S.26 p.1 Other-Stewardship, Best Management Practices, Pilot Programs, Govern Research and Specify Actions (January 6, 2012)

Rationale

Tools outlined within S.26 (1) of O.Reg.287/07 are considered "soft" since they manage a threat activity by non-regulatory means. These tools include:

- Establish stewardship programs involve collaboration between organizations and individuals who take action at a local scale. These programs can involve financial or technical assistance, information or data.
- Specify and promote best management practices. Best Management Practices (BMP) are measures, which can range from operational procedures to administrative processes, which mitigate or prevent impacts to water quality. BMP are generally voluntary in nature.
- Establish pilot programs. Pilot programs can be established to examine potential improvements to current methods and technologies or test the feasibility of new methods and technologies.
- Govern research. Further research may be necessary to develop new innovative methods for addressing certain threats or to better understand where targeted actions to address threats would have the most benefit to Source Water.
- Specify the actions to be taken to implement the Source Protection Plan or achieve the plan's objectives when the desired action is not within the scope of the authority provided by the spectrum of other tools. This policy approach may also rely on other regulatory measures such as the Municipal Act.

Interpretation

OT.1.0 The policies associated with S.26 of O. Reg. 287/07 are directed to the prescribed drinking water threats that have been identified as significant as well as transport pathways; spills prevention, spill contingency and emergency response plans; and the local threats associated with transportation corridors, which are outlined within the table below. The circumstances that make threats significant are found within the Provincial Drinking Water Threats Tables.

Vulnerable Area	Vulnerability Score	Applicable Prescribed Drinking Water Threat		S.26 (1) Other				
				Stewardship (SW)	Best Management Practices (BMP)	Pilot Programs (PPR)	Research (PPR)	Strategic Action (SA)
WHPA-A,B	10	1	The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act • Untreated Septage • Tailings from Mines • Waste Disposal Sites	X				X
		2	The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage • Stormwater Management Facilities • Sewage Treatment Plants • Septic Systems and Holding Tanks • Industrial Effluent					X

Vulnerable Area	Vulnerability Score	Applicable Prescribed Drinking Water Threat		S.26 (1) Other				
				Stewardship (SW)	Best Management Practices (BMP)	Pilot Programs (PPR)	Research (PPR)	Strategic Action (SA)
			Discharge					
		3	The application of agricultural source material to land.					X
		4	The storage of agricultural source material					X
		6	The application of non-agricultural source material to land					X
		7	The storage of non-agricultural source material					X
		8	The application of commercial fertilizer to land					X
		9	The handling and storage of commercial fertilizer					X
		10	The application of pesticide to land					X
		11	The handling and storage of pesticide					X
		12	The application of road salt		X	X	X	X
		13	The handling and storage of road salt		X			X
		14	The Storage of Snow		X	X	X	
		15	The handling and storage of fuel					X
		17	The handling and storage of an organic solvents					X
		21	The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm animal yard					X
WHPA-A,B and C	Not applicable	16	The handling and storage of a dense non-aqueous phase liquid					X
IPZ	10	1	The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act • Untreated Septage • Tailings from Mines • Waste Disposal Sites	X				X
		12	The application of road salt			X	X	X
		13	The handling and storage of road salt					X
		15	The handling and storage of fuel					X
IPZ, WHPA-E	9	12	The application of road salt			X	X	X
		14	Storage of Snow			X	X	
WHPA-A,B,C and D	Not Applicable		Transport Pathways		X			X
WHPA-A,B,C,D and E; IPZ1,2 and 3; SGRA; HVA	Not Applicable		Spills Prevention Plans					X
IPZ (1,2,3)	Not Applicable		Local Threat-Transportation Corridors					X

Monitoring

OT.1.1 All policies associated with S.26 of O. Reg. 287/07 are subject to monitoring and reporting requirements as outlined in policy X.

S.26 Other Policies Affecting Municipalities

OT.M.1.0 The following policies are directed to affected municipalities for the purposes of S.26 of O. Reg. 287/07. These policies will be implemented when the Source Protection Plan comes into effect except for those policies where specific timelines have been established.

OT.M.1.2.0 Municipalities shall be encouraged to develop and implement complimentary stewardship programs that would minimize liquid and hazardous waste materials from entering landfills where waste disposal would be a significant drinking water threat.

OT.M.2.3.0 Municipalities shall encourage the use of Best Management Practices and design standards to manage prescribed threats where they would be a significant risk to drinking water.

OT.M.2.3.0.1 To manage the application and handling/storage of road salt and the storage of snow, municipalities shall encourage:

a) carriers of waste material used as dust suppressants to continue to apply for Environmental Compliance Approvals;
b) the use of Best Management Practices when designing and operating road maintenance yards and snow storage sites
c) the use of the most current guidelines such as the MOE Procedure B-4 Guidelines for Snow Disposal and Deicing Operations and the Transportation Association of Canada Best Practices or other Best Management Practices, which may be amended from time to time, when locating new snow storage disposal sites.

OT.M.3.4.0 Municipalities may consider the acquisition of land around wellhead protection areas (WHPA) for the purposes of exceeding the level of protection identified within the Source Protection Plan.

OT.M.3.4.1 Municipalities within the Thames-Sydenham and Region Source Protection Region shall consider collaborating with municipalities outside of this jurisdiction to gain knowledge of other practices and procedures to enhance policies outlined in the Source Water Protection Plan. This policy shall be implemented within 1 year of the effective date of the Source Protection Plan.

OT.M.3.5.0 Municipalities shall be encouraged, through the powers granted under the Municipal Act 2001 S.O 2001 C.25, which can be amended from time to time, to enact and enforce by-laws such that:

a) the land application of untreated septage would be prohibited within areas where it could be a significant threat to drinking water
b) septic systems or holding tanks, where municipal services exist in areas within a vulnerability score of 10, would be decommissioned and mandatory hook-up to the municipal services would be required.
c) sewer use bylaws, which include sanitary and storm sewers, would be developed to manage significant threats to municipal drinking water systems.
d) sewer use by-laws to manage the runoff that contains chemicals used in deicing aircraft

OT.M.3.5.1 Where the handling and storage of dense non-aqueous phase liquids (DNAPLs) and organic solvents, in substantial quantities not typical of household use, are significant drinking

water threats, municipalities, through the Risk Management Officials, shall be encouraged to conduct inspections of storage and handling facilities and floor drains to ensure that spills are properly contained.

OT.M.3.5.2 Where runoff that contains chemicals used in the de-icing of aircraft is a significant drinking water threat and flows into local storm sewers and watercourses, municipalities shall consider water quality monitoring.

OT.M.3.5.3 The local approval agency (municipalities or the Board of Health) of septic systems under the authority of the Ontario Building Code shall conduct mandatory maintenance inspection programs as per 1.10.2 of O. Reg. 315/10 for septic systems less than 10 000 L/day that have been identified as significant drinking water threats. An inspection schedule shall be established by the local approval agency where older systems and those closest to wellheads where failures are suspected would be top priorities.

Notwithstanding the above, where the inspection program locates faulty and failed septic systems, the inspector as per the definition outlined in the Building Code Act 1992 S.O 1992 C.23, shall require the maintenance, repair or replacement of the system to ensure that it functions as designed and meets applicable design standards thus ensuring that the threat ceases to be significant.

This policy shall be implemented as per the timing outlined within sentence 1.10.2.4 (2) O. Reg.315/10.

OT.M.3.5.4 Municipalities shall be encouraged to employ certified technicians to complete fuel appliance and equipment review in their annual infrastructure inspections. This shall be initiated within 1 year of the effective date of the Source Protection Plan.

OT.M.3.6.0 To manage the establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act, municipalities shall consider the following policies pertaining to operations such that:

a) adequate sewage treatment capacity for the treatment/stabilization of septage is available prior to applying the untreated septage to the land. The capacity Municipalities should be in the municipality where the sewage is generated or provided through agreement by a nearby municipality. Notwithistanding the above, municipalities shall consider developing programs to encourage other treatment options where adequate sewage treatment is not feasible.

b) the Risk Management Official will be notified of any plans for new or changes to existing mine operations occurring within vulnerable areas. This policy shall be implemented within 1 year of the effective date of the Source Protection Plan.

c) in collaboration with neighbouring municipalities, the accessibility to cross municipal household hazardous waste programs will be increased.

OT.M.3.6.1 To manage the establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage, municipalities shall consider the following policies pertaining to operations such that:

a) when planning extensions of infrastructure, vulnerable areas where septic systems would be a significant threat to drinking water are a first priority

b) upgrades to sewage treatment plants continue to be upgraded when required. This policy shall be implemented within 1 year of the effective date of the Source Protection Plan.

c) frequent audits for sewer networks and sewage treatment plants occur in vulnerable areas. This policy shall be implemented within 1 year of the effective date of the Source Protection Plan.
d) inflow and infiltration reduction programs be developed for sewage treatment facilities. This policy shall be implemented within 1 year of the effective date of the Source Protection Plan.
e) the Municipal Class Environmental Assessment planning process for sanitary sewer networks include mitigation of risk through enhanced construction standards.
f) alternatives to effluent discharge or bypasses associated with sewage treatment facilities be developed. This policy shall be implemented within 1 year of the effective date of the Source Protection Plan.
g) existing stormwater management facilities be brought into compliance with current standards.

OT.M.3.6.2 Municipalities shall not utilize facilities for the handling and storage of NASM in areas where the risk to drinking water would be significant.

OT.M.3. 6.3 Municipalities shall consider vulnerable areas when locating new snow disposal sites where the storage of snow would be a significant drinking water threats.

OT.M.3.6.4 Where the handling and storage of dense non-aqueous phase liquids (DNAPLs) and organic solvents are significant threats to municipal drinking water systems, municipalities shall consider improving access to residential hazardous waste depots.

OT.M.3.6.5 To manage the handling and storage of fuel, municipalities shall consider the following such that:

a) proper staff training includes safety protocols set out in the Technical Standards and Safety Authority (TSSA) training programs for Site Operators and Site Attendants for fuel pump operators and those who are responsible for backup generators at wellheads. This policy shall be implemented within 6 months of the effective date of the Source Protection Plan.
b) the use of natural gas or propane be an alternate fuel supply to diesel or gas for back-up generators where possible. This policy shall be implemented within 6 months of the effective date of the Source Protection Plan.
c) the Fire Prevention Officer or Risk Management Official educate residents and business owners about spill containment as part of existing awareness programs.
d) the location of abandoned fuel storage sites would be inventoried and recorded. This shall be initiated within 1 year of the effective date of the Source Protection Plan.

<u>Moderate and Low Municipal Policies</u>

OT.M.3.7.0 Where the management of runoff that contains chemicals used in deicing aircraft has been identified as a moderate or low threat to drinking water, municipalities shall encourage local airport authorities located within these areas to develop and implement glycol management plans.

OT.M.3.7.1 The local approval agency (municipalities or the Board of Health) of septic systems under the authority of the Ontario Building Code, shall consider including septic systems less than 10 000 L/day that are moderate or low drinking water threats to be part of the discretionary maintenance inspection program outlined in O. Reg. 315/10. Priority areas shall include those areas where septic systems are known to fail and where older septic systems are predominant.

This policy shall be implemented as soon as possible following the implementation of the mandatory inspection program as determined by the local approval agency. Where mandatory inspection is not required the municipality shall be encouraged to initiate the program within 5 years of the effective date of the Source Protection Plan.

Transport Pathways

OT.M.3.8.0 The Transport Pathways policies associated with S.27 (1) O. Reg.287/07, shall be implemented within 1 year of the effective date of the Source Protection Plan, except for those policies where specific timelines have been established.

OT.M.3.8.0.1 A transport pathway may increase the vulnerability of a municipal drinking water system's raw water supply. For a municipal drinking water source to not be put at risk by transport pathways, municipalities shall consider:

a) including, as a condition for approval on development applications, the decommissioning of wells in accordance with O. Reg. 903
b) The development of municipal by-laws to restrict transport pathways in vulnerable areas where prescribed drinking water threats could be significant. The Risk Management Official shall be responsible for determining exceptions to these by-laws.
c) encouraging landowners to improve their wells to meet standards including making them aware of any financial incentives which may be available to assist the landowner. If the landowner fails to take appropriate action, the Risk Management Official shall draw this deficiency to the attention of the MOE to enforce the standards under O. Reg. 903 and indicate that the deficiency is occurring in a WHPA. Inspections of wells in areas where significant threats can occur are to be completed by Risk Management Inspectors.
d) A risk management plan would be negotiated with property owners where a transport pathway as a result of Earth Energy Systems has been identified as contributing to a significant drinking water threat.

OT.M.3.8.0.2 Under s.27(3) of CWA, O.Reg.287/07, municipalities shall notify the SPA and the SPC if a person applies to the municipality for the approval of a proposal to engage in any activity in a WHPA or IPZ that may result in the creation of a new transport pathway or the modification of an existing transport pathway. This notice shall include a description of the proposal, the identity of the person responsible for the proposal and a description of the approvals that are required to engage in the proposed activity. The notification shall be included as part of the existing planning process where possible and the proponent is required to be provided with a copy of the notification.

OT.M.2.8.0.3 Municipalities shall consider using qualified professionals to determine the effect of municipal infrastructure and development servicing on the vulnerability of a wellhead protection area (WHPA) in order to manage Transport Pathways so that they do not put municipal drinking water sources at risk.

Spills Prevention Plans

OT.M.3.9.0 For the purposes of protecting existing drinking water sources with respect to spills that occur within wellhead protection areas (WHPA) and intake protection zones (IPZ) along highways as defined in subsection 1 (1) of the Highway Traffic Act, railway lines or shipping lanes, municipalities shall:

a) review and update their Spill Prevention Plans, Spill Contingency Plans and Emergency Response Plans to include mapping of vulnerable areas as well as special procedures related to these areas.
b) encourage businesses and industries (both regulated and non-regulated under O.Reg. 224/07) in vulnerable areas to prepare, review and update, when required, Spills Prevention Plans and Spills Contingency Plans to ensure the protection of municipal drinking water has been addressed.
c) encourage mining operations to share Spills Response Plans, site sampling and monitoring activities where the storage of tailings from mining operations is a significant threat to drinking water.
d) encourage emergency responders to consider risk mitigation in vulnerable areas where a stormwater management facility designed to discharge stormwater to groundwater (through infiltration) or surface water is a significant drinking water threat.
e) consider updating their emergency response plans for industrial sewage effluent to include requirements for contacting water treatment operators if overflow/bypass occurs.

For existing plans, the implementation of this policy shall be 1 year after the effective date of the Source Protection Plan. For future plans, this policy shall be implemented immediately following the effective date of the Source Protection Plan.

Local Threats

OT.M.3.10.0 The transportation of fuel and fertilizer along provincial highways, county and local roads, railways and waterways along corridors passing through the various vulnerable areas as well as the transportation of liquid petroleum products through pipelines have been identified as local threats in delineated IPZ-3 regions of Sarnia (LAWSS), Petrolia and Wallaceburg intakes in the St. Clair Region Source Protection Area. Municipalities within the St. Clair Region Source Protection Area shall consider:

i) in their decision making processes, rerouting, where possible, highways and arterial roads around more vulnerable areas
ii) placing road signs at the entrance to IPZs for emergency responders
iii) boosting their emergency response programs to be able to contain chemical spills (e.g. training, equipment)
iv) upgrading/reviewing their water treatment plant response time and equipment.
v) Update spill prevention, spill contingency plans and emergency response plans to identify all IPZs.
vi) Sharing IPZ-3 flow data with the Ministry of Environment Spills Action Centre.

S.26 Other Policies Affecting the Province

OT.P.1.0 The following policies pertain to the province for the purposes of S.26 of O. Reg. 287/07. These policies shall be implemented within 1 year of the effective date of the Source Protection Plan, except where specific timelines have been established.

OT.P.2.2.0 The province shall promote the use of Best Management Practices and design standards such that:

a) OMAFRA include voluntary Nutrient Management Strategies and Plans in its review program where agricultural activities have been identified as significant threats to drinking water

b) MOE consider updating the "Guidelines for the Utilization of Biosolids" and include Source Protection principles including the restriction of the application and handling and storage of non-agricultural source material (NASM) in areas where it is or would be a significant drinking water threat.

OT.P.3.3.0 The province (MOE) shall consider developing a prioritized inspection schedule to ensure that activities being undertaken are being managed such that:

a) Ministry of Environment Agricultural Officers, as part of the Ministry's on-farm compliance program, continue to conduct site inspections for those activities prescribed under the Nutrient Management Act. It is recommended that inspections are conducted every 5 years for significant threats. All significant threats shall be inspected within 5 years of the effective date of the Source Protection Plan.
b) Planned inspections of untreated septage land application sites continue placing a priority on those vulnerable areas where the threat of the application of untreated septage could be significant.
c) The locations within a vulnerable area are included in selecting priorities for pesticide application permits. Where pesticide application under a permit happens more than once where a threat poses a significant risk, the inspection schedule should be modified to conduct inspections every 5 years. The implementation of a program which targets significant threats should be initiated within 1 year of the Source Protection Plan. All significant threats should be inspected within 5 years of the effective date of the Source Protection Plan.
d) The handling and storage of fuels
    i) includes private outlets, as defined in O. Reg. 217/01
    ii) includes monitoring and proper decommissioning of abandoned fuel sites

OT.P.3.3.1 Where the handling and storage of fuel is a significant threat to drinking water, the province (MOE), shall consider monitoring abandoned/decommissioned gas stations.

OT.P.3.3.2 Technical Standards and Safety Authority (TSSA) shall consider monitoring the effectiveness of their program in managing significant risks to drinking water. Priority should be placed on abandoned and decommissioned fuel storage which would be significant threats.

OT.P.3.3.3 The province (MOE) shall be encouraged to develop a compliance monitoring program for large septic systems greater than 10 000 L/day) where these systems would be a significant threat to drinking water. The compliance monitoring program should include inspection of the system to ensure that it continues to function as designed, meets applicable design standards and are being properly maintained. Priorities should include areas where the vulnerability score is 10, areas where known septic failures have been identified and areas where older systems have not recently been inspected. Systems found to be deficient shall be encouraged to undertake improvements to be in compliance.

New or expanding systems shall be considered the subject of inspection every 5 years from the issuance of the Environmental Compliance Approvals. The inspection program shall be established within a 2 year period from the effective date of the Source Protection Plan with a completion of the inspection of systems in these areas within 5 years of the initiation of the inspection program.

OT.P.3.3.4 When the Source Protection Plan takes effect; the province (MOE) shall consider as a priority, geo-referencing Environmental Compliance Approvals for activities which would be a threat to drinking water.

OT.P.3.3.5 To manage the threat of handling and storage of fuel, the province (MOE) shall consider removing unused fuel storage tanks in vulnerable areas.

Transport Pathways

OT.P.3.4.0 A transport pathway may increase the vulnerability of a municipal drinking water system's raw water supply. Within 1 year of the effective date of the Source Protection Plan

OT.P.3.4.1 The province (MOE) shall consider enforcing the requirements of O. Reg. 903 through well inspections using officials with appropriate skills and training such that improperly maintained or abandoned wells cease to act as transport pathways which may endanger municipal drinking water sources. At a minimum, MOE should respond in a timely manner to any deficient wells brought to their attention through notification by the Risk Management Official or other responsible persons. This policy shall be implemented within 1 year of the effective date of the Source Protection Plan.

OT.P.3.4.2 The province (MOE) shall consider developing a proactive well inspection program for those areas where the risk associated with significant drinking water threats can be affected by transport pathways. This program is encouraged to be initiated within 2 years of the effective date of the SPP.

Spills Prevention Plans

OT.P.3.5.0 Within 2 years of the effective date of the Source Protection Plan, the province, in collaboration with municipalities, shall consider developing and implementing general spills awareness programs, such as increasing signage within vulnerable areas where significant threats could occur.

OT.P.3.5.1When the Source Protection Plan comes into effect, the province (MOE) shall consider reviewing and updating procedures of the Spills Action Centre such that:

a) the Spills Action Centre database mapping includes vulnerable areas, which has been provided by the SPC, to ensure immediate and proper spills response.

b) the Spills Action Centre Operations and Procedures cards include vulnerable areas as well as contacts for municipal and downstream water operators.

OT.P.3.5.2 Within 1 year of the effective date of the Source Protection Plan, the province (MOE) shall consider decreasing the minimum volume spill reporting requirements in areas where the handling and storage of fuel is a significant drinking water threat.

OT.P.3.5.3. When the Source Protection Plan comes into effect the province (MOE) shall consider being the lead for all fuel spills occurring within vulnerable areas.

Local Threats

OT.P.3.6.0 The transportation of fuel and fertilizer along provincial highways, county and local roads, railways and waterways along corridors passing through the various vulnerable areas and the transportation of liquid petroleum products through pipelines have been identified as local threats in delineated IPZ-3 regions of Sarnia (LAWSS), Petrolia and Wallaceburg intakes in the St. Clair Region Source Protection Area. The Province shall be encouraged to:

a) review and update the Ministry of Environment Spills Action Centre Procedure Cards to include municipal contacts based on IPZ delineations
b) conduct a regional and province-wide review of Emergency Detour Routes. This review would be initiated by the Ministry of Transportation and would take into consideration the location of these routes through IPZs.

These policies shall be implemented when the Source Protection Plan comes into effect.

S.26 Other Policies Affecting Other Stakeholders

OT.O.4.1.0 When the Source Protection Plan comes into effect, the province (MTO) in collaboration with public and private research institutions, conservation authorities and municipalities, shall consider establishing research programs and pilot projects to address the impacts of the application of road salt and the storage of snow in vulnerable areas where these threats would pose a significant risk to drinking water. The intent of the research projects and pilot programs would be to build on existing research and monitoring programs in the SPA, the province and other jurisdictions.

OT.O.2.2.0 To manage the application and handling/storage of road salt and the storage of snow, road authorities (municipal and provincial) in collaboration with the Risk Management Official, shall consider developing Winter Maintenance and Salt Management Plans with the objective of defining standards and procedures to minimize the negative impact of the above mentioned prescribed threats on municipal drinking water systems. The content of these plans would contain but not be limited to:

- the identification of vulnerable areas;
- a discussion of the use of road salt as a dust suppressant;
- the management of the prescribed drinking water threats where they would be significant; and,
- the procedures associated with snow storage.

<u>Transport Pathways</u>

OT.O.3.3.0 Within one year of the effective date of the Source Protection Plan, the province (MOE), in collaboration with municipalities and conservation authorities, will consider developing a program that identifies specified transport pathways within wellhead protection area (WHPA) A,B,C and D.

OT.O.3.3.1 When the Source Protection Plan comes into effect, the conservation authorities within the Thames-Sydenham and Region Source Protection Region shall consider developing a partnership with municipalities to identify which activities will create transport pathways.

OT.O.3.3.2 When the Source Protection Plan comes into effect, the province and federal agencies, shall consider developing a notification program to ensure that the SPA and SPC are aware of new or changes to existing pathways.