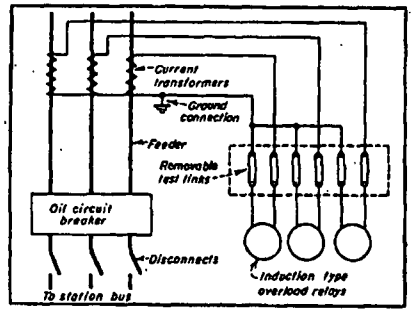
PROBLEMS FROM THE PLANT

Exercise your engineering wit by submitting answers to this question, taken from the plant. Suitable material will be paid for; answers accompanied by sketches or photographs command additional pay

HOW CAN WE CHECK CURRENT-TRANSFORMER SECONDARIES?



ALTHOUGH WE PERIODICALLY CHECK the overcurrent relays on all our plant feeders, we never gave serious thought to the relay current transformers. After the relays failed to operate on a recent cable fault, we made a quick check and found them OK, but two of the current-transformer secondaries were shorted.

We fully realized, even though we made a thorough check on all relays, it meant nothing if the ct was shorted.

That started a systematic check on all current transformers. Using a series test lamp from a 120-v source, we spotted six ct's with shorted secondary windings. The test consisted simply of noting the brightness of the test lamp in series with the transformer secondary. A dim light showed the winding OK while a bright light indicated a shorted secondary.

We know this is but a rough check since it doesn't tell when only a few turns are shorted. The correct turn ratio is mighty important since it will determine the tripping point of the connected relays. We would appreciate hearing how POWER readers check ct's in their plants. We have been thinking of making a simple impedance test. Would ammeter and voltmeter readings using a low voltage ac source do the trick?—*CA*

Readers' Answers

How Often Should We Resocket Elevator Ropes?

(This question is from September letter with best answers from readers.)

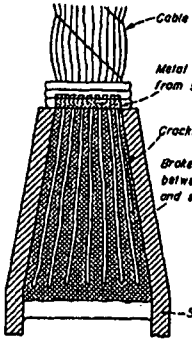
WE HAVE BEEN discussing the question of how frequently we should resocket elevator ropes, but are unable to come to any agreement. There seems to be a wide difference of opinion on this subject even among the experts.

One concern, which manufactures and maintains drum elevator machines, resockets the car hoisting ropes each year on overhead machines, and every two years on basement machines. The Bureau of Standards circular, "*Elevator Wire Rope Maintenance*," recommends resocketing all ropes each year on overhead machines, and every two years on basement type.

It has been our experience that, under normal operating conditions and with proper maintenance, these ropes seldom show signs of fatigue at the sockets during their life span.

We would certainly appreciate the opinion of POWER readers on this question with regard to both the drum and traction type of elevators.—FAA

Recommends Biannual Resocketing of Ropes



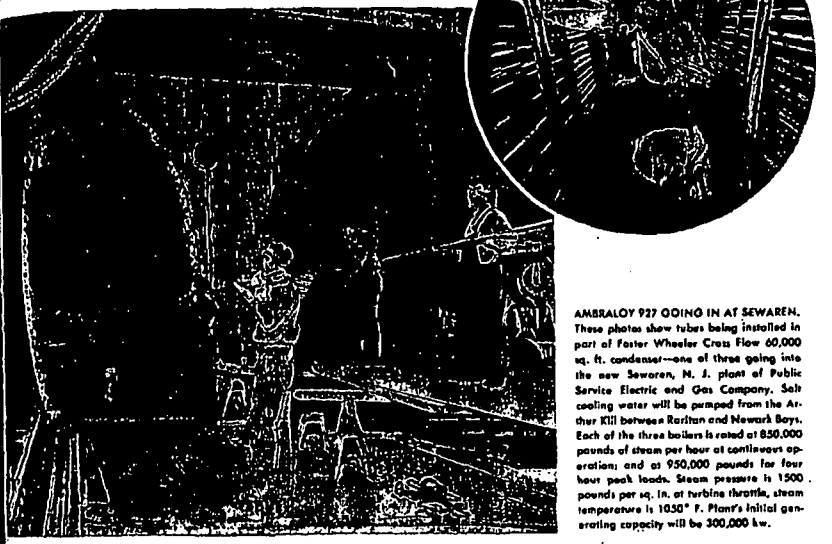
FREQUENCY of elevator-rope resocketing is dependent upon rope wear near the socket and condition of metal in the socket. Annual and biannual resocketing schedules are based on conservative estimates of the effective life of metal in the socket. In general, it is best not to exceed these limits, regardless of the condition of rope near the socket. Rope outside the socket may appear to be as good as new, but trouble may have started within the socket where it cannot be seen by casual inspection.

As shown in sketch at left, there are several factors that may cause trouble within socket. Cracks may occur in socket filler metal and under certain conditions the metal may be partly pulled out of the socket, or the bond between the metal and rope strands may be broken. Since these conditions are difficult to detect, frequent resocketing is the easiest way to prevent them.

Resocketing is an inexpensive and effective way of providing safe connections for all types of elevator ropes. *FAA* will find that the added safety and peace of mind provided by frequent resocketing is well worth the cost. Hence, resocketing should always be done annually or biannually according to the type of elevator.

TYLER C HICKS *New York, N. Y.*

(*Continued on page 140*)



AMBRALOY 927 GOING IN AT SEWAREN. These photos show tubes being installed in part of Foster Wheeler Cross Flow 60,000 sq. ft. condenser—one of three going into the new Seworen, N. J. plant of Public Service Electric and Gas Company. Salt cooling water will be pumped from the Arthur Kill between Raritan and Newark Bays. Each of the three boilers is rated at 850,000 pounds of steam per hour at continuous operation; and at 950,000 pounds for four hour peak loads. Steam pressure is 1500 pounds per sq. in. at turbine throttle, steam temperature is 1050° F. Plant's initial generating capacity will be 300,000 kw.