



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH TRIANGLE PARK, NC 27711

MAR 20 2018

OFFICE OF  
AIR QUALITY PLANNING  
AND STANDARDS

Mr. Michael G. Dennis  
Newport News Shipbuilding  
4101 Washington Avenue  
Newport News, Virginia 23607

Dear Mr. Dennis:

Thank you for your letter dated October 12, 2017, requesting the Environmental Protection Agency's view on the applicability of the "Replacement Unit" provision under the Prevention of Significant Deterioration (PSD) permitting program for a replacement of boilers at your Newport News Shipbuilding (NNS) facility. Your letter contained a number of details on the boiler replacement activities at the NNS facility and associated air permitting actions. Since the Virginia Department of Environmental Quality (VA DEQ) is the reviewing authority for the PSD program in your area, it has primary responsibility over the air permitting for your facility, which would include determining how VA DEQ's EPA-approved PSD rules apply to the boiler replacements at your facility. I must, therefore, refer you to the VA DEQ to discuss specific issues related to your permit application. However, in order to assist both you and VA DEQ, I want to take this opportunity to respond to your general question about whether an equipment replacement involving a change in fuel type precludes the use of the Replacement Unit provision.

Under EPA's PSD rules, a Replacement Unit is considered an existing emissions unit for the purpose of determining major modification applicability. 40 CFR § 51.166(b)(7)(ii). Accordingly, if an equipment replacement qualifies as a Replacement Unit, a source owner or operator may use the actual-to-projected-actual applicability test to quantify the emissions increase resulting from a project. In contrast, any equipment replacement that does not qualify as a Replacement Unit would be treated as a new emissions unit and its emissions increase must be quantified using the actual-to-potential applicability test. 40 CFR § 51.166(a)(7)(iv)(c)-(f). The EPA has made this regulatory distinction based on the presumption that a Replacement Unit does not "significantly change the nature of the replaced unit" and, accordingly, "[i]t is reasonable to compare the baseline actual emissions from the replaced unit to the projected actual emissions of the replacement unit because the units are effectively the same existing emissions unit." 68 Fed. Reg. 63021, 63024 (November 7, 2003).

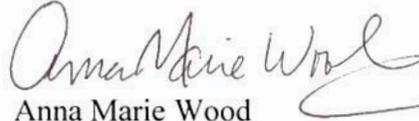
The EPA's rules set forth criteria for satisfying the Replacement Unit provision. Among other things, the rules require that a replacement emissions unit be "identical to or functionally equivalent to the replaced emissions unit" and "not change the basic design parameter(s)... of the process unit." 40 CFR § 51.166(b)(32). As to the question you raised regarding the modifications at your facility, we note that in no instance do the rules identify "fuel type" as determinative in Replacement Unit qualification. Accordingly, a change in fuel type, in and of itself, does not preclude an equipment replacement from satisfying the requirements of the Replacement Unit provision.

Notwithstanding our general conclusion that a change in fuel type by itself does not preclude Replacement Unit qualification, in certain cases, a change in fuel type could signal that the basic design parameters of the process unit have been changed. As you note in your letter, in a recent case involving the replacement of internal combustion engines, EPA Region 10 supported the state of Alaska's interpretation that a change in fuel type for the engines at issue contributed to the replacement altering the basic design parameters. However, as your letter explains, gas-fired engines and diesel-fired engines have fundamental design differences – specifically, spark ignition versus compression ignition – and are consequently subject to different regulatory requirements because of these differences. Therefore, the EPA's support of the decision made by Alaska was not solely based on the fact that the new engines had a change in fuel, but rather that the replacement engines were a fundamentally different design than the replaced engines. It should also be noted that a significant factor leading to the EPA's support of Alaska's determination was that the combined horsepower capacity of the new engines was significantly greater than that of the replaced engines, which questioned the "identical to or functionally equivalent" prong of the Replacement Unit test.

As the EPA Region 10 letter to Alaska points out, determining whether a replacement of equipment would change the basic design parameters of the process unit is a case-by-case decision that the reviewing authority makes based on the individual facts of the case. Thus, with regard to your replacement of steam boilers, as stated earlier, we are not the reviewing authority for air permitting at the NNS facility, nor do we have all of the information necessary to inform the reviewing authority on whether your replacement boilers qualify as Replacement Units under Virginia law. VA DEQ has the authority to make such a determination based on their interpretations of applicable rules and relevant guidance. Accordingly, the EPA defers to VA DEQ in making this determination based upon the application of the relevant rules and guidance to the specific facts and circumstances concerning the replacement of the boilers at the NNS facility.

I hope this information has been useful. If you have any further questions, please contact Raj Rao of the Office of Air Quality Planning and Standards at [rao.raj@epa.gov](mailto:rao.raj@epa.gov) or (919) 541-5344.

Sincerely,

A handwritten signature in cursive script that reads "Anna Marie Wood". The signature is written in black ink and is positioned above the printed name.

Anna Marie Wood

Director

Air Quality Policy Division

cc: Michael Dowd  
Cristina Fernandez  
Mandy Gunasekara  
Bill Harnett  
Mike Koerber  
Raj Rao  
Peter Tsirigotis