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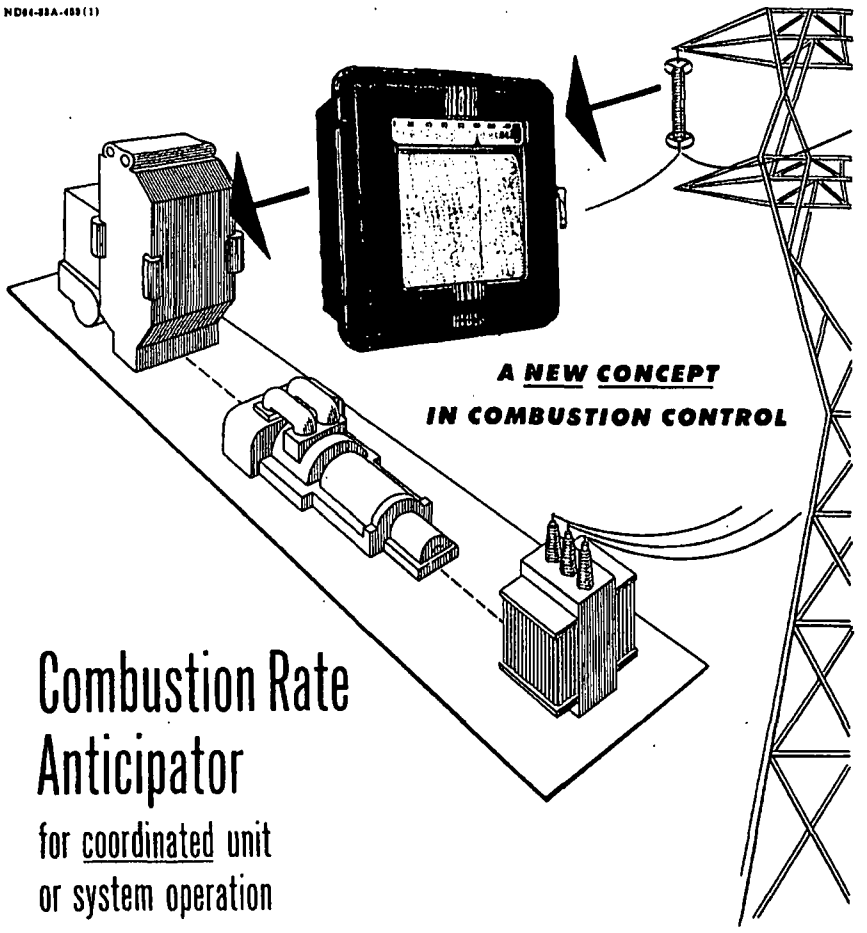

A NEW CONCEPT
IN COMBUSTION CONTROL

Combustion Rate Anticipator

for coordinated unit or system operation

Here's the "missing link" in automatic steam power plant control. It is a control system which adjusts combustion rate at the boiler the instant electrical demand changes . . . actually in advance of steam demand. Result: more uniform steam header pressure, less upset during load changes, more efficient unit and system operation.

How is this accomplished?

In all combustion systems, *ultimate* boiler combustion rate is determined by the *final* Kw demand. The Combustion Rate Anticipator, for the first time, provides *a direct link* by initiating changes in boiler combustion rate directly from regulation applied to the turbine governor, as well as the actual generator output. In this way, the Combustion Rate Anticipator provides closer coordinated control of a boiler and turbo-generator unit.

L&N's experience on both generator load control and combustion control has made this integrated control system possible. This dual experience stands ready to apply the Combustion Rate Anticipator to your plant for improved unit or system operation.

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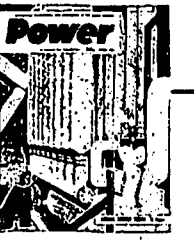

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ATOMIC ENERGY brings a new look to the power business. You get the feel of it in proposals for large-scale plants, outlined in the report beginning on p 89. And you see it "in the flesh" in our cover photo.

This shows an experimental steam generator developed at Argonne National Laboratory for use with the experimental breeder reactor. Extracting heat from the reactor's liquid-metal coolant, it generates 400-psi steam, which is separately superheated to 550 F. In a turbine-generator, this steam develops 170 kw — capacity enough to meet power demands of the reactor and of its building.

Unlike familiar steam boilers in many ways, this unit, "fired" with molten metal, has one point in common with them—it needs good heat insulation. For modern methods of application, look at pp 73-78.

Next month . . .

- What does it take to insure good welds on alloy-steel pipe for 2350 psi, 1100 F? For a fast and full answer, see a step-by-step picture story coming up.
- Boiler water gages get a "one-two" treatment next month. In the E&M Section you'll find a thorough discussion of types, selection and application. And "Operators' Notebook" brings you practical pointers on solving the pesky problem of glass breakage.
- When a company like Western Electric embarks on a modernization program, they go all out. We're going all out, too, in working up an exciting presentation of what may well be the modernization story of the year. Watch *for it in August.*

. . . and future months

- "Super-pressure" boiler, now announced officially (p 150, this issue), has been exciting engineering curiosity ever since the first rumors started drifting about. Right now, however, the kind of information you'd like to have and we'd like to print just isn't available. When it is, Power will bring you the fullest possible story.
- Reminder for planners: Extra *Modern Plant Handbook* issue comes in mid-September; special report on today's electrical practice in October.