Development of a Method for Measuring and Evaluating Exhaust Emissions from Diesel Railcars

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Since pertinent regulations applicable to exhaust emissions on diesel railcars are unavailable currently in Japan, thus, measuring of the exhaust gas at rolling stock yards is not readily possible, it is essential to comprehend the gas emission in terms of reduction countermeasures. Therefore, we initially investigated a current measuring method for exhaust emissions objective to large-size cars. In addition, we made a study on a measuring method relatively easily applicable to exhaust gas emissions on engine bench-test board of JR rolling stock yard, or on running diesel railcars. Then, we introduced measurement into operation of exhaust emission substantially applying this method. In addition, we performed a research applying the frequency of notch and the engine speed area on many commercial trains. Based on the research, we completed an alternative test-cycle for applying the evaluation of the measured results. We hereby introduce these results and suggestions.