

Annex 2. Regulations for the Measurement and Monitoring Data Records from the Automatic Monitoring Devices

I. The measurement frequency of the automatic monitoring device is stipulated as follows:

- (1) The process cycle of sampling and analysis for water temperature, H⁺ concentration index and conductivity in the automatic monitoring device should be completed in one minute.
- (2) The process cycle of sampling and analysis for SS (suspended solids), COD (chemical oxygen demand) and ammonia nitrogen in the automatic monitoring device shall be completed within one hundred and eighty minutes.
- (3) The process cycle of sampling and analysis for the water volume automatic monitoring device shall be completed within one minute.
- (4) The frequency of measurement during the regular calibration, testing and maintenance is not subject to the preceding clauses.
- (5) The frequency of measurement for other monitoring items shall be according to the requirements of competent authority at the national level.

II. The calculation rules for the monitoring data record of automatic monitoring device are as follows:

- (1) It should be calibrated to a standard condition of 25 degrees Celsius (with an error deviation of one degree positive or negative).
- (2) The monitoring data of water temperature, H⁺ concentration index and conductivity in the automatic monitoring device shall use the average of the monitoring data in five-minute intervals as the monitoring data record. The abovementioned five-minute average is the mean value of monitoring data in five or more equal time intervals. If the five-minute interval includes the regular calibration or maintenance time, the five-minute average can be calculated from one more valid monitoring data.

- (3) The monitoring data of SS (suspended solids), COD (chemical oxygen demand) and ammonia nitrogen in the automatic monitoring device shall use the average of the monitoring data in sixty-minute intervals as the monitoring data record.

The abovementioned sixty-minute average is the mean value of monitoring data in one or more equal time intervals. If the sixty-minute interval includes the regular calibration or maintenance time, the sixty-minute average can be calculated from one more valid monitoring data.

- (4) If the sampling and analysis for SS (suspended solids), COD (chemical oxygen demand) and ammonia nitrogen in the automatic monitoring device cannot be completed in sixty minutes, its monitoring data record can be replaced with the latest monitored record in the past one hundred and eighty minutes.
- (5) The monitoring data record of water volume is the difference of the cumulative flow measured by the cumulative water volume measuring facility in five minutes.

III. The automatic monitoring device for water quality shall set a proper measurement range that is greater than or equal to the Span. The Span setting is as follows:

- (1) It shall include the standard range of the discharge water.
- (2) The valid average daily monitoring data of the automatic monitoring device from the past 90 days should include 10% to 90% of the Span; however, the water volume, water temperature and H⁺ concentration index in the automatic monitoring device are not limited to this.
- (3) If the Span cannot conform to the requirements of the preceding clause, the business operator or sewage system shall be adjusted and corrected within 72 hours from the occurrence of the incident, so that the Span can conform to the requirements of the preceding clause; however, the valid average daily monitoring data from the past 90

days that is lower than 10% of the discharge water standard and approved by the competent authorities of the municipality or county (city) are not limited to this. The corrected status should be documented.

- (4) If the monitoring data of business operator or sewage system is remarkably fluctuated in a short period of time, it may adopt the Span setting method with the approval of competent authorities of the municipality or county (city).

IV. The recorded data from the automatic monitoring device will be regarded as invalid data for any of the following conditions. However, it does not include the improper monitoring data from the automatic monitoring device and backup automatic monitoring device due to force majeure events, and approved by the competent authority with relevant information of the business operator or sewage system:

- (1) The monitoring data does not fulfill the requirements of point 1, 2 and 3. However, if the Span correction is carried out within 72 hours according to line item 3 of point 3, the previous data before the Span correction are still regarded as valid data.
- (2) The automatic monitoring device is not calibrated according to the stipulation of point 4 and 5 in Annex 1, which is the record of passing the calibration and testing since 12:00 AM of the following day.
- (3) The Relative Accuracy Test Audit (RATA) result does not conform to the relative accuracy standard in Annex 3. The Relative Accuracy Test Audit (RATA) qualification report shall be prepared and submit to the competent authority for approval, starting from 12:00 AM of the following day upon the receipt of the water quality testing report or the notification from the competent authority, to 12:00 AM of the following day after the delivery of the report.

V. The recorded data from the automatic monitoring device will be regarded as missing data for any of the following conditions. However, it

does not include the missing data from the automatic monitoring device and backup automatic monitoring device due to force majeure events, and approved by the competent authority with relevant information of the business operator or sewage system:

- (1) The automatic monitoring device is not operated during the period of unit processing operations.
- (2) During the period of unit processing operations, the automatic monitoring device operates properly, but the monitoring data is not recorded or retained, or the monitoring data is recorded but the data cannot be obtained.

VI. When the monitoring data record is invalid or data record is missing, the following approaches should be adopted with priority, however, it is still regarded as invalid or data missing after the replacement:

- (1) The average measured data record is the substitution value:
 1. If the percentage of the valid monitoring data records from the previous month is greater than or equal to 85%, the average of the valid hourly monitoring data records from the previous month will be the substitution value.
 2. The percentage of valid monitoring data records from the previous month is less than 85% and greater than or equal to 65%, the average of the top six valid hourly monitoring data records from the previous month will be the substitution value. If the top six valid monitoring data records are not available, the top five valid monitoring data records will be the substitution value instead, and so on.
 3. The percentage of valid monitoring data records from the previous month is less than 65%, the average of the top three valid hourly monitoring data records from the previous month will be the substitution value. If the top three valid monitoring data records are not available, the top two valid monitoring data records will be

the substitution value instead, and so on. If there are no valid monitoring data records from the previous month, the average of the top three valid hourly monitoring data records from the previous three month, starting from the last day of the previous month, will be the substitution value. If the automatic monitoring device is installed less than three months, the average of the top three valid hourly monitoring data records from all monitoring data records of the automatic monitoring device upon the verification will be the substitution value.

4. If the valid hourly monitoring data records from the preceding items have the same day from the previous month, the same measured data records should occupy respectively when sorting the order.

(2) During the period of invalid monitoring or data missing, the data records will be sampled and inspected by the competent authority.

VII. As for the invalid data or missing data in point 4 or point 5, the substitution value shall be sent together with the last monitoring data on the day of the occurrence.

For those that are not related to the preceding item shall confirm at the end of each month and submit the substitution value with the last monitoring data within two days from the beginning of the following month.