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Smoke and Dust Confusion

ADMITTING WHAT WE DON'T KNOW is the beginning of wisdom, so let's face up to the existing confusion about ways to curb smoke and dust from power-plant stacks.

This editorial is not intended to be critical of anybody in particular, for the confusion is general and includes all of us engineers. It's safe to say that nobody has yet found a really first-class answer to this national problem.

We don't even understand the health angle. Much has been published about smoke as a menace to health. Yet no less an authority than Dr A J Lanza (chairman, Council of Industrial Health, American Medical Association) says of smoke, "That it can cause specific diseases or death to any considerable degree cannot be stated in the light of available evidence."

Hard to believe, but there it is, and we hope the MDs will get busy and pin down the facts on this, whatever they are. Meanwhile, from the plain nuisance angle, we know that modern communities won't continue to tolerate the present levels of stack smoke and dust.

We also know that any city that sets out on a white horse with a brass band to clean up all the dust and smoke will change its tune when the human and dollar costs are known.

It's better to succeed moderately in a reasonable smoke and dust program than to attempt the impossible and accomplish nothing.

Well, what is practicable? Many communities have had fair success in reducing visible smoke by simple old-line rules based on the Ringlemann chart. The Ringlemann chart may be old fashioned and unscientific, but politically it is the most practical smoke-prevention device ever invented because it is

cheap, requires no costly testing, and labels the offender for all to see.

Stopping dust is a very different matter. Mostly you can't see it until it lands on your laundry. Then you can't prove who made it. Ordinances specifying how much dust a stack may discharge per thousand pounds of flue gas probably have value for the few large utility and industrial plants that can bear the burden of the costly dust sampling. As far as the smaller plants are concerned it is certain that such ordinances will become dead letters, "noble experiments," if they mean actually measuring dust emitted by suspected violators. If anybody thinks communities will stand the cost of such small-plant dust tests as a routine matter let him get the opinion of practical smoke inspectors.

Also remember that a large proportion of existing coal-burning installations could not meet the suggested ASME limitation of 0.85 lb dust per 1000 lb of flue gas. Any serious proposal that this be enforced on a community-wide basis, for all plants, large and small, should face the fact that most plants would be forced to install dust collectors.

Perhaps the best answer to dust emission by small plants will be in the setting up of certain minimum equipment and fuel standards, including the requirement of dust collectors for certain fuels and firing methods in specified zones of the community.

Even this is not what you might call a happy solution. There aren't any such in this field. You just take your choice among the available evils.

The whole problem of power-stack smoke and dust is so important that POWER will welcome comments from combustion engineers and smoke-inspection authorities.