

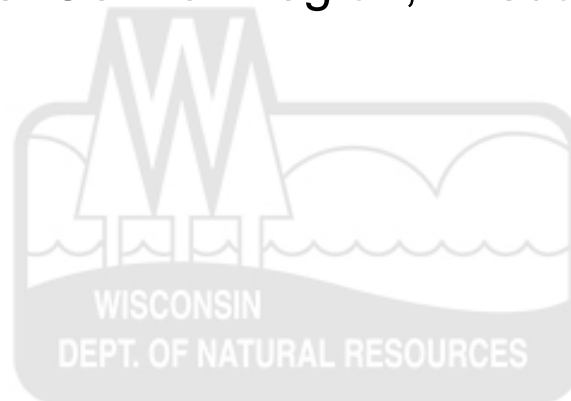
Wastewater Operator Certification:

NR 114 RULE REVISION

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WWOA 50th Annual
Conference



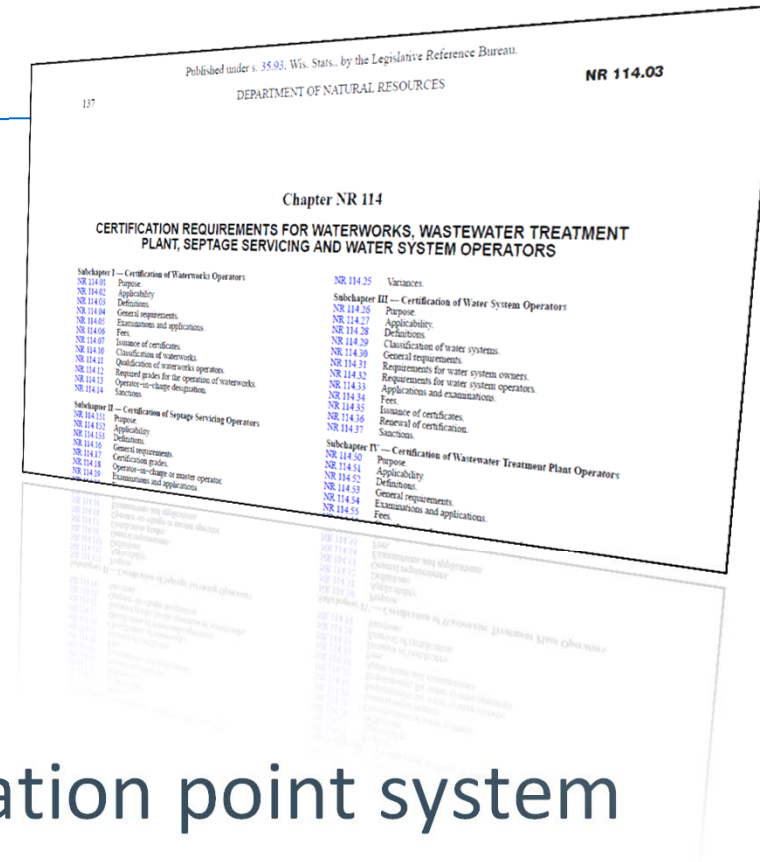
HISTORY

- ❑ Workgroup began in 2010
- ❑ Took effect July 1, 2015
- ❑ Why changes were made:
 - New treatment technologies
 - Importance of collection systems/CMOM
 - More operator choices for Advanced Certification beyond exams



MAJOR CHANGES

- ❑ New subclasses
- ❑ Fewer certification levels
 - OIT
 - Basic
 - Advanced
- ❑ Advanced operator certification point system
- ❑ New criteria for advanced classification of a facility



ADVANCED FACILITY CRITERIA

Facility meets any one of the following criteria:

- Mechanical plant with annual average design flow >1.0 MGD
- Biochemical oxygen demand (BOD) limit ≤ 10 mg/L
- Surface water limits for Total Phosphorus or Total Nitrogen with a biological nutrient removal process
- Tertiary phosphorus removal process for ultralow phosphorus limits
- Municipal WWTP with a major contributing industry
- Municipal WWTP that produces Class A biosolids.

NEW SUBCLASSES

CATEGORY	SUBCLASS	SUBCLASS NAME	DESCRIPTION
Biological treatment	A1	Suspended Growth Processes	Activated sludge and variants
	A2	Attached Growth Processes	Trickling filters, RBCs and biotowers
	A3	Recirculating Media Filters	
	A4	Ponds, Lagoons and Natural Systems	
	A5	Anaerobic Treatment of Liquid Waste	High strength liquid waste treatment system
Solids separation	B	Solids Separation	Clarifiers, membranes, filters, tertiary phosphorus removal, etc
Solids treatment	C	Biological Solids/Sludge – Handling, Processing and Reuse	Aerobic and anaerobic digestion, thickening, dewatering, land application
Nutrient removal	P	Total Phosphorus	
	N	Total Nitrogen	
Disinfection	D	Disinfection	Chlorination, ultraviolet radiation, ozone
Laboratory	L	Laboratory	Registered or certified on-site laboratories
Special	U	Unique Treatment Systems	Unique, special treatment plants that use biological, chemical or physical methods
Collection System	SS	Sanitary Sewer Collection System	

A3: RECIRCULATING MEDIA FILTERS

- Small municipal communities
- Treats residential wastewater
 - Lower strength wastes
- 25 question exam
- Study Guide and Exam available now!



A5: ANAEROBIC TREATMENT OF LIQUID WASTE

Key word: Liquid

- Treats the liquid treatment train
- Not anaerobic digestion which is the solid treatment train (C: Biosolids/Sludges subclass)

Majority are industrial wastewater treatment

- Higher strength waste
- Examples: Dairy waste, whey processors, food processors, breweries

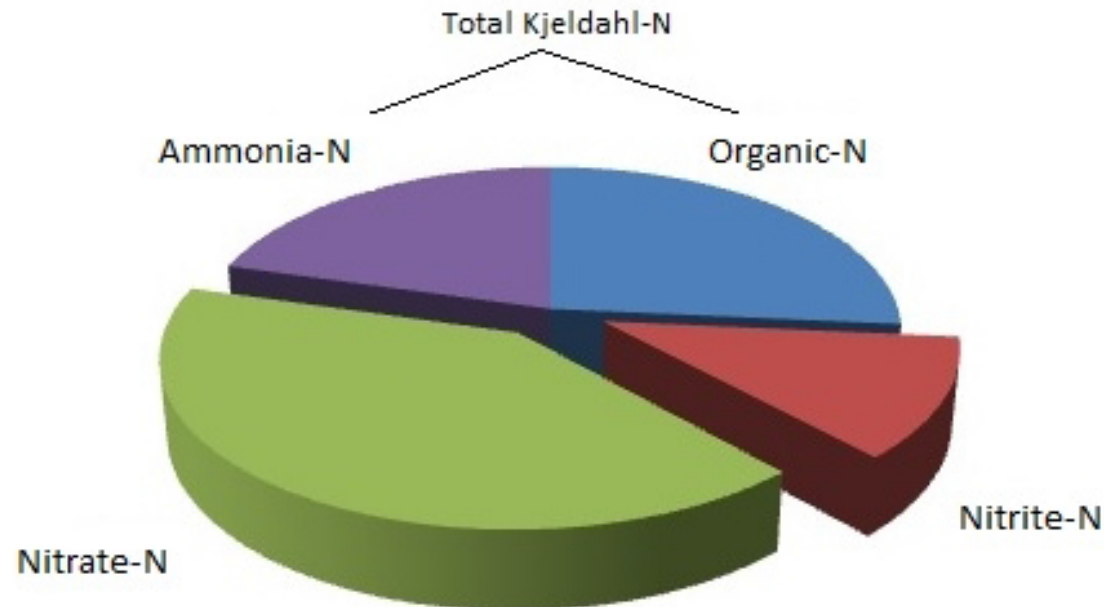
A5: ANAEROBIC TREATMENT OF LIQUID WASTE

- Treatment facilities typically are:
 - Specialized
 - Often patented process
 - Anaerobic reactors
- Once the exam is available, operators will have 1 yr to become certified if required at their facility
- 25 question exam
- Will keep you updated on anticipated release date

N: NUTRIENT REMOVAL-TOTAL NITROGEN

- ❑ Facilities that perform Total Nitrogen Removal
 - Nitrification and Denitrification
 - Not for Nitrate-N or Ammonia-N limits

The Total Nitrogen Pie



N: NUTRIENT REMOVAL-TOTAL NITROGEN

- Applies mostly to dischargers to land infiltration system or groundwater
- Surface water dischargers do not have Total Nitrogen limit (currently)
- Once the exam is available, operators will have 1 yr to become certified if required at their facility
- 25 question exam
- Coming soon! Tentatively 2017

SS: COLLECTION SYSTEM SUBCLASS

- ❑ Each facility will need one operator certified in SS: Collection System subclass
 - Voluntary for satellite systems
- ❑ Requires an OIC designation for Collection System
- ❑ Facility will then have 2 OICs
 - WWTP OIC
 - Collection System OIC
 - Can be the same person or 2 different people



SS: COLLECTION SYSTEM SUBCLASS

- Deadline for requirement
 - After exam is available and...
 - Upon re-issuance of WPDES permit, then...
 - Operator will have 5 years to obtain certification
- There will not be an Advanced Certification for SS
- Does not require General Wastewater Exam
- 50 question exam
- Coming soon! Tentatively 2018



LEVELS OF CERTIFICATION

Operator in Training	Basic	Advanced
Pass Basic General Exam + Basic Subclass Exam	One year of subclass specific experience	Obtain 10 points

ADVANCED POINT SYSTEM

10 points total required. Minimum of 4 years of hands-on experience.

Type	Point Method	Points	Minimum Hours
Experience	4 years hands-on	4	4,000
	5 years hands-on	5	5,000
	6 years hands-on	6	6,000
Degree	Undergrad or Graduate Degree	6	At least 240 hours wastewater related courses
	Water/Wastewater Associates Degree	6	N/A
Apprenticeship	Completion of State Approved Apprenticeship Program	6	N/A
Exam	100 Question Multiple Choice Exam	4	N/A
Advanced Coursework	Pre-approved by the DNR and on list of approved courses	2	80
		1.5	60
		1	40
		0.5	20

EXAMPLE 1

An operator has:

→ 4 yrs of experience

4 pts

→ Passed 100 Question Advanced Exam

4 pts

→ Completed 80 hrs of Advanced Coursework

+2 pts

10 pts



EXAMPLE 2

An operator has:

→ 6 yrs of experience

6 pts

→ Passed 100 Question Advanced Exam

+4 pts

10 pts



EXAMPLE 3

An operator has:

→ 5 yrs of experience

5 pts

→ 200 hrs of Advanced Coursework

+5 pts

10 pts



EXAMPLE 4

An operator has:

→ 4 yrs of experience

4 pts

→ Wastewater related Associate's Degree

+6 pts

10 pts



EXAMPLE 5

An operator has:

→ 4 yrs of experience

4 pts

→ Wastewater related Bachelors/Graduate

Degree

+6 pts

10 pts



BACHELORS/GRADUATE DEGREE

- ❑ 240 hours (15-16 credits) of wastewater courses

- ❑ Wastewater related courses would include:
 - Aquatic Toxicology
 - General Chemistry
 - Water Chemistry
 - Fluid Mechanics
 - Hydraulics
 - Hydrology
 - Microbiology
 - Soil Science
 - Water Resources
 - Water Quality Modeling

APPLYING FOR ADVANCED CERTIFICATION

- Application and instructions on DNR website
- \$100 application fee
- Documentation may be required
 - Experience form
 - Degree transcript
 - Copy of degree
 - Certificate of Completion of Advanced Coursework

QUESTIONS?

Website: <http://dnr.wi.gov> search “operator certification”

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