



Republic of the Philippines  
Department of Environment and Natural Resources  
**ENVIRONMENTAL MANAGEMENT BUREAU**  
DENR Compound, Visayas Avenue, Diliman Quezon City 1116  
Telephone Nos.: (632)927-15-17, 928-37-25; Fax No.: (632) 920-22-58  
Website: <http://www.emb.gov.ph> / Email: [mail@emb.gov.ph](mailto:mail@emb.gov.ph)

AUG 05 2019

**EMB MEMORANDUM CIRCULAR**  
No. 2019 - 007

**SUBJECT : GUIDELINES FOR THE CONDUCT OF ISOKINETIC SAMPLING IN TAPERED STACKS**

In order to provide concerned EMB officials and employees with uniform guidance on source emission stack testing pursuant to Rule XXV, Part VII Stationary Sources of the Implementing Rules and Regulation of the Philippine Clean Air Act (DAO-2000-81), hereunder are the guidelines for the conduct of Isokinetic Sampling in Tapered Stacks<sup>1</sup>:

- 1) **For all stacks with the total included angle of < 15 degrees straight stacks:** If this angle is exceeded, consider the taper to be a flow disturbance and modify the stack with straight section of at least 2.5 D. *(See attached Annex for reference)*
- 2) Apply the maximum diameter at point of upstream or downstream disturbance and Method 1 for determining the sampling point location and number of sampling points. *(See attached Annex for reference)*

For your guidance and strict compliance.

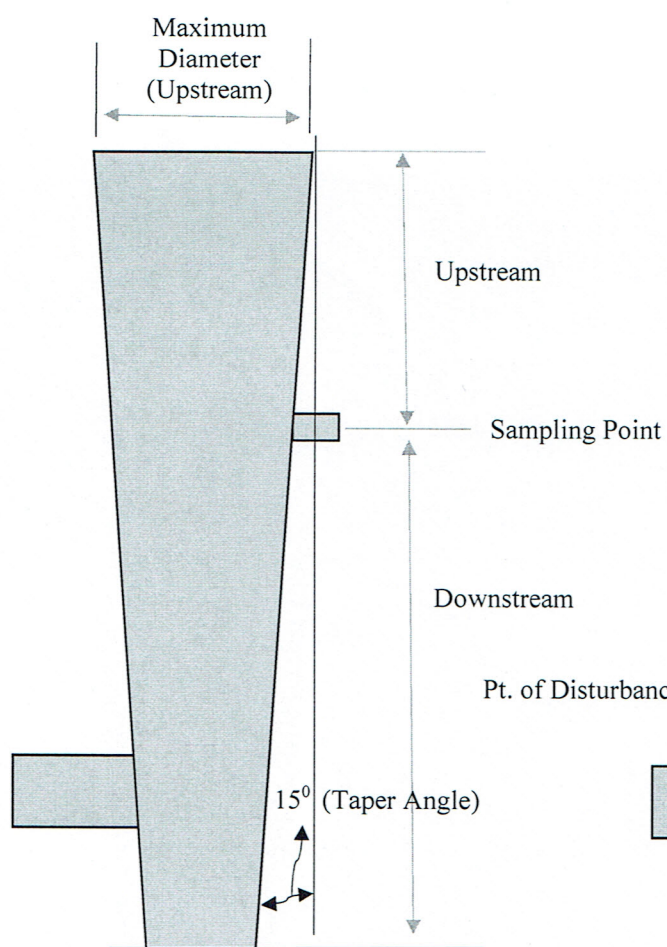
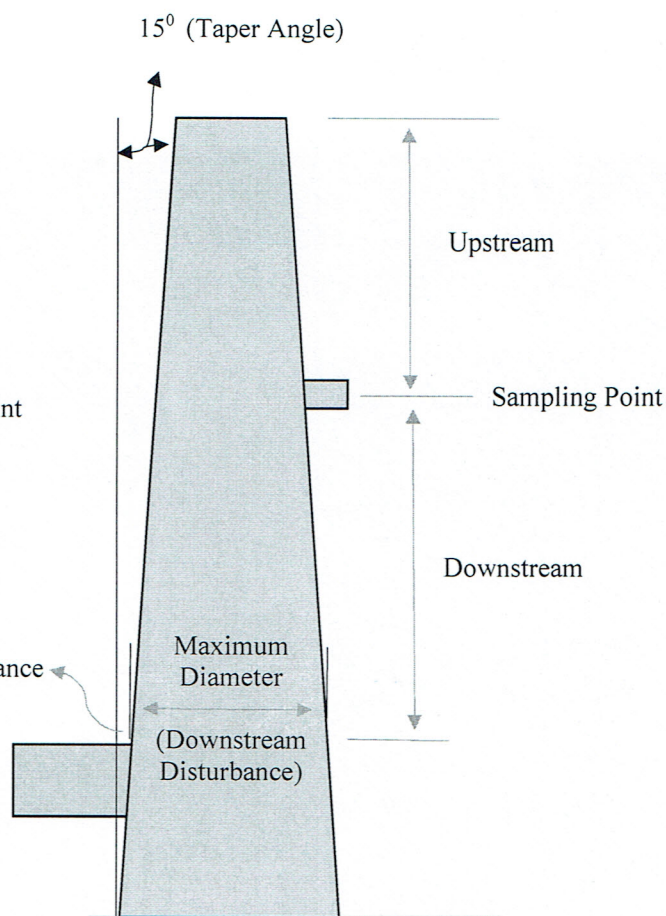
ENGR. METODIO U. TURBELLA



<sup>1</sup> Stack Sampling Technical Information, Document No. EPA-450 / 2-78-042d under United States Environmental Protection Agency (US -EPA)

**TAPERED STACK ILLUSTRATION**

- 1) To consider all stacks with the total included angle of  $< 15$  degrees a straight stacks. If the angle is exceeded, consider the taper to be a flow disturbance and modify the stack with straight section of at least  $2.5 D$ .
- 2) Use the maximum diameter at point of upstream or downstream disturbance and method 1 for determining the sampling point location and number of sampling points.

**DIVERGENT STACK****CONVERGENT STACK**

## MODIFIED STRAIGHT STACK ILLUSTRATION

