

## Japanese comment to the CPC Draft Calibration Procedure

Comments from Japan are as follows.

=> Regarding “4. Secondary Calibration Method,” the introduced aerosol generation method is not commonly used. Therefore, in addition to the method, it is necessary to provide aerosol property quantitative information, the particle size, concentration, distribution range, time stability and other properties required from the test aerosol, and also a list of different aerosol generation methods.

=> The draft contains no description about coincidence correction for the CPCs. In order to discuss a +/-5% discrepancy, unless devices of the exact same type are compared (e.g., comparison of two 3010 CPCs), coincidence correction is necessary when the concentration exceeds around  $10^3$  particles/cc. However, for TSI products, this correction shall be performed only on the latest models. That is, the 3010/D does not need correction whereas the subsequent versions of 3010 require correction. It is not recommended for users to perform this correction because it would make calibration work more complicated.

=> The intended scope of calibration should be stated at the beginning. In order to avoid misinterpretation, possibly an appropriate sentence would be something like "Detection efficiency with respect to particles sufficiently larger than D90 [nm] shall be calibrated over a concentration range from xxx particles/cc to yyy particles/cc." This is because if it says “CPCs shall be calibrated ...,” it could be interpreted as requiring determination of detection efficiency curves around the lower detection limit particle size (determination of D10, D25, D50, D75, and D90).

=> Under the calibration procedures in Section 4.2, it is not mentioned that a range over which the particle concentration is varied (especially the lower limit). Although different ranges are used depending on the purpose of each calibration, it is not user-friendly if there is no explanation whatsoever about the range issue. At least, some kind of judgment criteria should be provided so that users can determine an appropriate range.

=> It is not clear as to whether the term "electrostatic classifier" used in Section 4.1 includes the neutralizer. For this reason, a provision should be added to clarify if the neutralizer is necessary or not.