
Rules of
Department of Natural Resources
Division 20—Clean Water Commission
Chapter 9—Treatment Plant
Operations

Title	Page
10 CSR 20-9.010 Wastewater Treatment Systems Operation Scope Monitoring	3
10 CSR 20-9.020 Classification of Wastewater Treatment Systems	4
10 CSR 20-9.030 Certification of Wastewater Operators	5
10 CSR 20-9.040 Renewal Training	7



**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 20—Clean Water
Commission
Chapter 9—Treatment Plant
Operations**

**10 CSR 20-9.010 Wastewater Treatment
Systems Operation Scope Monitoring**

PURPOSE: This regulation sets forth the minimum requirements for laboratory testing to ensure adequate wastewater treatment systems operation.

(1) Definitions. Definitions as set forth in the Missouri Clean Water Law and 10 CSR 20-2.010 shall apply to the terms to be used in this rule, unless the context clearly requires otherwise.

(2) Operational laboratory tests and related monitoring for wastewater treatment systems control shall be considered as a supplement to the National Pollutant Discharge Elimination System (NPDES) permit requirements. These monitoring reports to the department shall accompany NPDES discharge monitoring reports and shall be submitted at the frequency specified for NPDES discharge monitoring report submittal.

(3) The department may modify required monitoring frequency required in this rule based upon the department's judgement of monitoring needs for process control at a specified facility.

(4) These requirements for laboratory tests shall apply to all wastewater treatment systems owned or operated by or for municipalities, public sewer districts or other local government entities, private sewer companies regulated by the Public Service Commission, and the state agencies or any subdivision of them, servicing population equivalents greater than two hundred (200) or with twenty-five (25) or more service connections. All other systems are exempt.

(5) Minimum monitoring requirements to ensure adequate wastewater treatment systems in-plant operational control are as follows:

(A) Lagoons (All Types) Two (2)/Week Frequency.

Weather Conditions—Ambient temperature, cloud cover and precipitation	
Flow	Influent or Effluent
pH	Primary Cell
D.O.	Primary Cell

(B) Mechanical Plants.
1. All types—daily frequency.
Weather Conditions—Ambient temperature and precipitation
Flow Influent or Effluent
pH Influent
2. Additional laboratory test requirements for wastewater activated sludge processes and modifications:

	<u>Influent</u>	<u>Mixed Liquor</u>
NFR	1/week	1/week (sample reaeration basin for contact stabilization)
Settleability		Daily (sample contact and reaeration basins for contact stabilization)
D.O.		Daily (sample contact and reaeration basins for contact stabilization)

3. Facilities having digesters shall perform the following additional laboratory tests:

	<u>Anaerobic</u>	<u>Aerobic</u>
pH	Daily	—
Temperature	Daily (if heated)	—
D.O.		Daily

(C) Facilities which chlorinate for disinfection shall perform total chlorine residual analyses of the effluent on a daily basis during those periods when chlorination facilities are in use.

(D) Facilities employing disinfection technology other than chlorine shall have disinfection process control testing parameters and frequency determined by the department on a case-by-case basis.

(6) Laboratory procedures shall be performed according to the most current edition of *Standard Methods for the Examination of Water and Wastewater* or other methods approved by the department.

(7) All owners of wastewater facilities operated by or for municipalities, sewer and water districts or Public Service Commission (PSC) regulated sewer companies may complete a self-analysis of the wastewater utility each calendar year utilizing the Missouri Municipal Water Pollution Prevention (MWPP) survey forms supplied by the department. Participation in this program is voluntary. For owners who have submitted an MWPP survey for the last five (5) consecutive calendar years; or for owners who have submitted an MWPP survey for every calendar year since the inception of the program, the department will—

(A) Not impose administrative penalties until the process of conference, conciliation and persuasion (CC&P) as per 10 CSR 20-3.010 plus at least one (1) additional communication separated by at least ten (10) days

from other communications are completed by the department; and

(B) Reduce any base penalty calculated as per 10 CSR 20-3.010(8)(B)6. by up to one-third (1/3) of the amount between the midpoint and least figure of the penalty range.

(8) A copy of all reports required by this rule shall be retained by the facility for a minimum of three (3) years.

(9) Penalties. Penalties for violation of this rule shall be as provided in the Missouri Clean Water Law.

(10) Severance. If a section, subsection, paragraph, subparagraph, part or subpart of these rules or any part of them be declared unconstitutional or invalid for any reason, the remainder of these rules shall not be affected and shall remain in full force and effect.

(11) Effective Date. This rule becomes effective July 1, 1977, after adoption and compliance with the requirements of section 644.036.3. of the Missouri Clean Water Law and Chapter 536, RSMo.

AUTHORITY: section 644.026, RSMo, Supp. 1997. Original rule filed July 15, 1976, effective July 1, 1977. Amended: Filed Nov. 1, 1983, effective July 1, 1984. Amended: Filed July 29, 1994, effective March 30, 1995. Amended: Filed Nov. 3, 1997, effective July 30, 1998.*

**Original authority 1972, amended 1973, 1987, 1993, 1995.*

10 CSR 20-9.020 Classification of Wastewater Treatment Systems

PURPOSE: This rule outlines the requirements for wastewater systems regarding certified personnel.

(1) Definitions. Definitions as set forth in the Missouri Clean Water Law and 10 CSR 20-2.010 shall apply to those terms when used in this rule, unless the context clearly requires otherwise or as noted in the subsections of this rule.

(A) Wastewater treatment systems. Interrelated or interconnected facilities, equipment, machinery, sewers, piping, valves, land, tanks, basins, ponds, lagoons, and any other device, method and process used to reduce or eliminate the contaminants in sewage and water-borne wastes.

(B) Operator. Any individual who operates or determines the method of operating a wastewater treatment system, either directly or by order.



(C) Supervisor. An operator who directs or who has the authority to direct other individuals, or an operator in direct responsible charge for the operation of a wastewater treatment system, including superintendent, foreman, crew chief and shift supervisor.

(D) Population equivalent (P.E.). The calculated population which normally contributes the same amount of biochemical oxygen demand (BOD₅) per day. The common base is 0.17 pounds of five (5)-day BOD₅ per capita per day. The calculated population which normally contributes the same amount of flow per day. The common base is one hundred (100) gallons per capita per day.

(2) Wastewater Treatment Systems Requirements.

(A) Requirements for operation by certified personnel shall apply to all wastewater treatment systems, serving population equivalents greater than two hundred (200) or with fifty (50) or more service connections, owned or operated by or for municipalities, public sewer districts, counties, public water supply districts, private sewer companies regulated by the Public Service Commission and the state or federal agencies. All other systems are exempt from this rule unless the department determines that certified personnel are necessary to protect the waters of the state.

(B) Owners or other persons legally responsible for the operation of wastewater treatment systems subject to this rule shall be responsible for assuring that operators and supervisors of wastewater treatment systems comply with certification requirements as set forth in this rule.

(C) All operators of wastewater treatment systems included in subsection (2)(A) of this rule shall possess, as a minimum, a level D certificate of competency issued by the department.

(D) Minimum certification of competency classification requirements for supervisors of wastewater treatment systems shall be determined by the department using the following point system as a guide:

CLASSIFICATION OF WASTEWATER TREATMENT PLANTS

Certification

Level	D	C	B	A
Range of Points	25 and less	26-50	51-70	71 and greater
Assign points for every item that applies:				

Size	Item	Points	Size	Item	Points
	Maximum population equivalent (P.E.) served, peak day	1 pt. per 10,000 P.E. or major fraction thereof.		Plant pumping of main flow	3
				Primary Treatment Primary clarifiers	5
				Combined sedimentation/digestion	5
	Maximum: 10 points Design flow (avg. day) or peak month's flow, (avg. day) whichever is larger	1 pt. per MGD or major fraction thereof.		Chemical addition (except chlorine, enzymes)	4
	Maximum: 10 points Effluent Discharge Receiving Water Sensitivity Missouri or Mississippi River	0		Secondary treatment Trickling filter and other fixed film media with secondary clarifiers	10
	All other stream discharges except to losing streams and stream reaches supporting whole body contact recreation	1		Activated sludge with secondary clarifiers (including extended aeration and oxidation ditches)	15
	Discharge to lake or reservoir outside of designated whole body contact recreational area	2		Stabilization ponds without aeration	5
	Discharge to losing stream, or stream, lake or reservoir area supporting whole body contact recreation	3		Aerated lagoon	8
	Direct reuse or recycle of effluent	6		Advanced Waste Treatment Polishing pond	2
	Land Disposal— Low rate	3		Chemical/physical—without secondary	15
	High rate	5		Chemical/physical—following secondary	10
	Overland flow	4		Biological or chemical/biological	12
	Variation in Raw Wastes (highest level only)			Carbon regeneration	4
	Variations do not exceed those normally or typically expected	0		Solids Handling Thickening	5
	Recurring deviations or excessive variations of 100 to 200 percent in strength and/or flow	2		Anaerobic digestion	10
	Recurring deviations or excessive variations of more than 200 percent in strength and/or flow	4		Aerobic digestion	6
	Raw wastes subject to toxic waste discharges	6		Evaporative sludge drying	2
	Preliminary Treatment Screening and/or comminution	3		Mechanical dewatering	8
	Grit removal	3		Solids reduction (incineration, wet oxidation)	12
				Land application	6
				Disinfection Chlorination or comparable	5
				On-site generation of disinfectant (except ultraviolet light)	5
				Dechlorination	2



Size	Item	Points
	Ultraviolet light	4
	Required Laboratory Control Performed by plant personnel (highest level only) Lab work done outside the plant	0
	Push-button or visual methods for simple tests such as pH, settle- able solids	3
	Additional procedures such as DO, COD, BOD, titrations, solids, volatile content	5
	More advanced determinations such as BOD seeding procedure, fecal coliform, nutrients, total oils, phenols, etc.	7
	Highly sophisticated instrumenta- tion, such as atomic absorption and gas chromatograph	10
	TOTAL*	

*If unique treatment plant conditions distort the point total, the department may adjust the facility classification.

(E) The owners of wastewater treatment systems shall furnish the department, upon request, the names, addresses and positions of all employees who are operators or supervisors of wastewater treatment systems.

(F) In the event a facility's staff does not meet the certification requirements of this rule, the facility owner shall notify the department in writing within ten (10) days of occurrence. Following consultation with the facility owner, the department shall establish a schedule of activities including the date by which compliance with this rule shall be obtained.

(3) Penalties. Penalties for violation of this rule shall be as provided in the Missouri Clean Water Law.

(4) Severance. If a section, subsection, paragraph, subparagraph, part, subpart, item or subitem of these rules or any part of them be declared unconstitutional or invalid for any reason, the remainder of these rules shall not be affected and shall remain in full force and effect.

(5) Effective Date. This rule becomes effective immediately upon adoption and compliance with the requirements of section 644.036.3. of the Missouri Clean Water Law and Chapter 536, RSMo (Cum. Supp. 1989).

AUTHORITY: section 644.026, RSMo 1994. Original rule filed July 15, 1976, effective*

March 1, 1977. Rescinded and readopted: Filed Nov. 1, 1983, effective July 1, 1984. Rescinded and readopted: Filed July 15, 1991, effective March 1, 1992.

**Original authority 1972, amended 1973, 1987, 1993.*

10 CSR 20-9.030 Certification of Wastewater Operators

PURPOSE: This rule sets out the requirements that a person must meet to obtain a wastewater operator certificate.

(1) Definitions. Definitions as set forth in the Missouri Clean Water Law and 10 CSR 20-2.010 shall apply to those terms when used in this rule, unless the context clearly requires otherwise or as noted in the subsections of this rule.

(A) Certificate of Competency. A document issued by the department stating that the recipient named on the certificate has satisfied the requirements for the certification level specified pursuant to this rule.

(B) Certificate of Examination. A document issued by the department stating that the recipient named on the certificate has passed the certification examination for the certification level specified pursuant to this rule.

(2) Administration.

(A) The department shall serve as the certifying agency for wastewater treatment system personnel.

(B) Any conflict arising from departmental actions or decisions made in the execution of this rule and not satisfactorily resolved through the Missouri Clean Water Commission's director of staff may be appealed to the commission. The appeal shall be made in writing to the Missouri Clean Water Commission, Attention: Commission Secretary, P.O. Box 176, Jefferson City, MO 65102, within thirty (30) days of the contested action or decision. The appeal shall indicate the interest of the party filing the action. The commission shall set the appeal for hearing no sooner than thirty (30) days after receipt of a proper appeal. Appeals may be heard by a hearing officer appointed by the commission chairman. Hearings shall be conducted in accordance with section 644.066, RSMo.

(3) Certification of Competency.

(A) Certificates issued by the department, and valid on March 1, 1992, are valid as certifications of competency in the equivalent class and shall be governed by the provisions of this rule. Initial renewal of the certificates shall be as outlined in subsection (6)(A) of this rule.

(B) Certifications at the appropriate level shall be issued to individuals successfully passing the certification examination and fulfilling experience requirements of subsection (3)(H) of this rule. The expiration date of the certifications shall coincide with renewal requirements as provided in subsection (6)(B) of this rule. An examination score of seventy percent (70%) correct shall be considered a passing grade.

(C) All certification examinations pursuant to this rule shall be administered through the department. Examination shall be available at a frequency of not less than four (4) times annually. Examination application forms and information, including examination dates and locations, shall be available through the department.

(D) A completed application form for examination must be submitted to the department no later than thirty (30) days before the scheduled examination session. An application fee of twenty dollars (\$20) shall accompany each application.

(E) Exams shall contain, but not necessarily be limited to, questions pertaining to the Missouri wastewater regulations, general wastewater systems knowledge, water quality, applied mathematics, chemistry, laboratory testing procedures as applied to wastewater treatment, hydraulics, pumps and operation.

(F) Any examinee who fails to receive a passing grade may not repeat that level examination for a period of not less than sixty (60) days. The applicant must submit a new application for each repeat examination.

(G) An individual applying to take the examination will be allowed to reschedule once. After that, s/he must reapply as required in subsection (3)(D) of this rule.

(H) Approval of applicant eligibility for certification of competency shall be the responsibility of the department. Assessment of applicant qualifications shall include the following criteria:

Certification Level	In-Plant Actual Operating Experience Required
A	6 years (2 years of which may be equivalent)
B	4 years (1 year of which may be equivalent)
C	2 years (1 year of which may be equivalent)
D	1 year (all of which may be equivalent)

(I) Years of equivalent experience shall be computed from the following criteria. Experience equivalence for high school and college degrees is nonadditive:



High school diploma or GED 1/2 year
Graduation from approved one (1)-year certificate program in water/wastewater technology 1 year
College level courses in biological/ environmental sciences (grade C or better required)—maximum credit of six (6) months

Two (2)-year associate degree in allied field (for example, environmental health/science, biology, chemistry) 1 1/2 years

Four (4)-year college degree in allied fields (for example environmental sciences, biology, chemistry and engineering) 2 years

Approved multi-week entry level, advanced or correspondence courses—maximum credit of one (1) year 1/2 year

1. Operation of potable water treatment facilities will be given equivalent credit of actual calendar years of operation in the potable water treatment field.

2. General vocational training or work experience in related areas will be considered by the department on a case-by-case basis and limited to a maximum of six (6) months' equivalent experience.

3. Documentation submitted for equivalent experience credit that does not fit the previously mentioned criteria will be evaluated by the department on a case-by-case basis.

(J) Any person not possessing the necessary operational experience may take the examination.

1. Upon successful completion of the examination, the individual will have to obtain the necessary operational experience within one (1) year. If the necessary experience is not obtained with the one (1) year limit, the individual must reexamine to be certified at that level of competency.

2. Application for issuing a certificate must be made on the proper form as described in subsection (12)(A) and must be accompanied by the certification fee of twenty-five dollars (\$25).

(K) An individual is not certified until the certification fee has been paid and the certificate has been issued.

(L) The minimum age for certification shall be sixteen (16) years.

(4) Certification Without Examination.

(A) Certification of competency in the equivalent classification will be issued to

operators and supervisors who, on March 1, 1992, hold current exemptions issued by the department provided that the individual fulfills the following requirements:

1. Was certified by exemption at the level required for that facility immediately prior to March 1, 1992;

2. Is employed as supervisor on March 1, 1992;

3. Continues employment in the same capacity with the employer; and

4. Was judged by the department to not be responsible for operational and/or maintenance deficiencies cited for the facility within the twelve (12) months prior to March 1, 1992.

(B) All certifications without examination issued under subsection (4)(A) of this rule shall expire if the certificate holder changes position or employer. If a substantial change occurs in the treatment process, the certification without examination shall expire upon construction completion.

(5) Certificate of Examination. Any person holding a valid certificate of examination on the effective date of this rule must meet experience requirements for that level and apply to upgrade the certificate to a certificate of competency according to the following schedule. If the certificate is not converted within this time frame, the certificate of examination will lapse and the person will have to reexamine.

Certificate of Examination Level	Time Allowed for Upgrade
A	February 28, 1998
B	February 28, 1996
C	February 28, 1994
D	February 28, 1993

(6) Certificate Renewal.

(A) All certificates issued by the department shall be renewed at least every three (3) years, unless prorated by the department to some other time frame. All applicants for renewal shall meet the training requirements set forth in subsection (6)(B) prior to the expiration date stated on each individual's certificate.

(B) Before a certificate will be renewed, the applicant must submit suitable documentation that s/he has obtained not less than thirty (30) hours of approved renewal training. Only training approved by the department will be accepted. Each certified operator is responsible for documenting his/her training.

(C) The department shall send notification of certification expiration to the certificate holder at the last known address at least six-

ty (60) days prior to the certificate's expiration date. Failure of the department to notify the certificate holder of certification expiration does not relieve the certificate holder of the responsibility for renewal.

(D) Any certificate not renewed within sixty (60) days of the expiration date will be considered lapsed. Any person with a lapsed certification will have to reexamine as provided in section (3) of this rule.

(E) Provided the certificate holder has submitted a timely and complete application for certification renewal, possesses sufficient renewal training and through no fault of the certificate holder the department is unable to issue a new certification before the expiration date of the previous certification, automatically the validity of the expired certification shall continue until the department acts on the renewal application.

(F) Certification renewal fee is forty-five dollars (\$45) and shall accompany the certificate holder's application for renewal. Application for renewal must be made on the form provided by the department as described in subsection (12)(B).

(G) A late fee of ten dollars (\$10) per month, or fraction of the fee, up to a total of twenty dollars (\$20) shall be assessed for any certification renewed after the expiration date.

(7) Reciprocity.

(A) Individuals having valid certification issued by another state or country, or its authorized representative, having examination, experience and renewal requirements equal to or more stringent than those of the department, as determined by the department, will be granted a certificate of competency provided that the applicant—

1. Has working experience with a wastewater treatment system in the state or other authorized area which supplied the certification for which reciprocity is requested;

2. Obtains employment with a Missouri wastewater treatment system; and

3. Makes application for reciprocity within one hundred twenty (120) days after beginning that employment. The form described in subsection (12)(C) must be submitted along with the application fee of forty dollars (\$40).

(B) The fee for a certificate issued under the provisions of this section is twenty-five dollars (\$25).

(C) The level of certification issued will be determined by the state of origin's minimum requirements for the level of certification held in that state.

(D) If the applicant is not employed in a Missouri wastewater facility, but meets all

other requirements for reciprocal certification, the department will issue a letter of intent to issue certification which will be valid for one hundred twenty (120) days. Upon employment in a Missouri wastewater facility, and provided all other requirements are met, the applicant may apply for a certificate. If the applicant does not obtain Missouri employment before the expiration date of the letter, s/he will have to reapply for reciprocal certification.

(8) Revocation.

(A) The department may revoke any certification for any of the following reasons: fraud or deceit in obtaining certification; negligence, incompetence or willful malpractice in the holder's action in operating a wastewater treatment facility or appurtenances, or falsification of facility operating records or reports required by 10 CSR 20, or willful violation of 10 CSR 20.

(B) Notice of revocation action shall be issued by the commission's director of staff with service by hand delivery or through certified mail to the certificate holder at that individual's last known address. That notice shall state the reason(s) for revocation, the effective date of the revocation and the action(s) the certificate holder may take to contest the revocation.

(C) A written request for a hearing may be made by the certificate holder no more than thirty (30) days following notification from the commission's director of staff that revocation proceedings have been initiated. A hearing will be conducted as outlined in subsection (2)(B) of this rule.

(D) Application for certification examination by the holder of a revoked certificate may not be made sooner than one (1) year from the effective date of revocation. Acceptance of any such application shall be at the discretion of the department. Certification by reciprocity shall not be available for a certificate holder whose certification has been revoked.

(E) Any revoked certificate shall be returned to the department.

(9) The certificate holder shall notify the department of any change in status including, but not limited to, change of name, change of address and change of employer.

(10) All fees are nonrefundable and nontransferable.

(11) Penalties. Penalties for violation of this rule shall be as provided in the Missouri Clean Water Law.

(12) Forms.

(A) Examination Application.

(B) *Reserved.*

(C) Reciprocity Application.

*AUTHORITY: section 644.026, RSMo 1994. * Original rule filed July 15, 1991, effective March 1, 1992.*

**Original authority 1972, amended 1973, 1987, 1993.*

10 CSR 20-9.040 Renewal Training

PURPOSE: This rule establishes criteria for approval of renewal training courses.

(1) Only training approved by the department will be creditable towards meeting the renewal training requirements.

(2) All organizations sponsoring renewal training for wastewater operators, shall submit the following to the department approval. This information should be submitted to the department at least thirty (30) days prior to the training:

(A) Date and location of the training;

(B) Name, address and telephone number of person to contact regarding the training;

(C) Course outline showing the topic(s) to be presented and time allotted for each (including beginning and ending times);

(D) Name(s) of instructor(s) and his/her qualifications (not just title or company name);

(E) List of any audiovisual materials to be used such as videotapes, slides, slide/tape presentations, films and overheads; and

(F) Handouts.

(3) Renewal credit is based upon actual contact time in the training. All breaks and meal times must be noted on the agenda and will not count toward contact time. Excessive time allotted for introductions or welcomes will not count toward contact time.

(4) No credit will be given prior to the completion of any training course. The completion date of a multi-day course is the last day of the course.

(5) Renewal credit will be issued in increments of one-half (0.5) hour. The minimum credit issued will be one-half (0.5) hour. Any approved training issued continuing education units (CEUs) by an organization meeting the criteria of the Council on the Continuing Education Unit will be given credit at the rate of ten (10.0) hours per one (1.0) CEU.

(6) Once the information for a course required in section (2) has been approved, it

need not be resubmitted for subsequent sessions of that course. However, any change in the course content, time allotted, instructor or material used must be submitted to the department for approval. The department should be notified thirty (30) days in advance of any subsequent session(s) of an approved course.

(7) Training provided by the national offices of organizations involved in water supply, wastewater treatment, backflow prevention and other related fields or other out-of-state entities will be reviewed for renewal credit on an individual basis. The operator must provide documentation.

(8) All approvals will be by written correspondence. The approval will include a course attendance roster form that will show the course name, coordinator, date, location, course identification number and amount of renewal credit.

(9) Advertisement of any training shall not state that the program has been approved for renewal credit until the department has issued its formal approval and assigned a course identification number and amount of renewal credit. Any advertisement that states that the training is approved must include the course identification number and amount of renewal credit.

(10) Each organization providing training should provide certificates of completion to the attendees. The certificate should include the following:

(A) Attendee's name;

(B) Name of the course;

(C) Renewal credit;

(D) Course identification number;

(E) Date that the course was held;

(F) Location of the course; and

(G) Name of the course coordinator or instructor.

(11) Training providers shall submit the course attendance roster to the department within fifteen (15) working days of the completion of the course. Information on the roster shall include:

(A) Name of the course;

(B) Renewal credit;

(C) Course identification number;

(D) Date that the course was held;

(E) Location of the course;

(F) Name of the course coordinator or instructor;

(G) Names of all attendees; and

(H) Certificate number of all attendees, if applicable.



(12) The department shall make known by a public means which courses, seminars, etc., will be approved for renewal purposes.

(13) Renewal credit shall be valid only for the renewal period in which it was earned. Renewal credit in excess of the required hours for the renewal period may not be carried over into any subsequent renewal training period.

AUTHORITY: section 644.026, RSMo 1994.
Original rule filed July 15, 1991, effective
March 1, 1992.*

**Original authority 1972, amended 1973, 1987, 1993.*