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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Black Carbon, Organic Carbon, and Co-Pollutants Emissions and Energy Efficiency from Artisanal Brick Production in Mexico" *by* Miguel Zavala et al.

Anonymous Referee #2

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It is an interesting and well prepared field monitoring work for obtaining the emission factors of various pollutants and PM associated chemical components from brick kilns. It is very helpful for the emission inventory updating and related human health risk assessment research. Also considering the difficulty and the complexity of this type of motoring works, I highly recommend the publication of this manuscript after the following questions are answered and corresponding revisions are done. (1) Please give a sampling frame figure, after Figure 1, to clear show the size of the brick kilns, the relative location of the sampling probe, the relative location of the AML. It is very important for the comparison of the emission factors as the location reflects the dilution extent of the flumes, considering quantitative dilution effect could not be obtained in

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this study. (2) The range of 20-100 m is huge enough for the chemical evolution and variation of flumes. How the authors consider its impact on the emission factors? In Table 1, the OC emission factors are quite different for the two methods. The authors should give clear suggestions that when establishing the emission inventory, which emission factors should be selected. (3) I am not clear about how the author obtain the release flow rate of tracers. By AML, you can just obtain the emission concentrations, but not the flow rate information. (4) I wonder whether the emission concentrations is too high for the detection of SP-AMS. Please give detailed operating procedures for the switch of BC and other components monitoring by SP-AMS during the whole sampling period. (5) Whether the MCE is of significant differences between the MK2 and Traditional kilns. The one cycle test in this study may be limited. The authors should better describe this.

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