

عنوان مقاله:

A Novel Method for Determination of Acid Gas Flares Emission Factors

محل انتشار:

کنفرانس بین المللی علوم، مهندسی و فناوری های محیط زیست (سال: 1394)

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خلاصه مقاله:

Acid gas flares have been identified as potential sources of H₂S and SO₂ emissions. Direct measurement of pollutants concentration for these flares has high risk because of high H₂S or SO₂ emissions and flare height. In This work, a novel back-calculation based method was developed for estimation of SO₂, CO and NO₂ emission factors for an acid gas flare in a selected gas sweetening plant. The results showed that this method can estimate more real emission factors compared to the common fuel analysis method. The results indicated that for selected acid gas flare SO₂ and NO₂ emission are lower than the published emission factors. The mean emission factors were estimated as 0.179, 0.0010 and 2.40 lb/ MMBtu (lb. per Million Btu) (0.0769, 0.000429 and 1.03 kg/109J) for CO, NO₂ and SO₂, respectively. The uncertainty analysis showed that due to high dispersion modeling uncertainty; the total uncertainty can be higher than 58% for all emission factors. The method can be easily applied for estimation of emission factors of other elevated sources such as typical gas flares and elevated stacks

کلمات کلیدی:

Air pollution, Emission factor, Acid gas flare, SO₂, NO₂

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