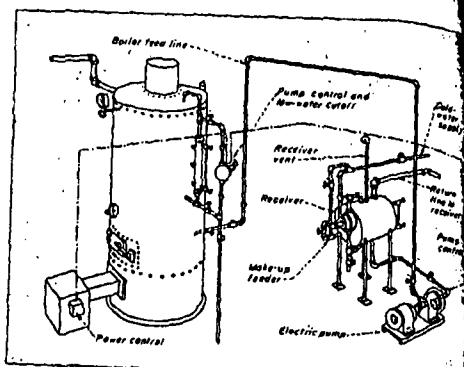




LOW-WATER CUTOFFS owe reliable performance to good installation. The done job has piping short, direct, right size, at correct level with water

Low-Water Cutoffs Profit From Care

Actually, the ruling requiring installations of fuel cutoffs on power boilers came about because of (1) the wide acceptance of automatic firing (2) boilers operating with less heating surface and less water storage. All automatical-ly fired, high-pressure steam boilers simply must have an adequate fuel cutoff to protect them against the dangers of low water. Devices on the market that do this job are manufactured by reliable companies, are well-engineered, and should operate satisfactorily. What, then, is the trouble?

"These Five Steps Help Prevent Furnace Explosions," *Power*, Oct. 1981.

For some strange reason this shortsightedness occurs frequently on boilers where the steam safety valve is set for 100 psi or so, but the boiler operates at 35 to 40 psi. Controls are those designed and approved for 50-psi working pressure on the grounds that the normal boiler-operating range lies below this point. As long as the pressure-limiting devices operate—that is, those that start and stop the firing equipment—pressure will always stay below the 50-psi level. But if they fail, boiler

Installation Steps. Over and above the troubles you bring down on yourself if the inadequate controls are the ones that result from a poor installation. The sketch above shows a simple installation where a low cutoff has been installed properly. Often inspectors find, while the manufacturer has provided standard openings for 1-in. connections, the plumber has turned around and reduced them for 3/4-in. service. True, the code does work all right from the start. But remember, it's still new and if the maker felt 1-in. connections were correct, then

Service Tips for Catoff Care

④ Maintenance Programming carries many benefits you'd expect it would carry cutoffs. See that you schedule maintenance of operating heads.

Remember, make no other connections to the water side of the water column and low-water cutoff, or to the steam side of the water column and the

Once you do uncover a faulty low-

It seems shortsighted preventive maintenance to allow so vital a boiler element to run to failure. A program could be readily set up to remove the operating head of a safety device, say the first or second time you shut a boiler down, for general maintenance or inspection. Replace it with a brand new head and return the old to the factory for rebuilding. When it returns you have a spare head for your next boiler shutdown. A program of periodic replacement of the operating head, once a year or every two years, would make preventive maintenance a paying policy.

If low-water cutoffs get the benefit of this 4-point planning, look for a sharp drop in boiler explosions due to fuel-cutoff failures in plants everywhere.