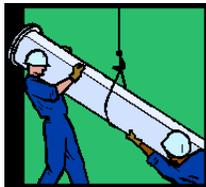




Capacity, Management, Operation & Maintenance

CMOM IN WISCONSIN 7. CAPACITY ASSURANCE



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Capacity Assurance is the seventh of the eight elements of a Capacity, Management, Operation & Maintenance (CMOM) Program. It has been one of the elements perhaps most difficult to understand. Capacity assurance is really about knowing your sewer system and flow conditions.

How well do you know your sewer system and its ability to convey wastewater flows during both dry and wet weather?

How much wastewater flows in your pipes?

If your answer is “alot”, that may not be a good enough answer. Really knowing how and how much wastewater flows in your sewer pipes means really knowing your entire collection system network of pipes, pump stations, siphons, etc. Similar to knowing and being sure your car’s gas tank, fuel pump and fuel lines are all sized right and working right to get the right amount of gasoline into your engine so your car starts and runs well every time! Would you want your car leaking or

overflowing gas anywhere? Or a bad fuel pump? Or a plugged fuel filter or line? You need to get the gas to where it needs to go so you can operate your car just as you need to convey sewage to where it needs to go so you can operate your treatment plant.

So you really think you know your sewer system?

Check the documents you have:

- Current and up-to-date sewer maps
- Sewer system plans and specifications
- Manhole location maps with numbered manholes and GPS coordinates
- Lift station pump and wet well capacity information
- Lift station O&M manuals

Check those areas you have identified within your total sewer system:

Identifying these areas allows your municipality to make the necessary repairs and improvements, or, at the very least, identify areas to be cleaned and maintained on a specific schedule so that flow capacity is maximized for the size and slope of the pipe.

- Areas with flat sewers
- Areas with surcharging
- Areas with bottlenecks or constrictions
- Areas with chronic basement backups or sanitary sewer overflows (SSOs)
- Areas with excess debris, solids or grease accumulation
- Areas with heavy root growth
- Areas with excessive infiltration/inflow (I/I)
- Sewers and manholes with severe corrosion
- Sewers with severe defects that affect flow capacity

- Adequacy of capacity for new connections
- Lift station capacity and/or pumping problems
- Wet weather relief points or overflow structures (if any)

If your sewer system is having problems conveying sewage to the treatment plant and chronic basement back-ups or sanitary sewer overflows are occurring, despite your best efforts, then a System Evaluation and Capacity Assurance Plan (SECAP) may be necessary and could be included as a requirement in your WPDES permit. Your engineering consultant may need to be involved in evaluating, perhaps even modeling a sewer system, to assure it has sufficient capacity to convey sewage in all parts of the system, now and in the future. The evaluation must provide estimates of peak flows, including sanitary sewer overflow flows, provide estimates of the capacity of key system components, identify hydraulic deficiencies, and identify the major sources, including excessive infiltration and inflow, that contribute to the peak flows associated with basement back-ups, sanitary sewer overflow or sewage treatment facility overflow events. The SECAP would identify measures, including construction of new or modified sewerage system components, improved operation and maintenance, infiltration and inflow removal, wastewater equalization or storage facilities, sewer and lift station replacement or rehabilitation, the treatment of overflows, peak flow treatment schemes at sewage treatment facilities, and expansion of sewage treatment facility capacity.

So knowing your sewer system means knowing how and how much flows in the pipes....its capacity. So keep it flowing....in the pipe...to the treatment plant! See you all at the annual conference in October.