

HJ

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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Technical specification for operation of wastewater on-line monitoring system (CODCr, NH₃-N et al.)

水污染源在线监测系统（COD Cr、NH₃-N 等）运行技术规范
(English Translation)

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Table of Contents

Foreword	4
1 Scope of application	6
2 Normative references	6
3 Terms and definitions	7
4 Operating organization and personnel	8
5 Management and setting of instrument operating parameters	9
6 Requirements for sampling methods and data reporting	10
7 Requirements for inspection and maintenance	11
8 Operational technical and quality control requirements	14
9 Maintenance and troubleshooting requirements	20
10 Operational comparison monitoring requirements	21
11 Operating archives and records	22
Annex B (informative) Routine inspection and maintenance record form monitoring equipment results	30
Annex E (informative) Inspection and maintenance record form	31
Annex F (informative) Consumable replacement record form	33
Annex G (informative) Standard sample replacement record form results on-line monitoring system	36
Annex J (informative) Operation checklist	41

1 Scope of application

This Standard specifies the requirements for the operating organization and personnel, parameter management and setting, sampling methods and data reporting, inspection and maintenance, operation technical and quality control, system maintenance and troubleshooting, archive records that the operating organization shall meet, so as to ensure the stable operation of on-line monitoring equipment for wastewater. It also specifies the specific content of operation comparison monitoring.

This Standard is applicable to the operation of wastewater on-line monitoring equipment such as various components of the wastewater on-line monitoring system that has been accepted by HJ 354 and the flow meter, automatic water- quality sampler, chemical oxygen demand (CODCr) water automatic analyzer, total organic carbon (TOC) water automatic analyzer, ammonia nitrogen (NH₃ -

N) water automatic analyzer, total phosphorus (TP) water automatic analyzer, total nitrogen

(TN) water automatic analyzer, thermometer, pH water automatic analyzer. This Standard is applicable to the daily operation and management of operating organization of wastewater on-line monitoring system.

2 Normative references

The following documents contain the provisions which, through reference in this Standard, become the provisions of this Standard. For undated reference documents, the latest versions apply to this Standard.

GB/T 6920, Water-quality - Determination of pH Value - Glass Electrode

Method

GB/T 11893, Water-quality - Determination of total phosphorus - Ammonium molybdate spectrophotometric method

GB/T 13195, Water-quality. Determination of water temperature.

Thermometer or reversing thermometer method

GB 18597, Standard for pollution control on hazardous waste storage

HJ 15, Technical specifications and test procedures for ultrasonic open emissions.

3.3 instantaneous sample

The water-sample that is collected at one time at a sampling point.

3.4 composite sample

A mixture of water-samples that are collected at a same sampling point continuously or at different times.

3.5 automatic water sampling system

A system in wastewater on-line monitoring system that is used to collect the instantaneous sample and the composite sample, for over-standard sample retention, to parallelly monitor sample retention, to compare monitoring sample retention. It is used for the wastewater on-line monitoring equipment to analyze and test.

3.6 on-line monitoring equipment operating parameters

Relative parameters that are set on the wastewater on-line monitoring equipment installed on site, that can characterize the measurement process and have influence on the measurement results.

3.7 data availability

In a certain period, the ratio of the number of valid data actually obtained by the instrument

to the number of valid data that shall be obtained in the period.

3.8 maintenance state

The state of wastewater on-line monitoring system when it is performing maintenance operation during abnormal sampling monitoring period, including instrument maintenance, overhaul, calibration, and maintenance of automatic water sampling system.

3.9 auto-check with standard solution

The accuracy of wastewater on-line monitoring equipment to automatically measure standard solution and automatically determine the measurement results.

4.1 Requirements for operating organization

enabled.

6 Requirements for sampling methods and data

reporting

6.1.1 Instantaneous sampling

Use pH water automatic analyzer, thermometer and flow meter to monitor the instantaneous sample. During continuous discharging, obtain a monitored data per 10min for pH value, temperature and flow. During intermittent discharge, the amount of data is not less than 6 times the cumulative discharge hours of sewage.

6.1.2 Composite sampling

Use COD Cr, TOC, NH₃-N, TP, TN water automatic analyzer to monitor the composite sample.

During continuous discharging, start timing from 0's clock every day. Every 1h shall be a time period. The automatic water sampling system performs time proportional or flow proportional sampling during this time period (for example, conduct sampling every 15min and collect 4 times of water-samples within 1h to ensure that the number of samples collected during this period meets the requirements). Use water automatic analyzer to test the composite sample of this time period. The test result shall be calculated as the average continuous discharge concentration of wastewater of this time period.

During intermittent discharging, every 1h shall be a time period. The automatic water sampling system performs time proportional or flow proportional sampling during this time period (set according to the actual discharge amount on site to ensure that water-samples can be collected during discharge). After sampling ends, the water automatic analyzer shall test the composite sample of this time period. The test result shall be calculated as the average discharge concentration of wastewater of this time period. If the number of

samples collected during a sampling period cannot meet the needs of instrument analysis, no data is processed for this period.

6.2 Data reporting

6.2.1

It shall ensure that the data acquisition and transmission instrument and online monitoring equipment are consistent with the time of monitoring center platform.

electrode filling solution is normal. Clean the electrode probe if necessary.

7.2.5 Check whether the standard solutions and reagents of each wastewater

on-line monitoring equipment are within the valid use period, so as to guarantee regular replacement of standard solutions and reagents in accordance with relevant requirements.

7.2.6 Check the operation of the data acquisition and transmission instrument

and inspect whether the joints are damaged. Conduct sampling inspection of data Compare whether the data received by the wastewater on-line monitoring equipment, data acquisition and transmission instrument, and monitoring center platform are consistent.

7.2.7 Check whether the automatic water sampling system pipeline is clean, whether the sampling pump, sampling barrel and sample retention system are working properly, and whether the temperature of the sample retention and storage is normal.

7.2.8 If gas cylinders are used at some stations, check whether the carrier gas system is sealed and whether the air pressure meets the requirements for use.

7.3 Monthly inspection and maintenance

7.3.1

The monthly on-site maintenance shall include the maintenance of the wastewater on-line monitoring equipment and the instrument analysis system.

Check the working state of the data storage or control system. Check the grounding of the monitoring equipment. Check the lightning protection measures of the monitoring station-room.

7.3.2 Wastewater on-line monitoring equipment: According to the

corresponding instrument operation and maintenance instructions, check and maintain consumable parts; replace if necessary. Check and clean the sampling units, digestion units, detection units and metering units.