

Checklist for determining appropriate permit for LSTS facilities based on 2021 rule change

A 2021 rule change allows facilities with a large subsurface treatment systems (LSTS) to use either actual flows or table value flows to determine whether or not a state disposal system (SDS) permit is required, as long as certain conditions are met. The following checklist and special considerations should be used as a screening tool before a permittee submits an application to terminate an SDS permit or begins additional flow monitoring to determine eligibility for permit termination under the Minnesota Rule 7081 flow measurement criteria.

If all of the following questions can be answered “yes,” speak to an MPCA review engineer about flow monitoring requirements. Answering “no” to any question will require additional evaluation before flow monitoring data will be considered for SDS permit applicability.	Yes	No
1. Is the Facility in compliance with all current SDS permit requirements?*		
2. Is the facility at 75% build out or more?***		
3. Has the local unit of government confirmed that they will issue an operating permit if measured flows are <10,000 gpd?		
4. Are all necessary and approved treatment components installed and operational?		
5. Can occupancy be accurately determined?		
6. Does the last 12 months of flow monitoring data show that the highest weekly flow is less than 10,000 gpd?		
7. Can the facility measure and record daily flow values?		

* Minnesota Pollution Control Agency (MPCA) will evaluate to see if noncompliant conditions would exist under an operating permit issued by a local unit of government.

** Requires the use of estimated flows in addition to measured flow to determine permit flows.

Additional criteria for determining SDS permit applicability

In addition to this checklist, the MPCA will determine if the permittee has an increased potential to cause adverse public health or environmental impacts if not regulated under a state permit in accordance with Minn. R. 7081.0040, subp. 1(C). The following conditions will be evaluated:

- **Is the facility located in or near an environmentally sensitive area?** Such areas include karst areas, impaired waters, contaminated groundwater, etc.
- **Does the facility have unsubstantiated or unexpected flow volumes?** Measured flow volumes less than 70% of estimated flow will be used as a benchmark for further evaluation according to Prescriptive Design Guidance for advanced designers. Additional considerations under this heading would include:
 - Potential for the use of this facility to change in a way that would increase flows; and
 - Whether the facility has experienced high variability in flows or historically high flows.

- **Does the facility face exceptional operational, monitoring and management issues?**
Such issues could include the location of drinking water wells and property boundaries, high strength wastewater, use of unproven technologies, high groundwater with potential for inflow and infiltration and premature drainfield failure, etc.

If the local unit of government does not permit a system which qualifies for local permitting based upon measured flows, regardless of their reason, the MPCA intends to require continued SDS permit coverage to avoid the increased potential for public health or environmental impacts from an unpermitted system as per Minn. R. 7081.0040, subp. 1(C).

Permittees choosing to measure flows to determine if they can terminate their SDS permit must follow the Prescriptive Designs and Design Guidance for Advanced Designers which is incorporated by reference in Minnesota Rule and available here: <https://www.pca.state.mn.us/sites/default/files/wq-wwists4-44.pdf>. At the completion of the required flow monitoring the MPCA will make a final permitting determination that should not be changed unless additional flow producing units are added to the treatment system, or there are other significant changes which will impact flow.

Any permittee who intends to pursue flow monitoring to determine SDS permit applicability should contact their assigned MPCA permit engineer first for more information and follow these steps:

1. Communicate with the MPCA review engineer regarding plans and procedures for collecting the required flow data.
2. Collect the required data and submit it to the MPCA for review and a final determination of SDS permit applicability.
3. If applicable, obtain local unit of government permit coverage and then request SDS permit termination as per the determination of the MPCA review engineer.

Rule change includes new “SSTS with Low Impact to Potable Water” designation that can affect flow calculations

Included in the 2021 rule change was language that allows facilities to designate certain discharges as “SSTS with low impact to potable water.” Flows that are eligible for this designation can be left out of calculations used to determine gallons per day (gpd) of flow from the facility.

For example, if a facility is comprised of six SSTS that each have flows (design or measured) of 2,000 gpd the total would be 12,000 gpd which in most cases would require the facility to have an SDS permit. But in this example, two of the SSTS discharge via groundwater to a nearby surface water adjacent to the property and the plume does not enter the capture zone of any existing or potential water supply wells. Nor does any of the plume pass through any adjacent properties before entering the surface water. In this case, the discharges from these two SSTS could be designated by a Board licensed professional with expertise in hydrogeology as a “SSTS with Low Impact to Potable Water” and in that scenario they need not be counted when calculating flow to determine whether or not an SDS permit is required for the facility. Flows would total 8,000 gpd and an SDS permit would not be required, as long as all other applicable conditions are met.

Additional information regarding “SSTS with Low Impact to Potable Water” designations

"SSTS with Low Impact to Potable Water" means an SSTS that is designated by an individual licensed by the Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience, and Interior Design who has determined that the groundwater plume from a soil dispersal component is:

- Discharging into a surface water bordering the property the SSTS soil dispersal component is located on; and
- Not discharging into the capture zone of any existing or potential water supply wells.

Note that the entire groundwater plume must be shown to discharge to a surface water bordering the SSTS property. If the plume partially flows onto an adjacent property prior to discharging to surface water, it may be discharging into the capture zone of a potential water supply well and doesn't qualify.

While this rule does not specifically define "surface water," a wetland is considered a surface water for the purposes of rule implementation.

Permittees that intend to pursue designating any of their discharges as "SSTS with Low Impact to Potable Water" should follow these steps:

1. A Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience, and Interior Design (AELSLAGID) licensed professional with expertise in hydrogeology, shall submit the designation required by rule and described above, along with any supporting documenting, to the assigned MPCA Hydrologist.
2. The assigned MPCA Hydrologist will then review the determination and either approve, deny, or request additional information in writing.
3. The final determination/approval of the SSTS as an "SSTS with Low Impact to Potable Water" will be made by the MPCA.
4. "SSTS with Low Impact to Potable Water" are not required to be included in the SDS permit determination when combining design flows for individual systems < 10,000 gallons per day. A single individual LSTS with a design flow >10,000 gpd is not eligible to be considered a "SSTS with low Impact to Potable Water" as per Minn. R. 7081.0020, subp. 7a and 7081.0040, subp. 1(B)(2).

2021 rule change language

The relevant portions of the rule change applicable to SDS permitted LSTS systems are 7081.0020, 7081.0040, and 7081.0130. In summary, the applicable changes are as follows:

- 1) As per Minn. R. 7081.0040 Existing SDS permitted LSTS systems now have the option to use measured flows (90 consecutive daily flow measurements capturing maximum use and an additional 40 consecutive weekly flow measurements) **or** the design flows identified in Minnesota Rules 7081.0110 through 7081.0140 to determine if the peak flow volume is above or below 10,000 gallons/day and therefore determine SDS permit applicability (SDS permit required if above 10,000 gallons/day).
- 2) Minn. R. 7081.0020 now identifies "SSTS with low impact to potable water." If a SSTS (subsurface sewage treatment system) is designated as "SSTS with low impact to potable water" by a licensed professional with expertise in hydrogeology (needs to be discharging into a surface water bordering the property where the SSTS soil dispersal component is and not into the capture zone of an existing or potential water supply wells) it is not counted when determining permit applicability.

Questions

If you have any questions, please reach out to your assigned MPCA review engineer, permit writer, or compliance and enforcement staff.