

## Notice

This Engineering Guide was recently converted to a PC format and it has not been proof read by our engineering staff. Therefore, it is subject to change at a later date.

Ohio EPA

Division of Air Pollution Control

Engineering Section

Engineering Guide #6

Question:

Do boilers converting from coal to oil require a permit to modify? According to paragraph (H) of OAC rule 3745-31-01 (Definitions), "Modify" (Modification) means (1) any physical change in, or change in the method of operation of, (a) any air contaminant source that (i) increases the allowable air contaminant emissions under applicable law, (ii) results in the emission of any type of air contaminant not previously emitted, or (iii) . . . ." "Air contaminant" means particulate matter, dust, fumes, gas, mist, smoke, vapor or odorous substances, or any combination thereof. Now U.S. EPA has determined that oil-fired boilers can emit significant amount of primary sulfates directly (U.S. EPA Research Highlights 1977, EPA-600/9-77-044, December 1977, footnote on page 12). Moreover, Ohio EPA itself distinguishes between total suspended particulates and sulfates (and nitrates and lead) (OEPA/OAPC Ohio Air Quality-1978), thus prompting the question posed above. (This question was submitted by Otto Faber of the City of Cleveland, Division of Air Pollution Control on October 31, 1979.)

Answer:

A Permit to Install is required for any boiler that will undergo a fuel switch from coal to oil if there is a physical change in, or change in the method of operation of the source and if the conversion meets any one of the three criteria listed in OAC rule 3745-31-01(H). The question posed above refers specifically to the criteria in paragraph (H)(1)(a)(II) and asks whether the emission of primary sulfates (and nitrates and lead) which result from any such fuel switch constitutes a type of emission not previously emitted. Since paragraph (H)(1)(a)(ii) uses the terminology "type of air contaminant," a PTI is only required in cases where particulate matter, dust, fumes, gas, mist, smoke, vapor or odorous substances would be emitted that were not previously emitted. In this case, since the definition of particulate matter in OAC rule 3745-17-01(B)(12) clearly

would include the emission of primary sulfates (and nitrates and lead), and particulate matter was previously emitted under coal-firing, a "new" emission of particulate matter does no result. Similarly, since gas, mist, smoke and vapor were previously emitted from the boiler, no other "new" emission type would result. Therefore, a PTI would not be required in this instance based only on the criteria in paragraph (H)(1)(a)(ii).

However, the DAPC would request that PTI applications be solicited from entities for fuel switches where the new fuel contains hazardous material or any other material which may result in NESHAPS or other hazardous air pollutant being emitted. For example, if the boiler mentioned above was switched to a fuel containing polychlorinated biphenyl, the DAPC would want to require a PTI for such a fuel change.

Regarding the last point, the Ohio EPA distinguishes between total suspended particulates, sulfates, nitrates and lead for purposes of ambient monitoring. The distinction is not intended to imply that such pollutants are now excluded from the definition of particulate matter and, therefore, constitute a "new" type of emission.

TK/JO/sk

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