Minnesota Pollution Control Agency

# 2008 SSTS RULE CHANGES – IMPACTS TO THE INDUSTRY

*Written by volunteer members of the Minnesota Onsite Wastewater Association and funded by the Minnesota Pollution Control Agency*

MOWA minnesota onsite wastewater association

## Introduction

In 1974, Minnesota established advisory rules for on-site wastewater treatment with voluntary certification of professionals working in the field. In 1994, Minnesota established statewide licensure of onsite professionals, and the first mandatory "ISTS Code" went into effect in 1996. In January 2004, the MPCA began the first major re-write of the code. From 2004 through 2007, the MPCA gathered ideas and comments from many people, businesses and organizations to revise the rule. Following a long and deliberate process of rule making, the MN Rule Chapter 7080 has become MN Rule Chapters 7080, 7081, 7082 and 7083 effective February 4, 2008.

- **7080** – Individual Sewage Treatment Systems (ISTS)
- **7081** – Mid-sized Sewage Treatment Systems (MSTS)
- **7082** – Local Governance
- **7083** – SSTS Licensing

The rule changes are intended to provide improved protection of human and environmental health. The changes impact many people—homeowners, regulators, and businesses in the SSTS industry. Within the industry the changes impact system performance, responsibilities, training, licensing, and costs.

This publication is written by experienced field practitioner volunteers from the Minnesota Onsite Wastewater Association (MOWA) to help their peers understand the major impacts of the rule changes to their licenses and their businesses. The cost of this publication is funded by the MPCA as a service to the industry.

Some rule changes might be very important to one person or group but of lesser importance to someone else. The details of the rule changes would take hundreds of pages to print. The changes listed here are not all inclusive but are those thought by the writers to be the most important overall to the practitioners in the field. Studying the code in detail is the only way to grasp all of the changes.

The impacts in this publication are organized by "practice" but it is suggested that a review of the entire publication will help everyone gain an understanding of the overall impacts and provide a better understanding of the rule and its impacts.

There will be a 2 to 3 year period to accomplish full implementation of the new rules because some aspects of the new rules go into effect in February 2008 while others will not be implemented until local government units adopt ordinances. The last section of this publication is offered to help understand the impacts of the transition period.


### Acknowledgements

Thank you to the following people and organizations for providing resources to provide this publication to the onsite industry practitioners in Minnesota:

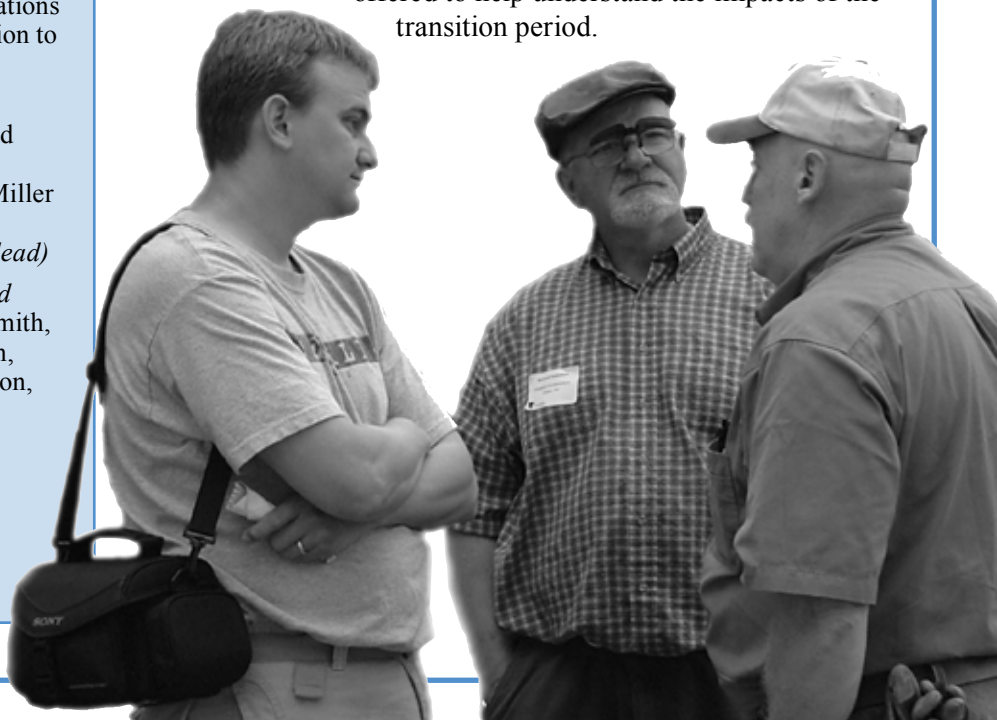
**MOWA Volunteer Writer Teams:**

- Design – Greg Halling *(lead)*, Tom Wirtzfeld
- Installation – Lee Weigt *(lead)*
- Inspection – Loren Kohnen *(lead)*, Bernie Miller
- Maintenance – Rick Smith *(lead)*
- Manufacturers/Suppliers – Ron Jasperson *(lead)*

**MOWA Board of Directors**: *Organization and Review* - Wayne James, Tom Wirtzfeld, Rick Smith, Lee Weigt, Ron Jasperson, Kurt Christopherson, Sara Christopherson, Loren Kohnen, Rod Morton, Greg Halling, Bob Whitmyer and Brent Rud

**Minnesota Pollution Control Agency**: Document Review & Funding

**MOWA Service Providers**: Ken Olson – coordination; Judith Jordan – design & layout; Karen Doll – administrative services

# Rule Change Impacts that Affect all Practices

**Changes to Terms: The most notable changes in language include:**

- **Subsurface Sewage Treatment System (SSTS)** will replace *Individual Sewage Treatment System (ISTS).*
- **Certification** will replace the term *registration*.
- **Designated Certified Individual (DCI)** will replace *Designated Registered Professional (DRP).*
- **Designer 1's** will become *Basic Designer* and *Basic Inspector.*
- **Maintainer** will replace *Pumper.*
- **Service Provider** is a new category.

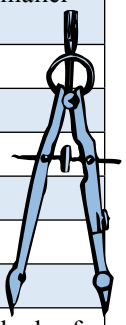
| CODE REFERENCE | *7080 Changes—Everyone* |
|---|---|
| 7080.1885, 2210, 220, 2230, 350, 2400 | All systems with pumps or Type 4 & 5's must have a method to measure flow. (pump timers, water meters, or event counters) |
| 7080.1930 | Septic tank size increased by bedrooms: 3 or less – 1000, 4 or 5 – 1500, 6 or 7 – 2000, 8 or 9 - 2500 See Table V regarding liquid capacity changes. |
| 7080.1930 | If a garbage disposal or sewage ejector/grinder pump is used, the septic tank capacity will be increased by 50% and require either multiple compartments or multiple tanks; in addition, an effluent filter with an alarm must be employed. |
| 7080.1970 | All maintenance hole risers must extend through the tank cover to final grade for new or replacement tanks; covers for maintenance holes must be secured by being locked, being bolted or screwed, having a weight of at least 95 pounds, or other methods approved by the local unit of government; covers shall also be leak resistant. |
| 7080.2000 | Top of tanks must not be buried deeper than four feet; minimum depth of cover is six inches; insulation for tanks buried less than 2 feet from grade; securing requirements for tanks installed in periodically saturated soils under empty tank conditions; bonding compound required for all joints, lids, and risers. Tank lids must be insulated to R-value 10 if the tank is less than two feet from final grade. Maintenance lids must be insulated to R-value 10. |
| 7080.2050 | Cleanouts are mandatory on pressurized drain fields. Cleanouts must be accessible from final grade. |
| 7080.2100 | The quantity of effluent delivered for each pump cycle must be no greater than 25% of design flow and at least five times the volume of the supply and distribution pipes. |
| 7080.2150 | All treatment and distribution products (including standard products from before) must be registered with the MPCA before these products can be used. The MPCA will develop standards and procedures for approving and registering these products. |
| 7080.2150 | Soil sizing charts (IX for no pretreatment and XI for pretreatment) are being implemented with different sizing criteria for most soils. |
| 7080.2200 to 02400 | New terminology for ISTS: *Standard* becomes "Type I", *Alternative* becomes "Type II", *Other* becomes "Type III", a new "Type IV" category is added for systems that use registered treatment products, and *Performance* becomes "Type V". |
| **CODE REFERENCE** | ***7081 Changes—Everyone*** |
| 7081.0240 | Effluent screens must be used as the outlet baffle on the final septic tank, or pressure filters must be used in the pump tank if common tanks are employed in series. Alarms must be employed on tanks equipped with effluent screens. Lint filters are recommended if the sewage contains laundry waste. |

**Questions? Go to http://www.pca.state.mn.us/programs/ists**

| CODE REFERENCE | *7083 Changes—Everyone* |
|---|---|
| 7083.0780 | A new license category is defined for the S*ervice Provider* which differs from the areas of authorization of a *Maintainer* to include: assess, adjust, and service systems for proper operation, collection, and management of samples to include interpretation of sampling results and reporting of results; and operate sewage collection systems discharging to an SSTS. Responsibilities for certified Service Providers are detailed in this section. |
| 7083.0900 | All business licenses renewed on or after February 4, 2008 will be $100 per specialty area with a $200 maximum. |
| 7083.1000 | Business licenses renewed on or after February 4, 2008 will have a $100,000 minimum General Liability Insurance requirement. |
| 7083.1020 | All certifications and licenses will be assigned to the following specialty areas:<br>Maintainer Designer Inspector Installer<br>Service Provider Advanced Designer Advanced Inspector<br>Current Designer 1's will become both a *Designer* and an *Inspector* on February 4, 2008. Two license fees will apply. Individuals and businesses may operate under the existing specialty areas until February 4, 2011. |
| 7083.2020 | A license is valid for one year after the date of issuance. An applicant can now request a license renewal for longer periods up to 3 years. The fee is determined by multiplying the approved number of years by the designated fee for that license. |

## Rule Change Impacts that Affect Design

| CODE REFERENCE | *7080 Changes – Design* |
|---|---|
| 7080.1700 | More detailed soils information is required. Minimum of 3 soil observations, soil pits required if using Table IX (soil loading rates for septic tank effluent), and placement of dispersal system on concave slopes prohibited in certain soils. |
| 7080.2050 | Pressure distribution must be used in seepage beds wider than 12 feet; perforations in pipes must be no smaller than 1/8" and no larger than ¼" diameter; cleanouts required for operation and maintenance. |
| 7080.2150 | Best management practices for nitrogen removal must be employed for systems over 2500 gpd. |
| 7080.2200 | Seepage beds 12' maximum without pressure distribution. |
| 7080.2200 | Type I systems – formerly called *"Standard"* systems. |
| 7080.2250 | Type II systems – formerly called *"Alternative"* systems. |
| 7080.2300 | Type III systems – formerly called *"Other"* systems. |
| 7080.2350 | Type IV systems are a new type of system that uses registered treatment products. |
| 7080.2400 | Type V systems – formerly *"Performance systems"* – rule or guidance does not provide prescriptive methods of design. |
| CODE REFERENCE | *7081 Changes – Design* |
| 7081.0110 | Design flow formulas added. |
| 7081.0110 | Design flow estimating updated. |
| 7081.0110 | Design flow subject to LGU approval and requests. |
| 7081.0160 | Additional soils information for site maps are required. |
| 7081.0170 | Meet with LGU prior to designing system to address requirements for design. |
| 7081.0170 | Soil pits are required and replace soil borings for soil observation. The required number of soil pits are up to Designer and LGU. |
| 7081.0170 | Hydraulic conductivity testing required. |
| 7081.0200 | Soil and site report must be approved by LGU prior to final design. There are additional requirements for these reports. |
| 7081.0210 | Groundwater investigation is required. |
| 7081.0240 | Septic tanks must be 3 (if gravity fed) or 4 (if pressure fed) times the daily flow when one set of large tanks is used. |



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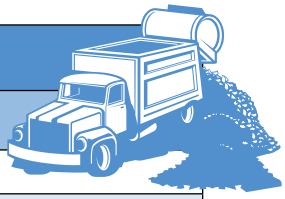
| 7081.0260 | Both duplex dose pumps and dose tanks sized for 50% of design flow are required. |
| 7081.0260 | 5’ head required for 1/8” perforations. |
| 7081.0270 | If pretreatment is not used, then 150% of design flow must be used to size dispersal system and must be built. |
| 7081.0270 | Dispersal system must be configured to avoid concentration of nutrients and groundwater mounding. |
| 7081.0270 | Minimum vertical separation of 2’ from seasonally saturated soil to dispersal system is required for system with pretreatment. |
| 7081.0270 | Nitrogen reduction and monitoring is required. |
| 7081.0270 | Phosphorus reduction may be required if near lake. |
| 7081.0290 | An Operation and Maintenance manual with plans and specs, as-builts and operational information and an operating permit are required. |
| 7081.0250 | The system must employ pressure distribution. |
| 7081.0250 | Grease interceptors outside the structure will be mandatory for food prep facility. |
| | Systems will be managed under an operating permit and maintenance will be required to keep the system in compliance. |
| | Management plans will be required and will specify which tasks the owner will perform and which tasks will be performed by a licensed practitioner. |
| **CODE REFERENCE** | ***7083 Changes – Design*** |
| 7083.0740 | Basic Designers are able to design systems with 2,500 gpd or less for Type I, II and III systems. |
| 7083.0740 | Advanced Designers are allowed to design systems of any size and type up to 10,000 gpd. Services of a Licensed Professional Engineer and/or Licensed Professional Geoscientist will be needed for appropriate areas of design. |
| 7083.1000 | The bond amount for Advanced Designer increased to $25,000. |
| 7083.2040 | Designer I & II who receive training to become Advance Designers are also credited for continuing education credits for this training (only until February 4, 2011). |
| 7083.4000 | Registered approved products and materials must be used on all ISTS construction. Treatment technologies shall be rated for Level A, B or C which affect the system size in 7080 and 7081 and determine what type of system is being used. (Review 7083.4050, 4070, 4080) |





# Rule Change Impacts that Affect Installation



| CODE REFERENCE | 7080 Changes – Installation |
|---|---|
| 7080.2020 | Installer must submit tank identification information with as-built information. |
| 7080.2050 | New requirements are detailed in this section for protection from freezing for supply lines, minimum slope requirements for gravity supply lines, and cleanout/access for supply lines. |
| 7080.2050 | If the necessary elevation differences between trenches for serial distribution cannot be achieved by natural topography or by varying the excavation depth, parallel distribution must be used; discharge rate into a drop box cannot result in surfacing effluent. |
| 7080.2050 | Pressure distribution must be used in seepage beds wider than 12 feet; perforations in pipes must be no smaller than 1/8" and no larger than ¼" diameter; cleanout requirements for checking operation and maintenance pressure distribution pipe cleanouts must be provided to check the system for proper operation and cleaning of plugged perforations. Cleanouts must be accessible form final grade. |
| 7080.2200 | New construction requirements of trenches and seepage beds include: vertical inspection pipes must be 4" in diameter and secured in each trench or seepage bed; perforations must not be located above the geotextile fabric; minimum depth of cover, including topsoil borrow, over distribution medium is 12"; flow measurement is required when a pump is employed. |
| 7080.2220 | New mound construction requirements include: employ flow measurements; clean sand must be used to elevate the mound distribution media; vertical inspection pipe at least 4" inches in diameter must be installed and secured at the distribution medium and sand interface; sidewalls of absorption bed must be as vertical as possible; minimum of six inches of sandy to loamy soil material must be placed on the top of the mound absorption bed and sloped upwards toward the center of the mound at a minimum of 10:1. |
| 7080.2230 | New at-grade construction must: employ flow measurement; absorption width must not exceed 15 feet; one vertical inspection pipe of at least 4" in diameter installed along down slope portion of absorption bed. |
| 7080.2500 | New system abandonment requirements include: remove electrical devices and components containing mercury; requirements for the disposal of contaminated materials are detailed in this section. |
| **CODE REFERENCE** | **7081 Changes – Installation** |
| 7081.0080 | When installing replacement or repair components for a system, the remaining components of the existing system must be compliant. |
| 7081.0190 | The proposed soil treatment and dispersal area must be protected from disturbance, compaction, or other damage by staking, fencing, posting, or other effective method. |
| 7081.0270 | Inspection pipes must be located to adequately assess the hydraulic performance of the entire soil dispersal system. |
| 7081.0300 | New system abandonment requirements include: remove electrical devices and components containing mercury; requirements for the disposal of contaminated materials are detailed in this section. |
| **CODE REFERENCE** | **7083 Changes – Installation** |
| 7083.0720 & 0730 | Review obligations for licensed SSTS business and requirements for certified individuals. |
| 7083.0760 | Installer license responsibilities include: submit as-built to LGU within 30 days of install; maintain records for five years; provide system owners O & M information; comply with storm water regulations; follow recommended standards and guidance documents for registered products; negotiate with owner who will be responsible for vegetation establishment; pay septic tank fee to MPCA. |
| 7083.1050 | Experience requirements include: complete installation of 15 installations with a minimum of one above-ground system and one below-ground system and must observe five service or operational instances, with mentorship not required. |
| 7083.0760 | Review updated requirements for certified installers. |

## Rule Change Impacts that Affect Inspection

| CODE REFERENCE | 7080 Changes – Inspection |
|---|---|
| 7080.1500 | An existing system must be managed according to its operating permit to be considered in compliance. This applies only to systems with operating permits, not to all systems. |
| 7080.2400 | Compliance criteria for existing systems. A local ordinance may allow no more than a 15% reduction in the vertical separation distance to account for settling of sand or soil, normal variation of measurement, and interpretations of the limiting layer conditions. This provision is ONLY in effect if the local ordinance specifically allows it. |
| **CODE REFERENCE** | **7082 Changes – Inspection** |
| 7082.0100 | If the ordinance allows a reduced vertical separation distance as described in part 080.1500, it must not allow more than a 15 percent reduction in the vertical separation distance to account for settling of sand or soil, normal variation of measurements, and interpretations of the limiting layer conditions. |
| 7082.0700 | The vertical separation distance from the bottom of the soil treatment and dispersal system and the periodically saturated soil or bedrock must be verified. This verification must be achieved by either conducting soil borings or by prior verifications by two independent parties. The soil borings used for system design or previous inspections qualify as a verification. A vertical separation distance report must be completed that includes the method or methods used to make the assessment, and must be made by either a licensed inspection business or a qualified employee inspector with jurisdiction. If the verification separation report consists of verifications by two independent parties, a subsequent verification is not required unless the inspector has reason to believe a noncompliant condition exists. |
| 7082.0700 | The MPCA's Existing System Inspection form MUST be used for all inspection of Existing Systems. This form is being revised to conform to the new rule and will be available to the public in late February, 2008. |
| **CODE REFERENCE** | **7083 Changes – Inspection** |
| 7083.1000 | The bond required for MSTS Inspectors will increase from $10,000 to $25,000. |
| 7083.1060 | All inspectors will be required to take an additional 6 CEU's every three years directly related to soils (total of 18). |
| 7083.0750 | All MSTS inspections are to be conducted personally by the certified person and not under the supervision of a qualified person. |
| 7083.0750 | Requires and creates a new license and certification category for the inspection of MSTS systems. |

## Rule Change Impacts that Affect Maintenance

| CODE REFERENCE | 7080 Changes – Maintenance |
|---|---|
| 7080.2450 | Septic tanks should be maintained before scum and sludge reaches 25% of tank volume. |
| 7080.1970 | Maintenance covers must be secured by locks, bolts, screws or weigh at least 95 lbs. Covers cannot be allowed to be slid or flipped off of the riser. |
| 7080.2000 | Septic tanks must not be placed in an area that prohibits pumping/maintenance. |
| | Risers must be installed in a structurally and watertight manner. |
| **CODE REFERENCE** | **7081 Changes – Maintenance** |
| 7081.0250 | MSTS must employ pressure distribution |
| 7081.0240 | Grease interceptors outside the structure will be mandatory for food prep facility. |
| 7081.0290 | Systems will be managed under an operating permit and maintenance will be required to keep the system in compliance. |
| **CODE REFERENCE** | **7082 Changes – Maintenance** |
| 7082.0100 | The LGU cannot require additional registration, certification or licenses to perform SSTS work. The exception to this is that the LGU can require that the services of a Licensed Professional Engineer or Licensed Professional Geoscientist – this is specifically allowed in law. |

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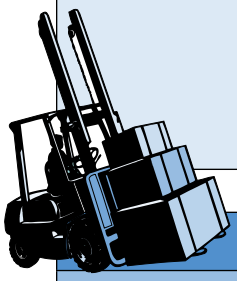
| 7082.0600 | Management plans will be required and will specify which tasks the owner will perform and which tasks will be performed by a licensed practitioner. |
| 7082.0500 | A licensed inspection business working on behalf of a LGU cannot design or install a new system they will be responsible to inspect. |
| 7082.0500 | A qualified employee with jurisdiction or licensed inspection business who is authorized by the local unit of government must review the permit application and other exhibits to determine whether site evaluation procedures, observations, and conclusions are accurate and fulfill applicable requirements and whether the proposed system will meet applicable requirements. An infield verification of the periodically saturated soil or bedrock at the proposed soil treatment and dispersal sites must be conducted by a qualified employee with jurisdiction or licensed inspection business who is authorized by the local unit of government. An MSTS advanced inspector is required to perform the duties listed in this item for Type IV and Type V ISTS as described in parts 7080.2350 and 7080.2400, as published in the State Register, volume 31, page 1059 to 1061, and as subsequently adopted, ISTS design flow greater than 2,500 gallons per day, and MSTS. The infield verification of the periodically saturated soil or bedrock must occur prior to issuance of the certification of compliance. |



## Rule Change Impacts that Affect Manufactuerers & Suppliers

| CODE REFERENCE | *7080 Changes – Manufacturers & Suppliers* |
|---|---|
| 7080.1950 | Flow between compartments can be achieved by an unbaffled transfer hole with a minimum size of 50 square inches located in the clarified liquid zone or a minimum 12 square inch transfer hole located above the clarified liquid zone that is baffled according to part 7080.1960. The final compartment of tank that employs a transfer hole in the clarified zone shall not be used as a pump tank. |
| 7080.1980 | All precast reinforced concrete tanks must meet the requirements of this chapter. Best practices information for tank construction is found in the National Precast Concrete Association's best practices manual. MPCA will work with tank manufacturers to ensure they understand and meet the requirements. |
| 7080.2010 | An assessment of all models of sewage tanks must be conducted to determine the structural integrity of the tank design and the adequacy of the manufacturing process of watertightness. Verifications for structural integrity must be submitted to the Commissioner. Records of testing for watertightness must be maintained by the manufacturer for three years and must be available to the Commissioner and local unit of government if requested. |
| CODE REFERENCE | *7083 Changes – Manufacturers & Suppliers* |
| 7083.4000 | New product review procedures and registration process for proprietary treatment products are detailed in this section. The Commissioner will maintain a list of registered sewage treatment and distribution products for SSTS. |

## Rule Change Impacts due to Implementation Timetable

| *Rule Part* | *Topic* | *Implementation Implications* |
|---|---|---|
| 7080.1100 | **Definitions** | Definitions that pertain to administrative elements go into effect with the rule (eg, agency, certificate of compliance), definitions that pertain to technical elements are only effective when adopted into local ordinances (eg, bedroom, medium sand). |
| 7080.1500 | **Compliance Criteria** | 15% flexibility comes through local ordinance. Compliance criteria for new systems come into effect through local ordinances; compliance criteria for existing systems come into effect as soon as the rule is effective and MPCA amends the Existing System inspection form. |
| 7080.1900 to .2030 | **Sewage Tank Requirements** | Tanks must meet all requirements by three years after effective date of rule. |
| 7080.2200, .2250, .2300, .2350 and .2400 | **New terminology for system Types** | New terminology comes into effect when adopted in local ordinance. No Type IV's can exist until products are registered. |
| 7080.2550 | **Seepage Pits, Drywells and Leaching Pits** | This provision is enacted through our Existing System inspection form, so it will go into effect as soon as the rule is effective and MPCA amends the Existing System inspection form. |

| Rule Part | Topic | Implementation Implications |
|---|---|---|
| 7081.0100-.0140 | **Sewage Flow Determination** | This goes into effect with the rule for determining whether an MPCA permit is needed. Flow determination for local projects will use old 7080 flow determination methods until the new methods are adopted into local ordinance. |
| 7081.0280 | **Construction Inspection by Designer** | This provision goes into effect with the adoption of the new rule – it relates to license requirements, not ordinances. |
| 7082.0050 | **Ordinance Adoption** | Counties have up to two years to amend their ordinances. Cities and towns have a year AFTER the county's ordinance to update their ordinances. Max of three years for cities and towns, could be less if counties get done sooner. |
| 7082.0050 | **Annual Report Criteria** | New reporting requirements will be in effect for 2008. MPCA will need to develop a modified form to be used for those who have not yet adopted the new Types into their ordinances. |
| 7082.0050 | **Administrative Training** | Training to be provided in January and February (2008) so most will be able to comply when rule is effective. |
| 7082.0500 | **Soil Verification** | Vertical separation distance must be verified by LGU's representative before issuing Certificate of Compliance. |
| 7082.0700 | **Inspection Program** | Requirements relating to existing inspections come into effect as soon as the rule is effective and MPCA amends the Existing System inspection form. |
| 7083.1000 | **Bonding and Insurance** | Bond increases apply only to new "Advanced" categories, and will go into effect as people become certified in these areas. Insurance changes become effective immediately with the rule. |
| 7083.1050 & 1060 | **Experience/ Mentoring** | Applications for Certification received on or after February 4, 2008 will be subject to the new rules:<br>• Maintainer – Co-complete 15 pump-outs<br>• Installer – Co-Complete 15 installations (1 above-ground, 1 below-ground) and Observe 5 operational instances<br>• Designer – Co-complete 15 designs (1 above-ground, 1 below-ground), Observe 5 installations & Observe 5 operational instances<br>• Inspector – Co-complete 15 inspections<br>All jobs must be completed under a designated mentor. |
| 7083.1060 | **Continuing Education** | Certifications renewed ***before*** February 4, 2011 are subject to existing rules - 12 continuing education credits, at least six of which are direct credits.<br>Certifications renewed ***after*** February 4, 2011 are subject to the new rules, at least half of which must be direct credits:<br>• **Maintainer** – 9 hours related to SSTS or 6 hours directly related to maintenance or land application<br>• **Service Provider & Installer** – 12 hours related to SSTS (at least 6 direct)<br>• **Designer, Advanced Designer, Inspector, Advanced Inspector** – 18 hours related to SSTS with 6 directly related to Soils (at least 3 of 12 remaining hours direct) |
| 7083.1070 | **Accreditation Changes** | Accreditation changes go into effect with the rule. |
| 7083.2000 | **Mentor Designation** | Mentor designation goes into effect now. Proposal is to say that mentees with current mentors do not have to be registered, but all new mentees must have registered mentors. |
| 7083.2040 | **Transition** | Three years are allowed for people to achieve new certifications. Old registrations stand until then. |
| 7084.1610 | **Registered Treatment Products** | Registered Treatment Products must be used in Type IV's – no Type IV's can exist until products are registered. Only Registered Products can be used two years after effective date of rule. |
| 7083.1640+ | **Registered Distribution Media** | Only Registered Distribution Media Products can be used two years after effective date of rule. |

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