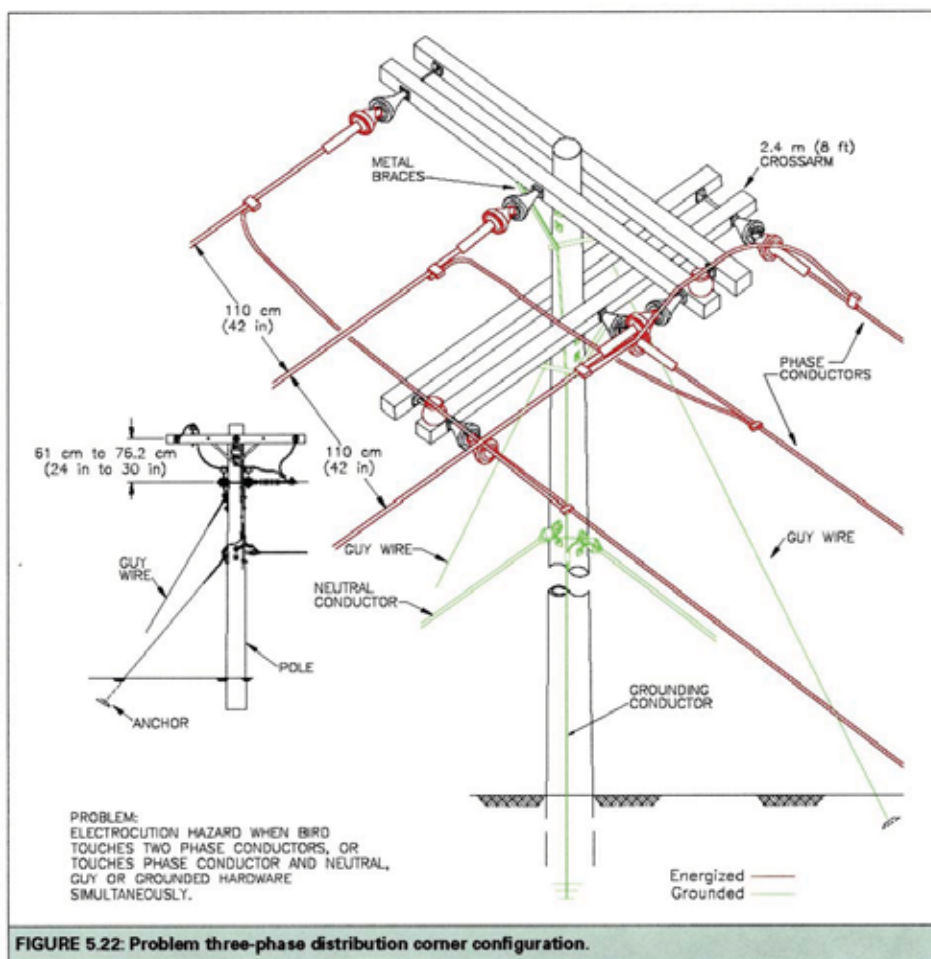


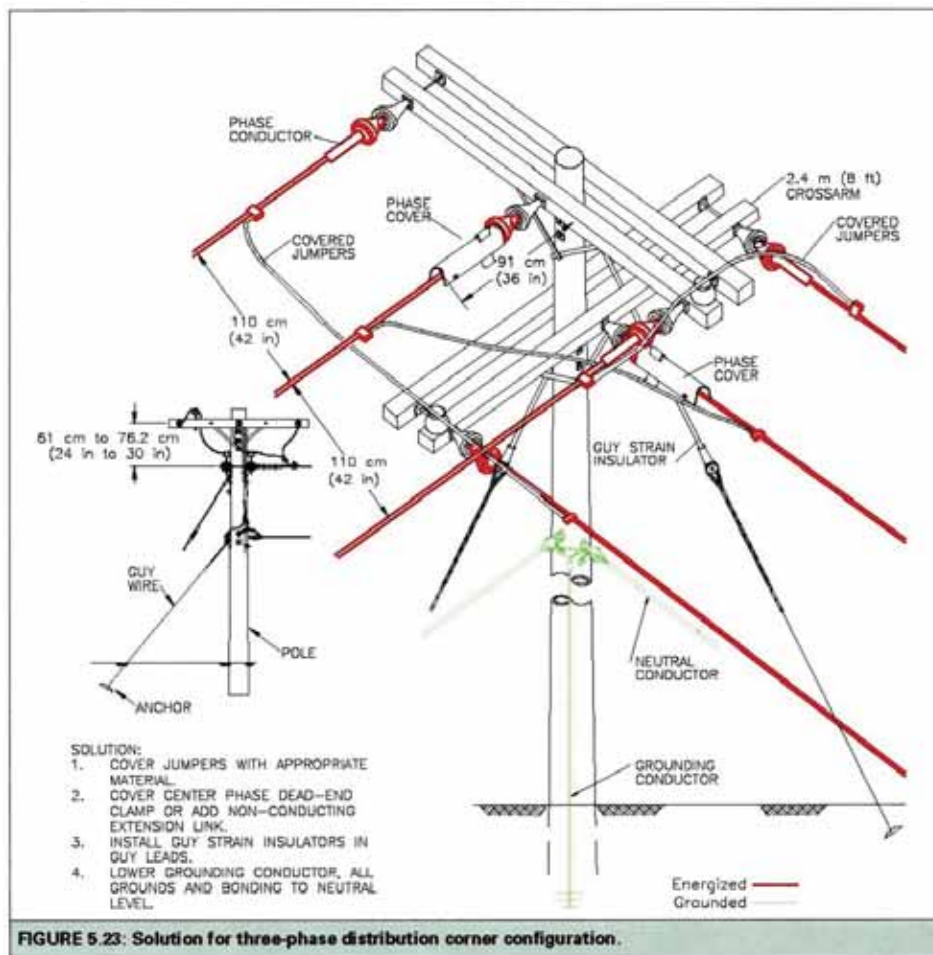


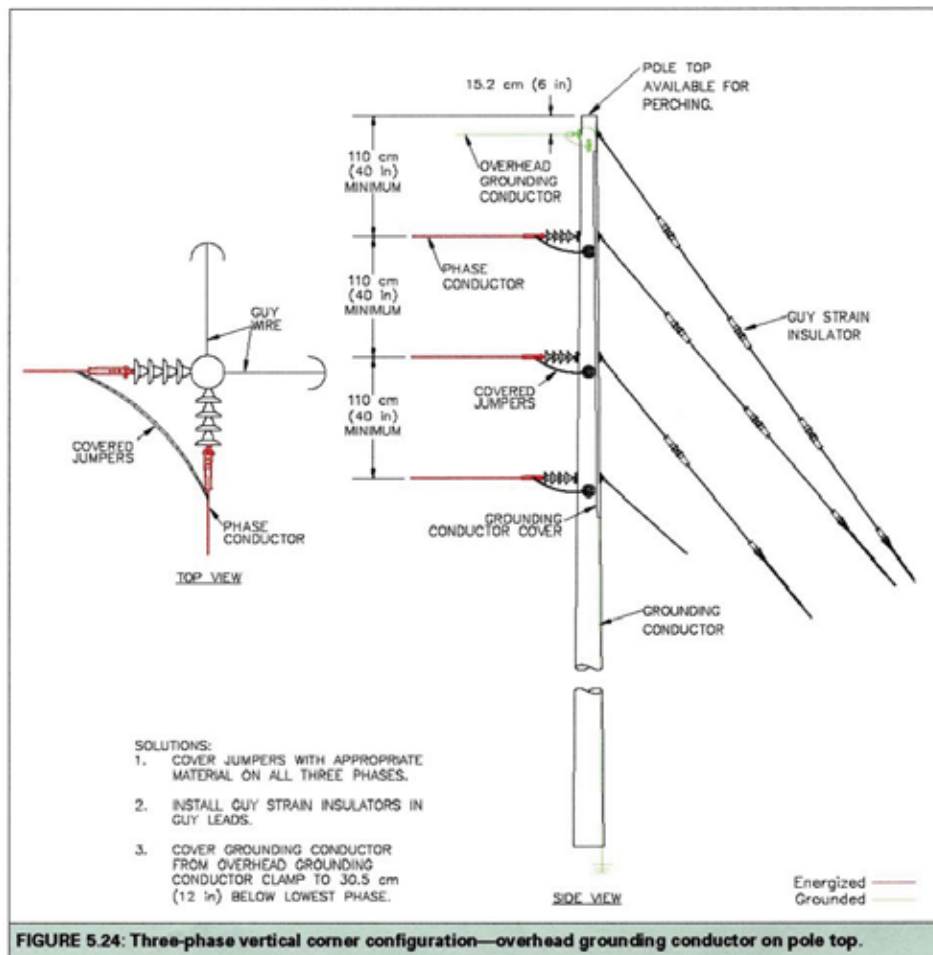


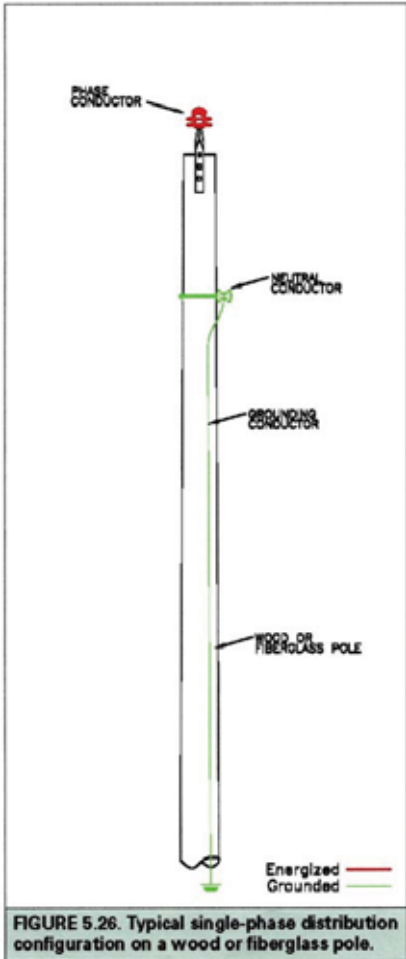
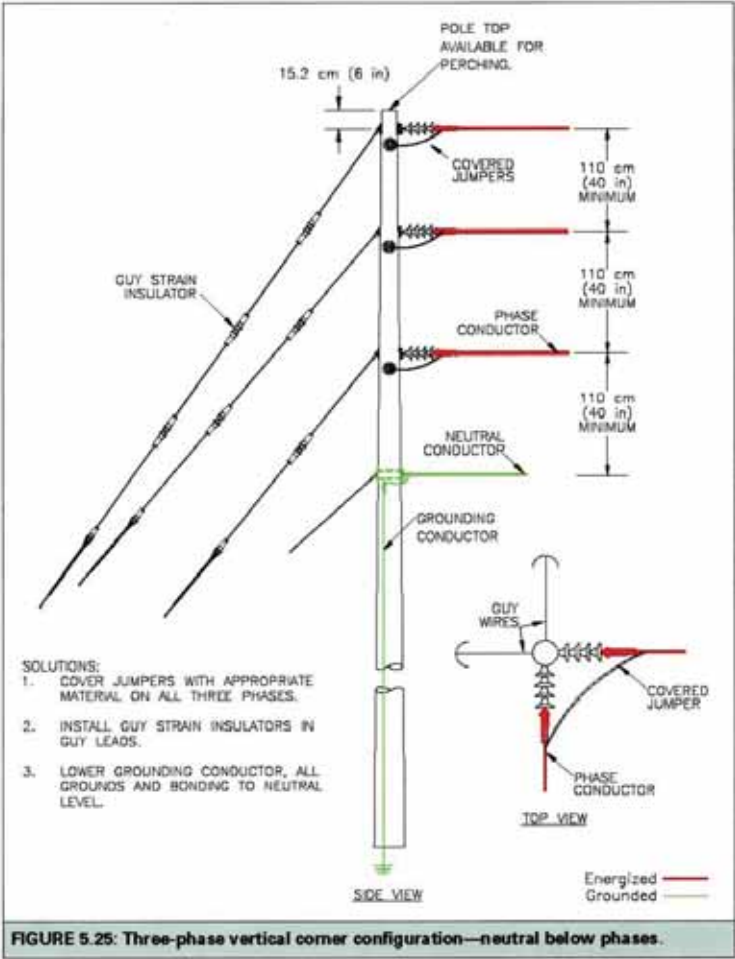


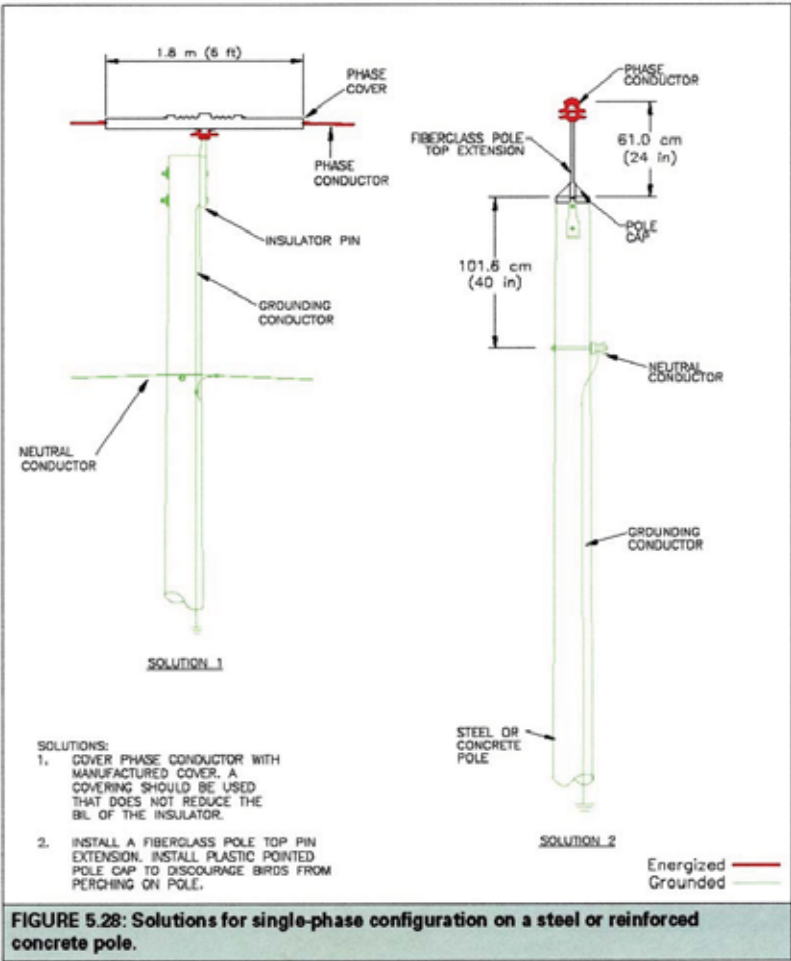
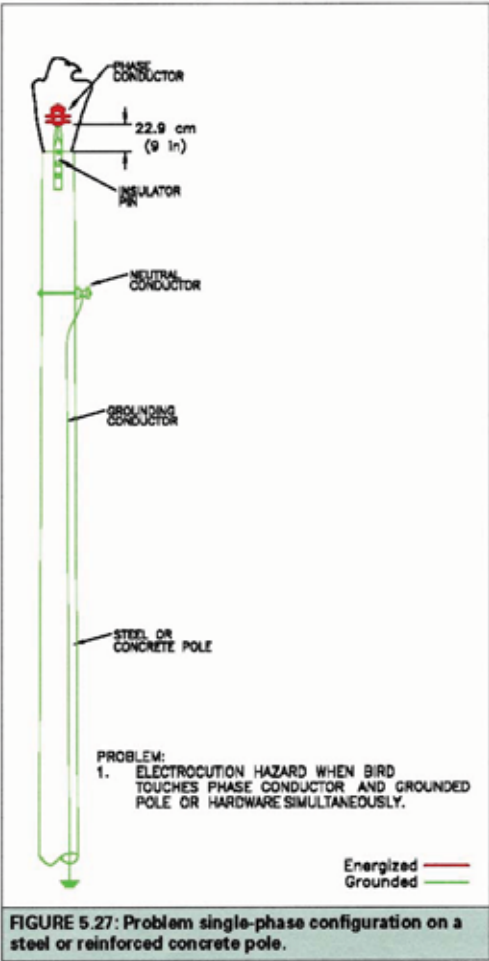


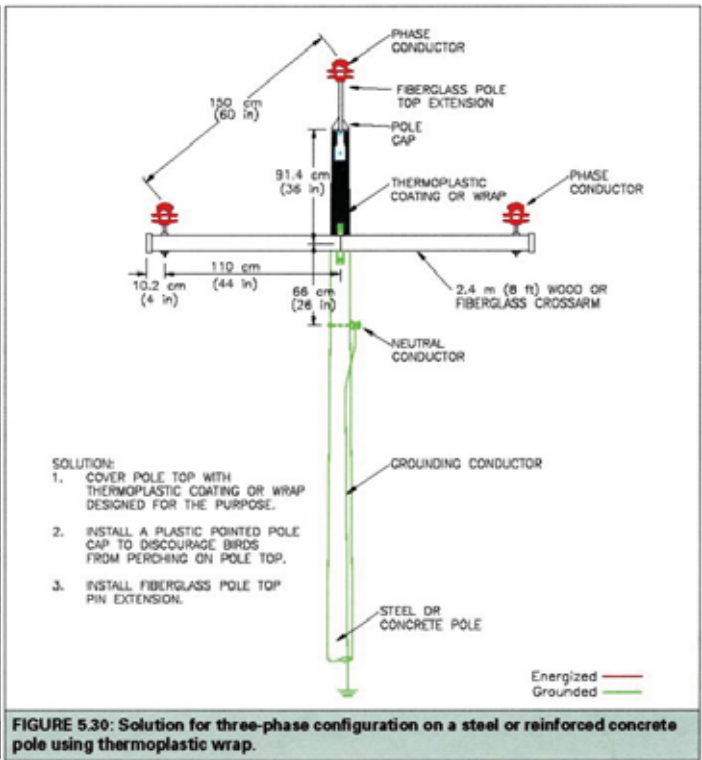
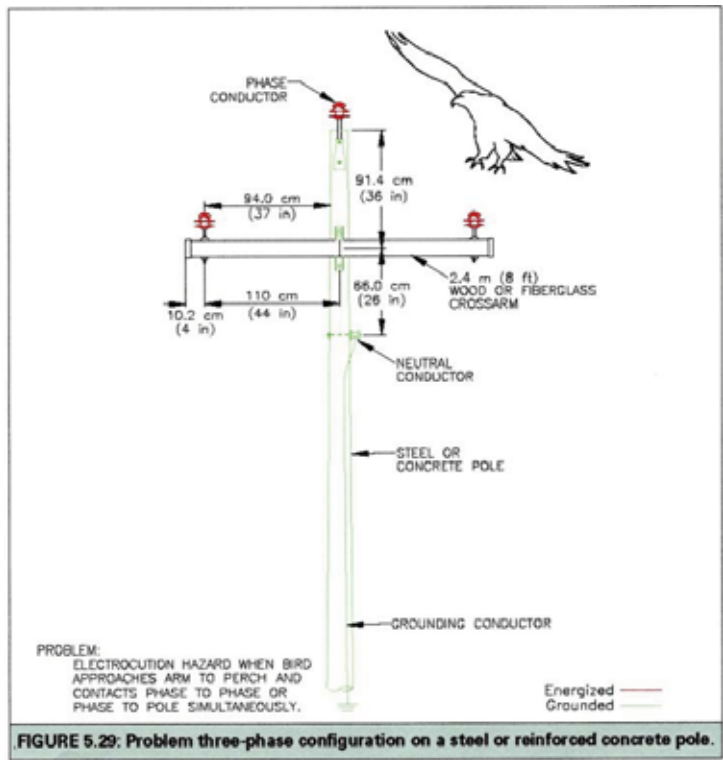


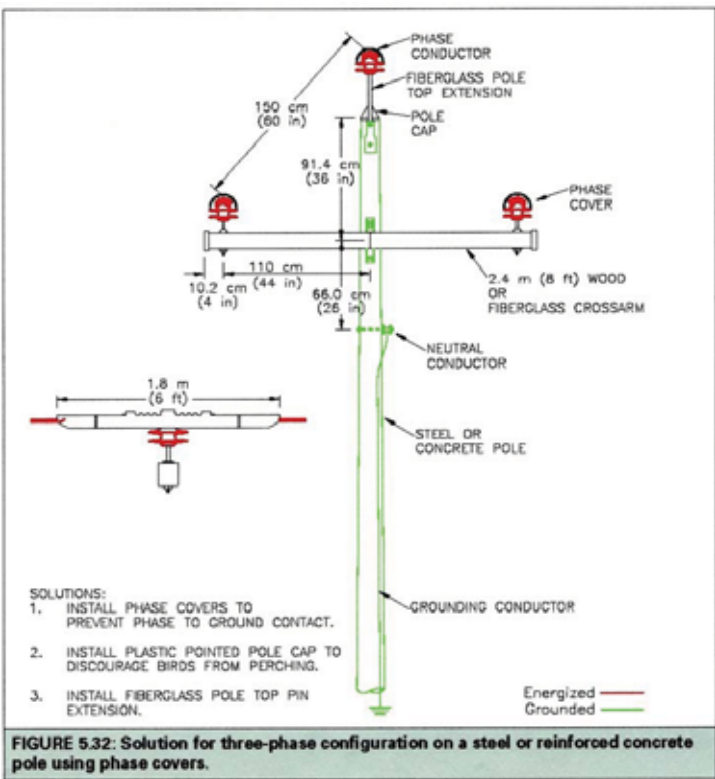
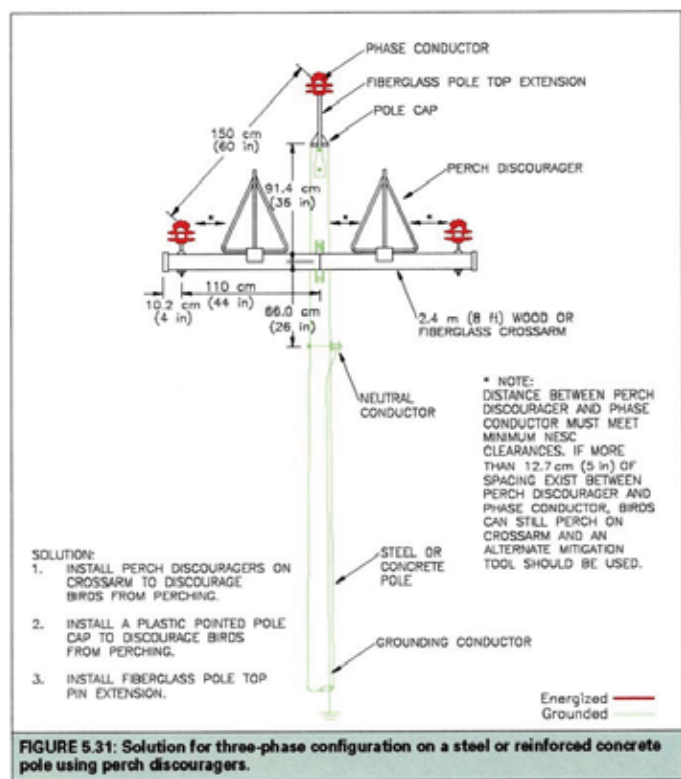


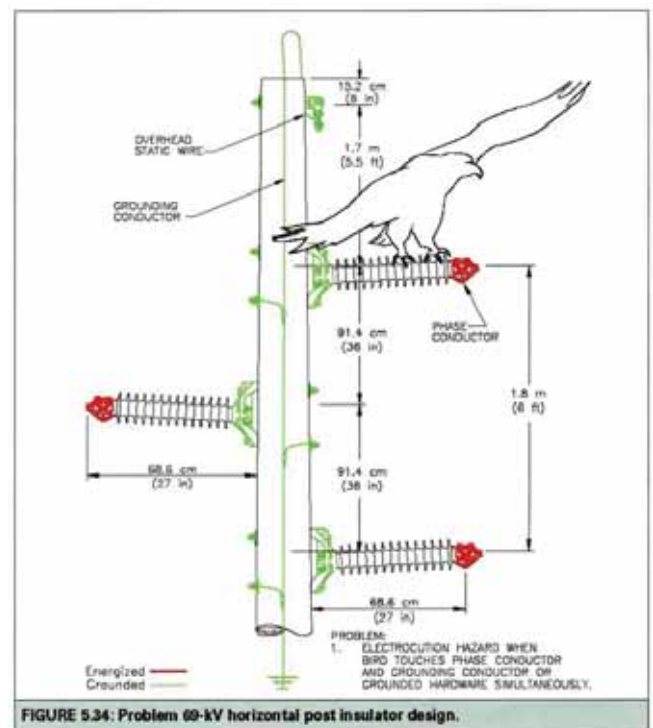
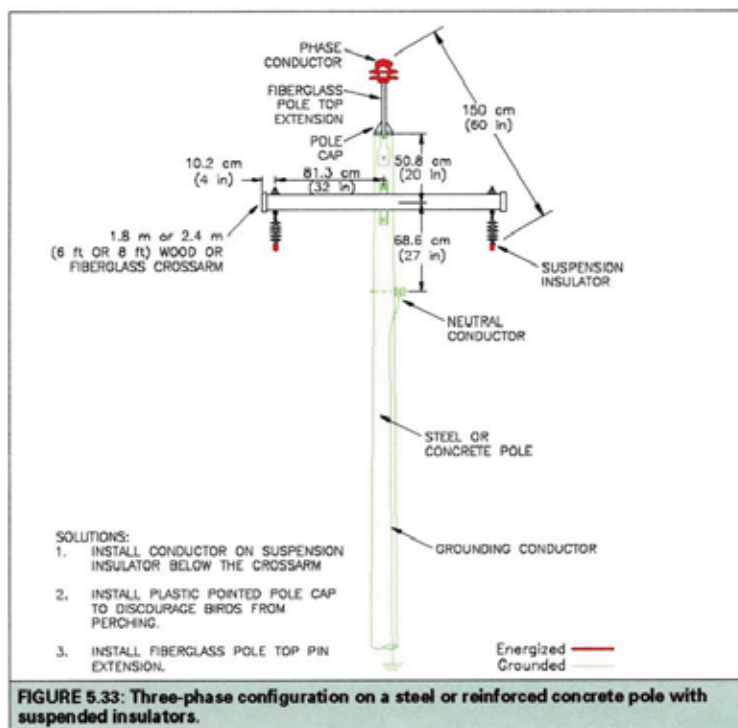


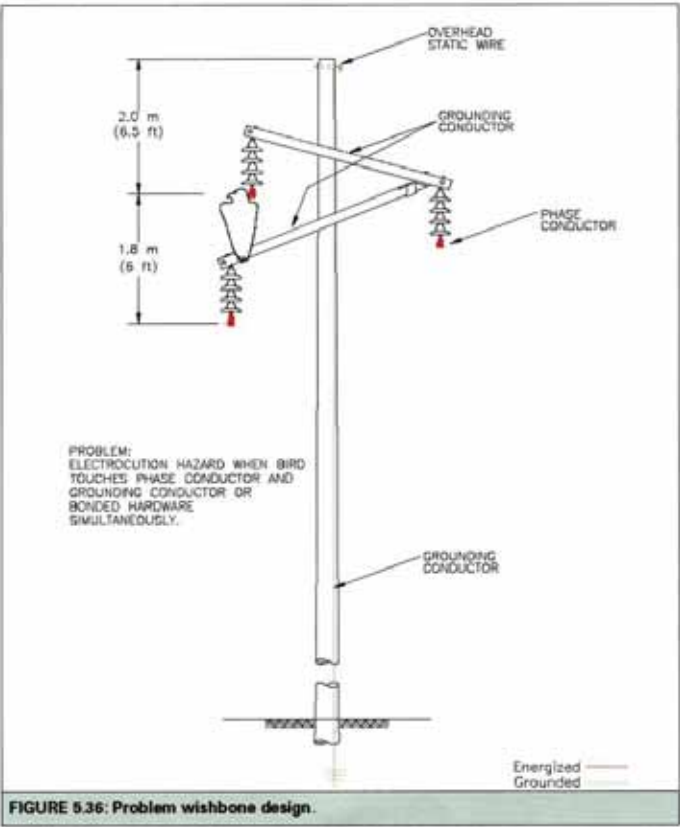
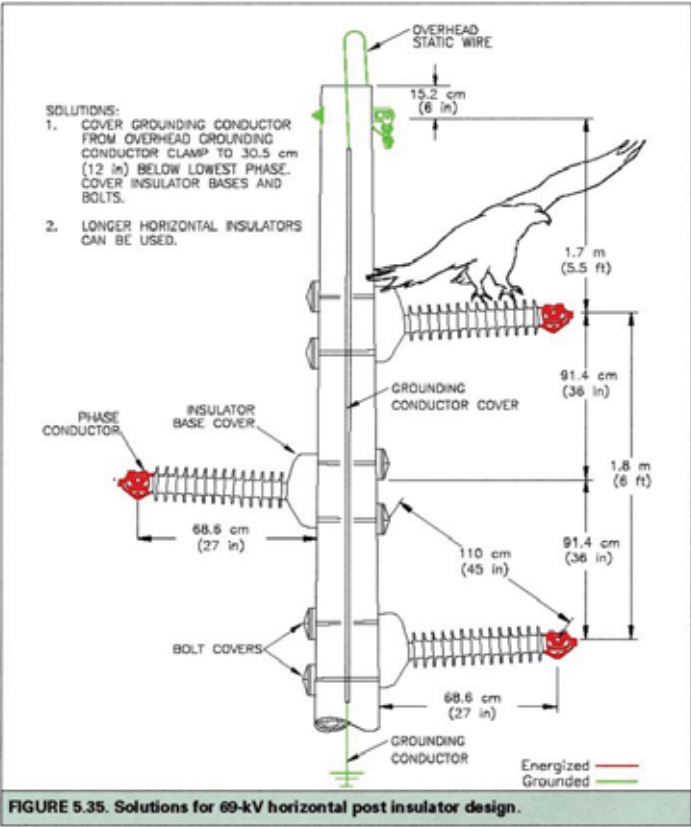


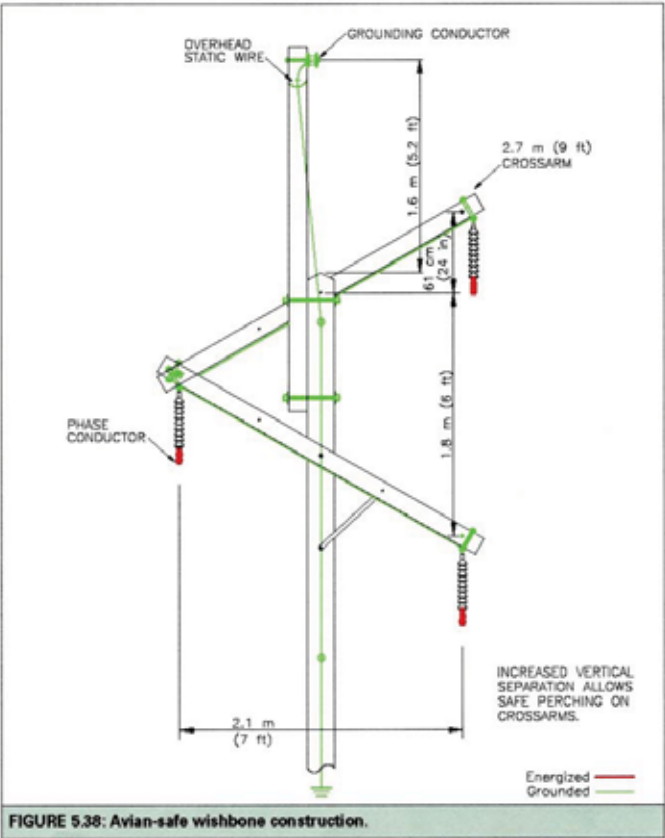
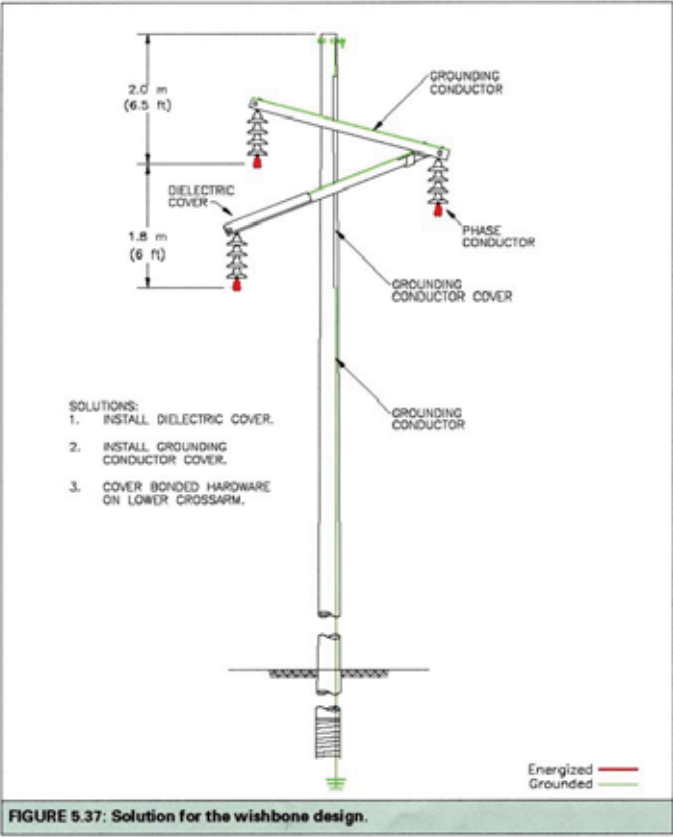


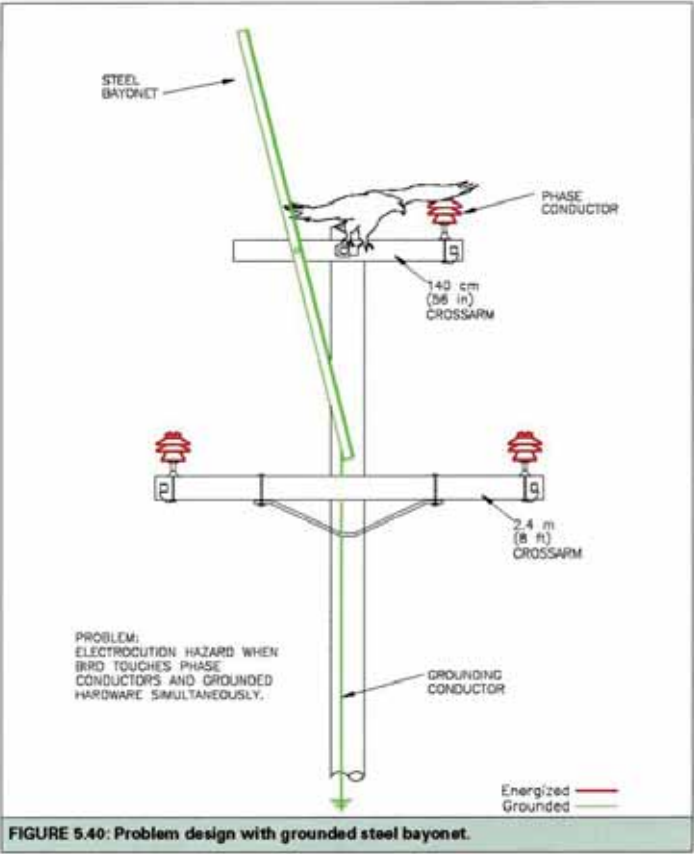
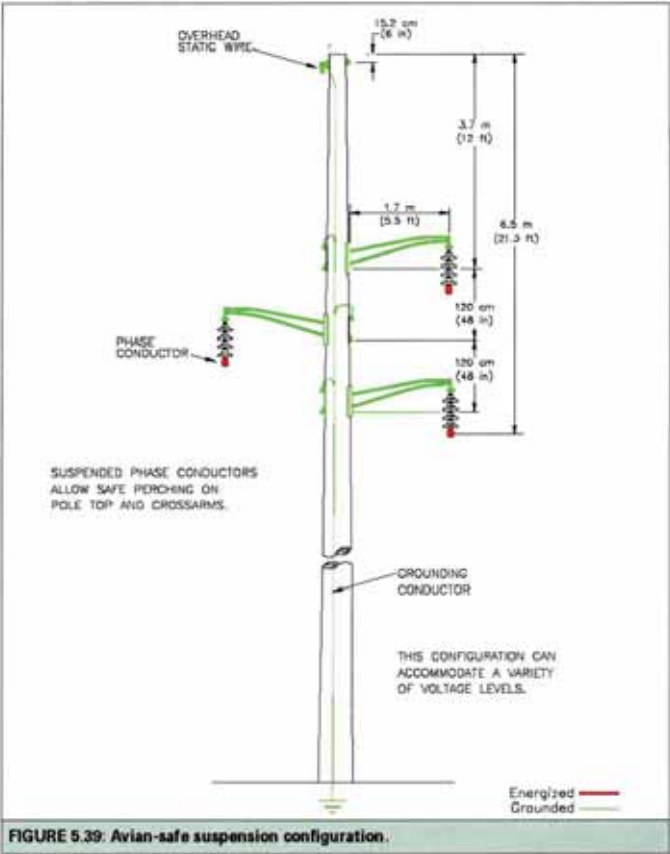


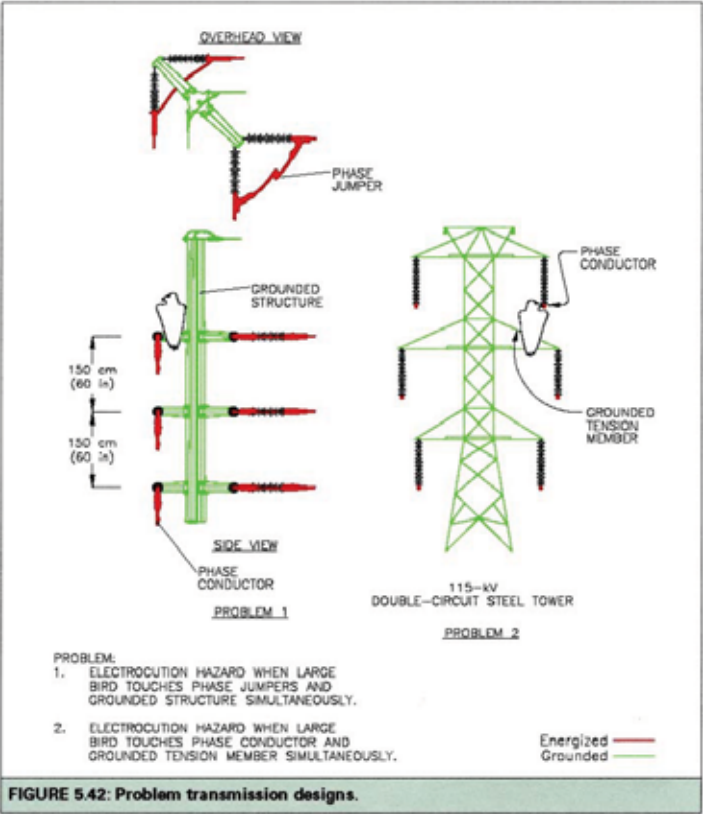
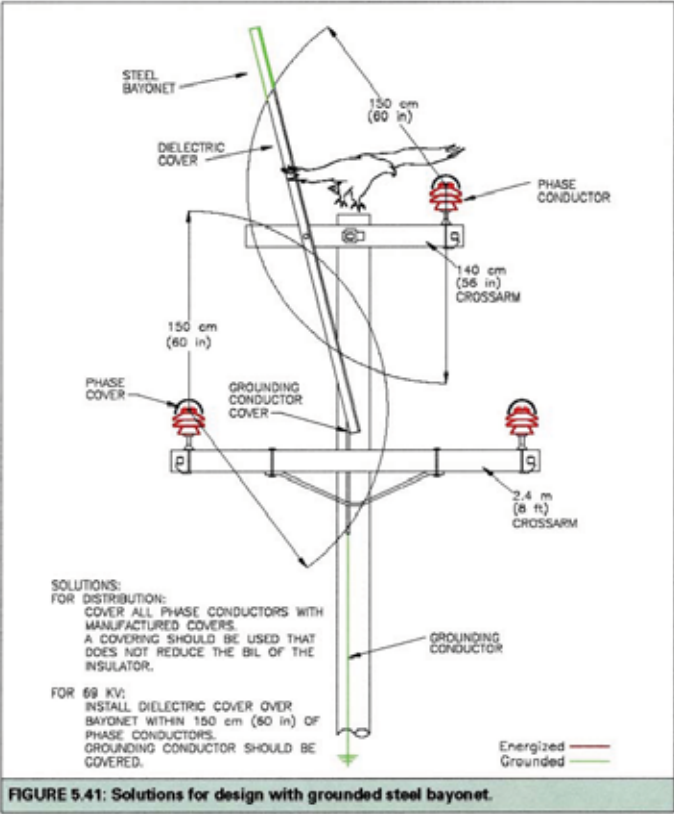


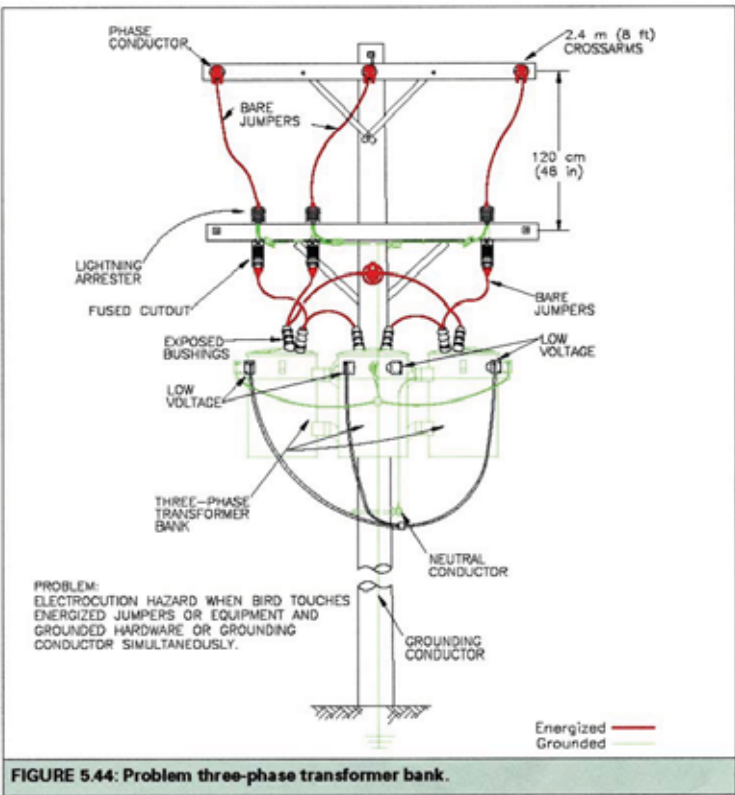
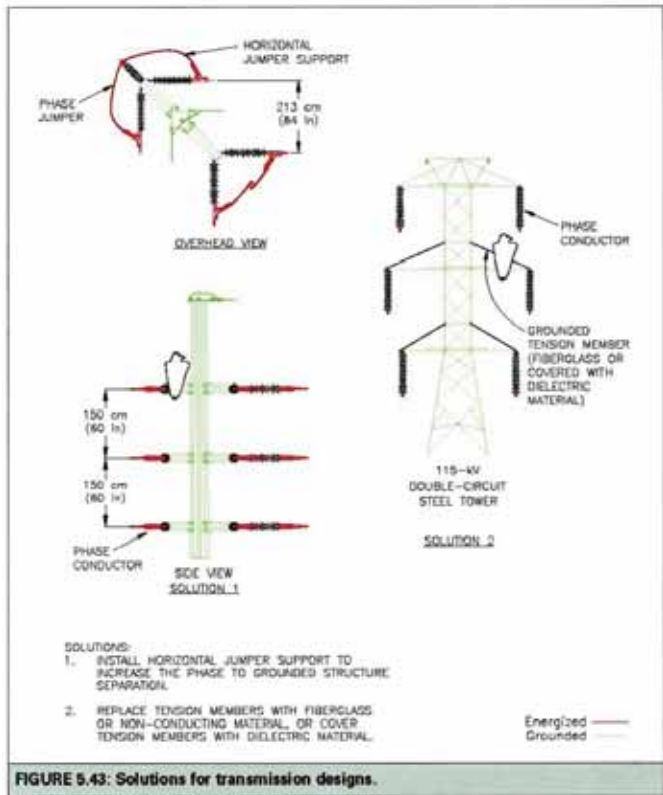






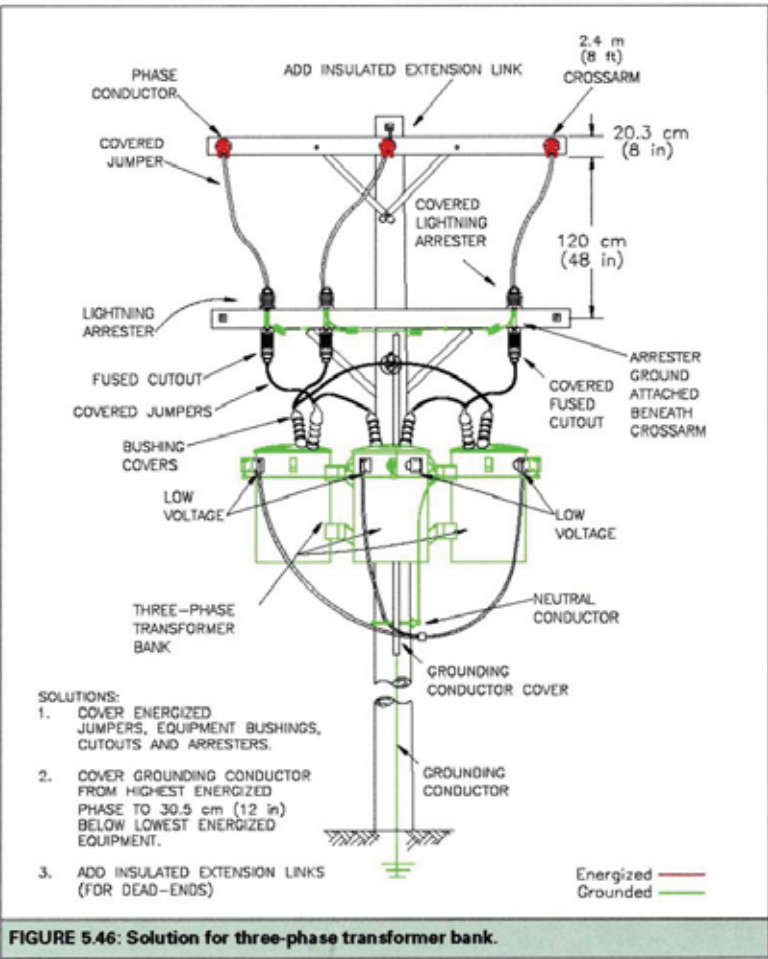
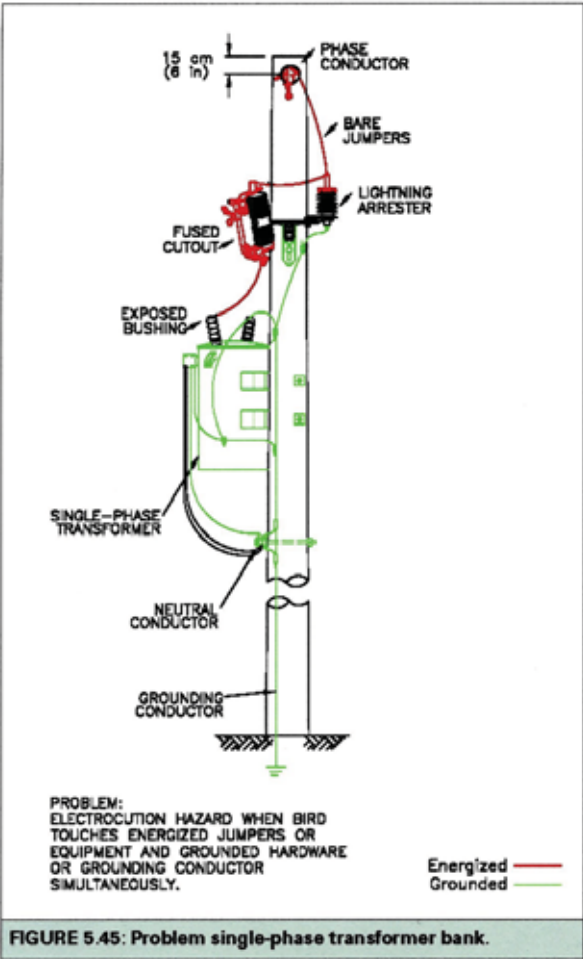


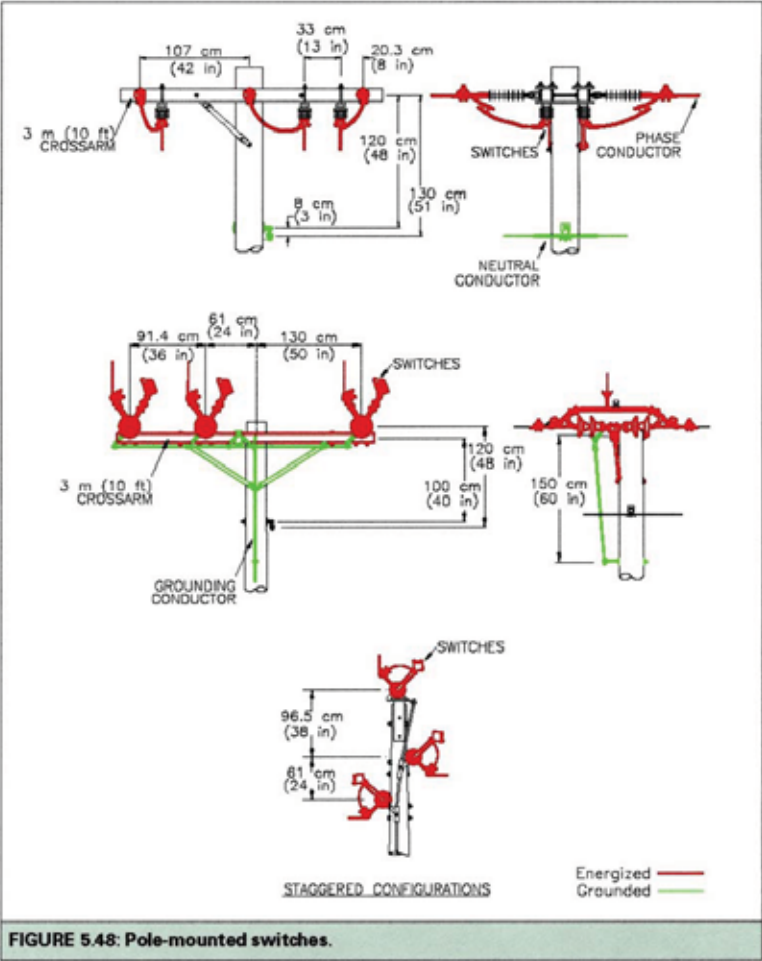
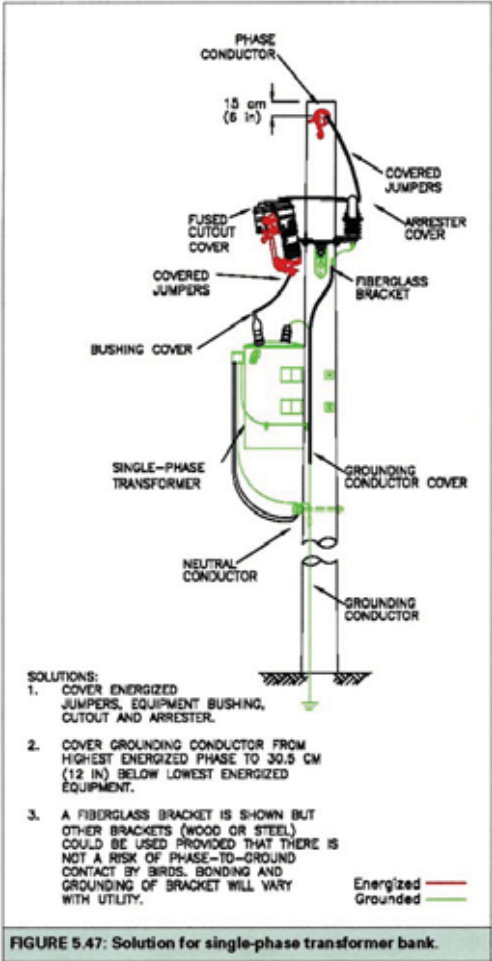


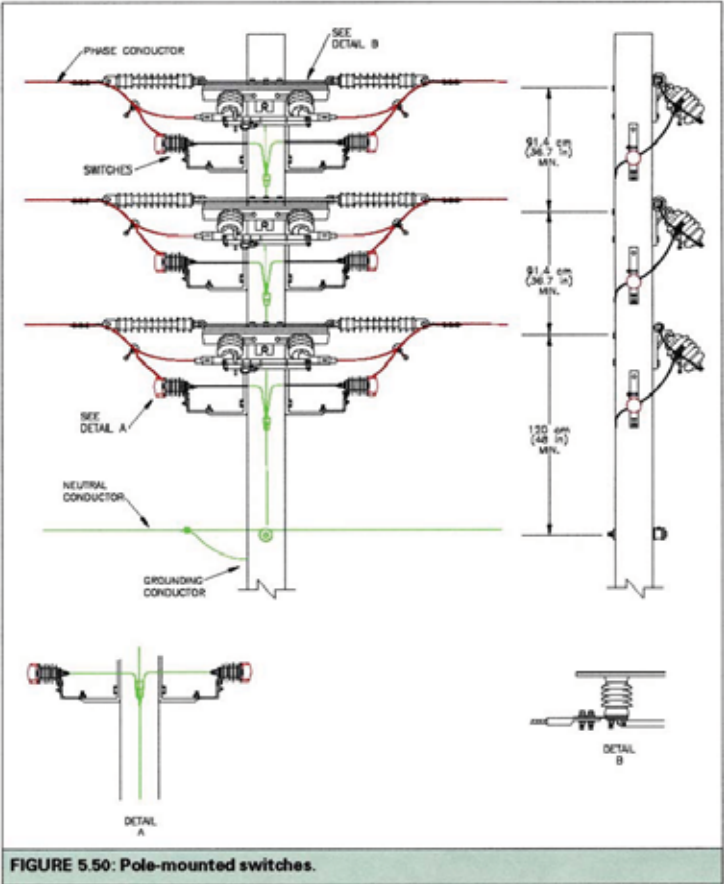
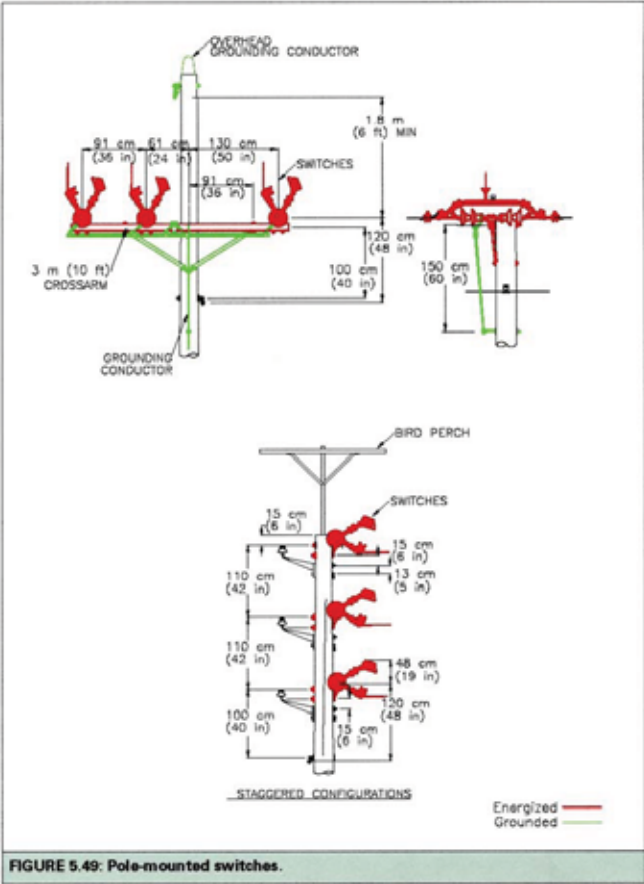


Navajo Natural Heritage Program
Navajo Nation Dept. of Fish & Wildlife
P.O. Box 1480, Window Rock, AZ 86515

RCS-43-08
September 10, 2008







**RESOLUTION
OF THE RESOURCES COMMITTEE
OF THE NAVAJO NATION COUNCIL**

21ST NAVAJO NATION COUNCIL - Second Year, 2008



AN ACTION

**RELATING TO RESOURCES; APPROVING THE NAVAJO NATION RAPTOR
ELECTROCUTION PREVENTION REGULATIONS**

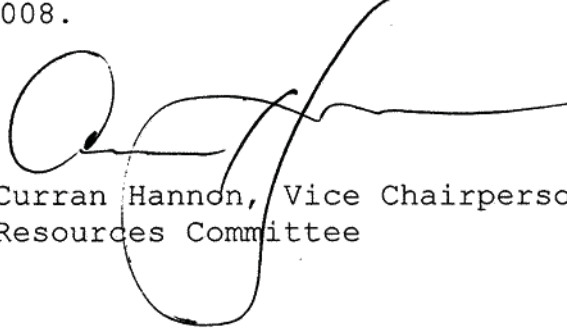
BE IT ENACTED:

1. The Navajo Nation hereby approves amendments to the Navajo Nation Raptor Electrocution Prevention Regulations, attached hereto as Exhibit "A".

2. The Navajo Nation hereby authorizes the President of the Navajo Nation to execute any and all documents necessary to effectuate the intent and purpose of this resolution.

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Resources Committee of the Navajo Nation Council at a duly called meeting at Window Rock, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 6 in favor and 0 opposed, this 10th day of September, 2008.

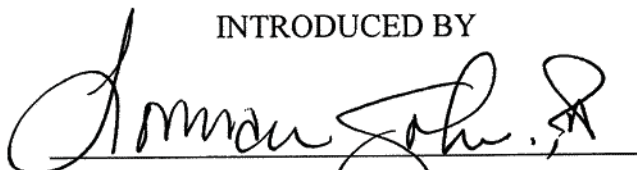


Curran Hannon, Vice Chairperson
Resources Committee

Motion: Harry H. Clark
Second: Harriett K. Becenti

PROPOSED STANDING COMMITTEE RESOLUTION
21st NAVAJO NATION COUNCIL -- Second Year, 2008

INTRODUCED BY



(Primary Sponsor)

TRACKING NO. 0551-08

AN ACTION

RELATING TO RESOURCES; APPROVING THE NAVAJO NATION RAPTOR
ELECTROCUTION PREVENTION REGULATIONS

BE IT ENACTED:

1. The Navajo Nation hereby approves the amendments to the Navajo Nation Raptor Electrocutation Prevention Regulations, attached hereto as Exhibit A.
2. The Navajo Nation hereby authorizes the President of the Navajo Nation to execute any and all documents necessary to effectuate the intent and purpose of this resolution.

LEGISLATIVE SUMMARY SHEET

Tracking No. 0551-08

DATE: August 29, 2008

TITLE OF RESOLUTION: PROPOSED STANDING COMMITTEE RESOLUTION, AN ACTION RELATING TO RESOURCES; APPROVING THE NAVAJO NATION RAPTOR ELECTROCUTION PREVENTION REGULATIONS

PURPOSE: The purpose of the resolution is to approve the Navajo Nation Raptor Electrocution Prevention Regulations.

This written summary is provided in accord with Navajo Nation Council Rules of Order, Rule 11(A), or Standing Committee Rules of Order, Rule 12, on the resolution as drafted by the Office of Legislative Counsel. This written summary does not address recommended amendments as may be provided by the standing committees. The Office of Legislative Counsel requests each Council Delegate to review each proposed resolution in detail.

OFFICE OF THE PRESIDENT
THE NAVAJO NATION
Signature Approval Sheet

DNR - 12036

FROM: DIVISION OF NATURAL RESOURCES - Department of Fish and Wildlife

Gloria M. Tom

Ext. 6451

DOCUMENT:

Date: 2 June 2008

Approval of the Navajo Nation Raptor Electrocuting Prevention Policy.

SURNAME

DATED

1. DFW:

2. DNR:

3. DOJ:

4. P/VP:

3 July 2008

7/3/08

7/28/08

7/30/08

Date Signed:

No. of Signatures

Disposition:

Initial

P/VP (Original)

ORIGINATING DEPARTMENT

DNR FILES



JUL 3 2008


JUL 28 2008



September 4, 2008

MEMORANDUM

TO : Hon. George Arthur, *Chairperson*
Resources Committee

FROM : 
Hon. Lawrence T. Morgan, *Speaker*
Navajo Nation Council

SUBJECT : **ASSIGNMENT OF LEGISLATION**

Pursuant to 2 N.N.C. § 164 (A)(4), this memorandum serves to inform and advise you that I assign the following legislation to the Resources Committee of the Navajo Nation Council:

Legislation No. 0551-08

An Action:

Relating to Resources; Approving the Navajo Nation Raptor Electrocuting Prevention Regulations.

As the Committee assigned to consider the legislation, Legislation No. 0551-08 must be placed on the Resources Committee's agenda at the next regular meeting for final consideration.

ATTACHMENT: Legislation No. 0551-08

xc: Hon. Joe Shirley, Jr., *President*
The Navajo Nation
Louis Denetsosie, *Attorney General*
Mark Grant, *Controller*
Hon. Norman John, *Council Delegate (Prime Sponsor)*
File