The Professional Rigger

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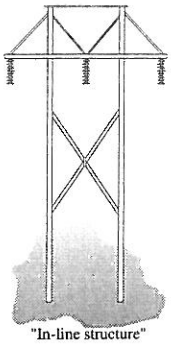
TECHNICAL NEWS

Dead-ending Poles & Towers

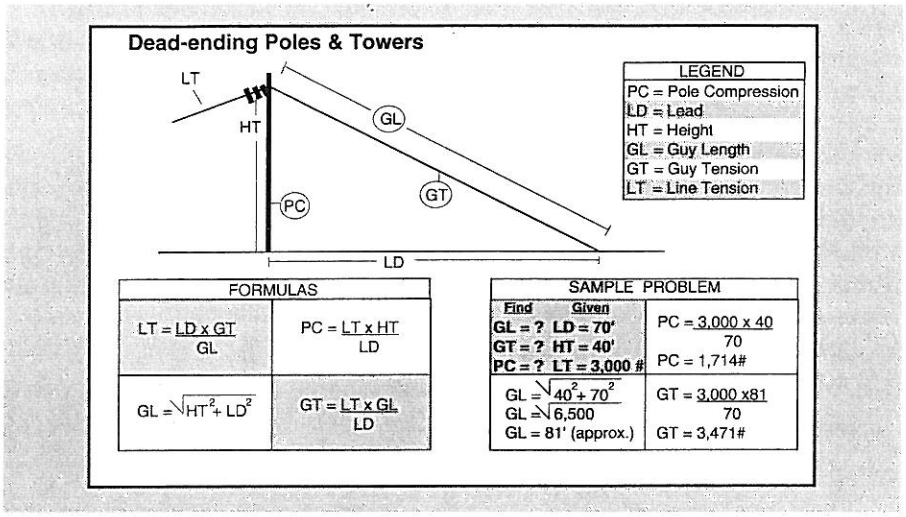
Many considerations need to be made when pinning conductors to cross-arms and poles at dead-end structures. This issue's technical section uses WRRC's Rigger's Reference Card (Electric Utility version) to solve for guy length, guy tension and pole compression.



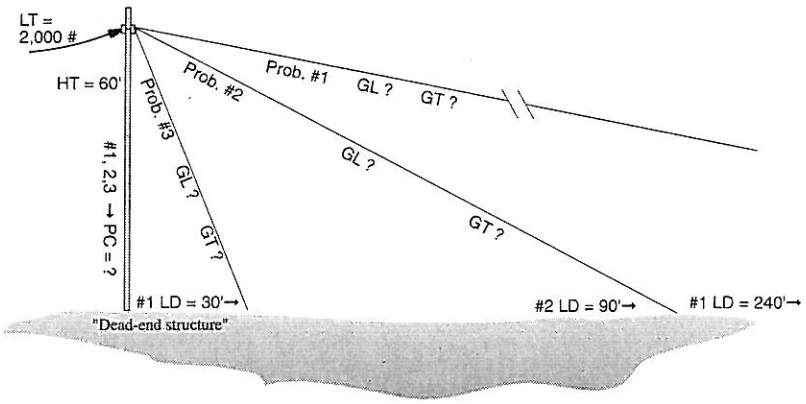
Line crews typically face the challenge of where to place the anchor and guy strand for a pole structure at the end of a "run" of a power line or conductor. When working on dead-end and/or angle structures, the anchor and guy must be able to withstand the loading being applied by the weight and taughtness of the power line.

Additional loading can be expected from high winds, ice formation, or tree limbs falling onto the lines. The horizontal load introduced by the conductors could cause a cross-arm or pole to fracture if not sufficiently restrained by an anchor system.

Is there more load or less load on the anchor when it is placed closer to the base of the pole? Does the downward compression on the pole also change? Try your hand at solving the workshop problems. [Refer to the sample problem in the insert box to the upper right.]



Dead-Ending Workshop



Problem #1	Problem #2	Problem #3
LT = 2,000#	LT = 2,000#	LT = 2,000#
HT = 60'	HT = 60'	HT = 60'
LD = 240'	LD = 90'	LD = 30'
GL =	GL =	GL =
GT =	GT =	GT =
PC =	PC =	PC =

CLIENT NEWS

Bonneville Power Admin.

Mr. Harold Harrsch contracted WRRC to present a series of rigging programs in November and December, 1991. The training consisted of one-day programs at various BPA locations in Washington, Oregon, and Idaho. The line crew rigging courses included workshops usingWRRC's Rigging Simulator, which visually demonstrates the amount of load that can be anticipated during wire stringing and dead-ending activities.

Chelan County P.U.D.

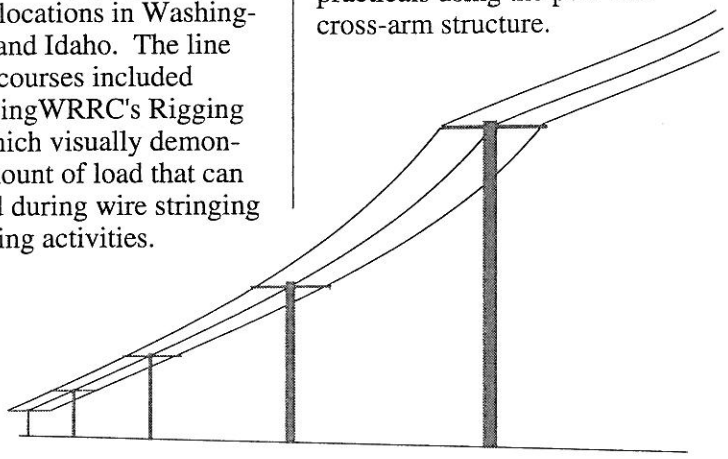
Mr. Darrell Gouldin of Chelan County PUD in Wenatchee, WA contracted WRRC to conduct two 2-day rigging programs for their maintenance mechanics and line crews. The classroom portions included a series of instructional workshops followed by an extensive series of field rigging exercises. Pole and cross-arm structures, assembled by Chelan County PUD employees, were used during the hands-on session to demonstrate the tensions associated with loads at center span and dead-ending poles.

Northwest Public Power Association

Mr. Randy Shipley contracted WRRC to instruct the NWPPA Hands-On Rigging Workshop held on December 10-11, 1991 in Vancouver, WA. The program activities included classroom instruction and hands-on rigging activities with live loads and a special pole & cross-arm station.

Douglas County P.U.D.

Mr. Ben Kleinsasser, Line Crew General Foreman for Douglas County PUD in East Wenatchee, WA asked WRRC to present two days of Electric Utility Rigging Training on December 17 and 18, 1991. Twenty employees attended the program consisting of classroom instruction and hands-on practicals using the pole and cross-arm structure.



U.S. Ecology, Inc.

Mr. Bob Bidstrup from U.S. Ecology, Inc. in Richland, WA asked WRRC to present a Rigging Program on January 15 and 16, 1992. The program included rigging gear inspection and rigging and load control practices for vertical and horizontal rigging systems. 25 U.S. Ecology personnel attended the program conducted by WRRC's Mike Riggs.

Exxon Company USA

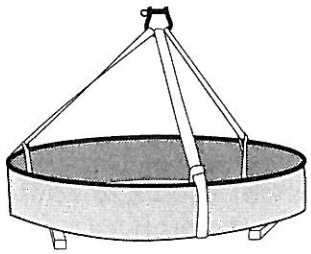
On October 10 and 11, 1991 WRRC presented a two-day Comprehensive Rigging Program for 25 people at Exxon's Green River, WY location. Exxon's Mr. Craig Herman coordinated the program which was conducted by WRRC's Bill Wall. The course consisted of eight hours classroom instruction including many written workshops followed by a series of "live-load" field rigging exercises.

Boise Cascade

On November 6, 1991, WRRC's Mike Riggs presented an eight hour training session for Boise Cascade's West Tacoma Mill in Steilacoom, WA. Coordinated by Mr. Richard LaLonde, Human Resource Coordinator for Boise Cascade, the course covered rigging gear inspection, and provided load control and rigging design workshops.

Johnson Controls World Services, Inc.

Johnson Controls World Services, Inc. contracted WRRC to conduct two 3-day Certified Inspector Programs at their Los Alamos, NM location on November 19 - 21, 1991 and December 3 - 5, 1991. WRRC's Mike Parnell presented the programs which are designed to develop and increase the participants' skill and knowledge in wire rope and rigging gear maintenance and inspection. The subjects covered during the program were wire rope, wire rope slings, synthetic web slings, alloy chain slings, and rigging gear/testing. Written exams on each section were administered and a series of rigging gear inspections were performed.

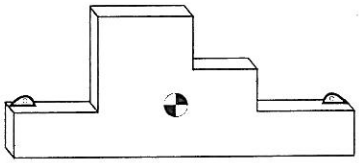


The Professional Rigger is a quarterly publication of Wire Rope & Rigging Consultants, Inc. It is distributed to those whose occupations require the safe and effective use of lifting and rigging equipment. For more information contact: Editor, The Professional Rigger, PO Box 728, Vancouver, WA 98666 (206) 256-5730.

Marcal Rope & Rigging, Inc.

Alton, IL was the location of a one-day Rigging Applications Workshop conducted on January 10, 1992. Over 70 of Marcal Rope & Rigging's customers attended the workshop. The subjects covered included safe rigging gear use, proper rigging procedures and effective load control using vertical or horizontal rigging systems.

The program concluded with a hands-on tour and open-house at Marcal's facility which included demonstrating the fabricating processes for wire rope, alloy steel chain and synthetic slings, and the inspection of hoisting gear.



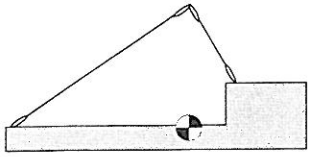
Beware, high center of gravity!

Wright Schuchart Harbor

Wright Schuchart Harbor in Halsey, OR was the location for a one-day Comprehensive Rigging Course on November 9, 1991. Mr. Tony Howard, Safety Engineer, coordinated the program which was attended by 24 WSH employees and covered proper rigging techniques and load control methods.

Fred Weber, Inc.

Fred Weber Inc. in Maryland Heights, MO contracted WRRC to present a one-day Rigging Applications Workshop for 46 employees. The class which was coordinated by Mr. Jim Andrews, Asst. V.P. of Safety, covered rigging gear inspection and safe and efficient rigging techniques.



WRRC NEWS

Certified Inspector Program Fall 1991

WRRC's Fall Certified Inspector Program took place October 22-24, 1991 in Vancouver, WA.

The course addressed wire rope, wire rope slings, synthetic web slings, alloy chain slings and rigging gear/testing. The participants were required to pass written and hands-on field inspection tests to complete each course section.

Some of the companies attending the Fall program included Boeing, U.S. Dept. of Energy, Boise Cascade, Weyerhaeuser, Sause Bros., Granty County PUD, B.P.A., U.S. Army Corps of Eng., and EG&G.

Call WRRC today to register and reserve your seat for the next program! (206) 256-5730

Future 1992 CIP Courses

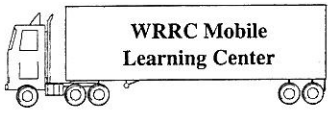
Mar.31, Apr.1 & 2	Vancouver, WA
April 7, 8 & 9	Vancouver, WA
Sept. 22, 23 & 24	Vancouver, WA

Rigging Conference 1992

WRRC cordially invites you to register for Rigging Conference 1992. RC '92 will be held on March 10, 11 & 12, 1992 in Norwalk, CA (Los Angeles).

CABLECO (a major supplier of rigging gear and services) will host the conference during the 3-day event in California. The workshops will address rigging applications, customized rigging gear, rigging gear inspection, load weight estimation, wire rope applications, new material handling devices, rigging and crane accident case studies, and crane load charts.

WRRC's Mobile Learning Center



will be used during the Hands-On Workshop.

Everyone will get to participate in the Rigging Rodeo. The event will include team competition in rigging gear inspections, case study accident investigations, and load moving using the Hands-On Learning Center.

Call today to register as seating is limited to the first 160 registrants due to the unique hands-on session, (206) 256-5730.

Dead-ending Workshop Solutions (from pg. 1)

#1 GL = [(60 x 60) + (240 x 240)] = $\sqrt{61,200}$ = 247'
GT = (2,000 x 247) / 240 = 2,058 lbs.
PC = (2,000 x 60) / 240 = 500 lbs.

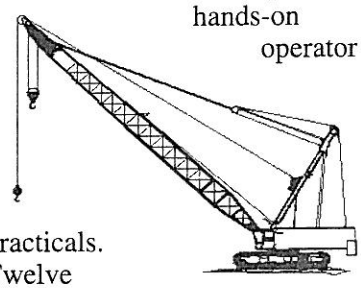
#2 GL = [(60 x 60) + (90 x 90)] = $\sqrt{11,700}$ = 108'
GT = (2,000 x 108) / 90 = 2,400 lbs.
PC = (2,000 x 60) / 90 = 1,333 lbs.

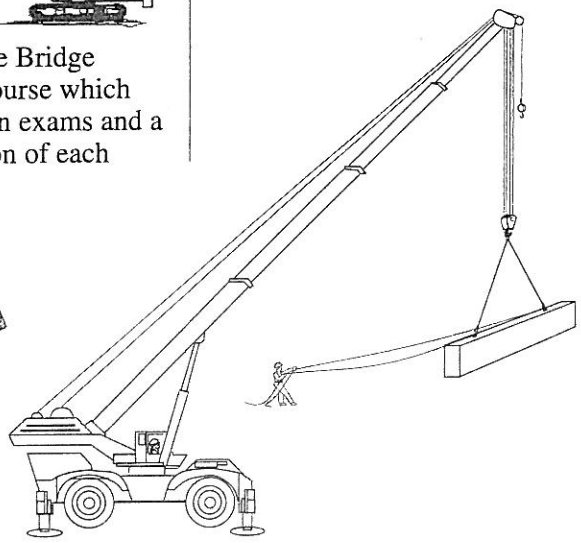
#3 GL = [(60 x 60) + (30 x 30)] = $\sqrt{4,500}$ = 67'
GT = (2,000 x 67) / 30 = 4,467 lbs.
PC = (2,000 x 60) / 30 = 4,000 lbs.

CET NEWS

Idaho Power Company

Mr. Leon Swensen, Line Training Instructor for Idaho Power asked CET to conduct Crane Operator Training for their bridge and mobile cranes on November 4-8, 1991. Twelve operators participated in the five-day Mobile Crane Operator Training Course consisting of classroom instruction, load chart workshops and hands-on operator practicals. Twelve people attended the Bridge Crane Operator Course which consisted of written exams and a hands-on evaluation of each operator.





Naval Undersea Warfare Engineering Station

Mr. Ron Thornhill contracted CET to present a five-day Train-the-Trainer Crane Operator Training School on November 18-22, 1991 in Keyport, WA. Nine NUWES operators attended the program conducted by CET's Eric Paivio. The program included classroom instruction, written exams and load chart workshops on the Appleton Deck Crane, followed by a hands-on evaluation of operating practices using the crane with live loads.

CET has a new General Manager

Mr. Devon Beasley has joined CET as its new General Manager. He brings a rich background to the company in the area of mobile and overhead crane inspection and operator training. He also has an extensive heavy equipment operating and instructing background with bull dozers, scrapers, backhoes, loaders and graders.

He will oversee new-hire and seasoned operator training programs and develop customized courses according to the individual goals of the client.

Chelan County P.U.D.

Mr. Darrell Gouldin contracted CET to present a two-day Boom Truck Training Program in Wenatchee, WA on November 13 and 14, 1991. Eight operators participated in the program presented by CET's Devon Beasley which included classroom instruction, load chart workshops and hands-on field operating evaluations.