

Thames – Sydenham and Region Drinking Water Source Protection Source Protection Committee Discussion Paper

Report to Chair and members
Thames – Sydenham and Region
Source Protection Committee

Agenda # 2008.05.6b

Cc SP Management Committee

Date April 29, 2008

Prepared By Chris Tasker, Project Manager

Re: Terms of Reference Workshops

Background

- In order to facilitate the timely completion of the Terms of Reference two workshops have been planned.
- The first is focused on the technical work required to complete the Assessment Report. This workshop was held on April 14. It was attended by municipal and CA technical study project managers, their consultants, representatives of MOE and MNR, and representatives from our neighbouring SP Regions. This workshop focused on tasks to be completed for the completion of the Assessment Report. In particular the workshop included discussion on the work that was completed, issues or concerns that developed through the completion of that work, changes in guidance through the completion of the work, anticipated changes in guidance and the data collected or to be collected in the Assessment Report Database.
- The second is to be focused on the tasks required to complete the Source Protection Plan. This workshop is planned for May 15.
- The outcomes of the meetings will be brought to the Municipal Terms of Reference Working Groups (Groundwater and Surface Water) and to the Source Protection Committee to inform the development of the Terms of Reference.

Discussion

- Attached are the responses from a questionnaire that the consultants/project managers were asked to complete and submit prior to the meeting. Incorporated into these responses are some of the discussions that occurred during the workshop. The fact that inconsistencies and data gaps were discussed does not in itself indicate that further work is required to address these items; they are however provided for the consideration of the working groups (and the SPC) in developing the Terms of Reference.
- Attached is an outline of the Source Protection Plan Work Planning Workshop planned for May 15. Many of the participants have confirmed their attendance. A facilitator has been secured for the session. Greg Philliban of DGS Environmental Project Management Solutions has facilitated similar sessions for various aspects of Source Protection with Conservation Ontario, CA staff and other Source Protection Committees. They have developed Deliverable Breakdown Structures for many parts of the Source Protection Planning process.

Surface Water Assessment Report Technical Studies: Data Gaps, Inconsistencies and Assumptions

Data Gaps

- Actual velocities for watercourses (no existing gauge data for smaller watercourses and drains)
- Calibration and validation of the in-water model would decrease the uncertainty associated with the IPZ-2's. Measured data for model validation.
- While more detailed site-specific information on environmental factors such as current data, sediment quality near/at the intake, storm-shed mapping and more intake raw water quality data may provide further insight and accuracy for the purposes of delineation and vulnerability assessment, there were no significant data gaps preventing completion of Surface Water Vulnerability assessment reports to undertake planning-level risk management studies at an acceptable level of accuracy
- Available raw water quality data at the intake is limited to those parameters currently monitored and reported under DWSP, DWIS and plant-specific C of A requirements at prevailing MDL levels. Greater frequency of information would enable higher level of accuracy with respect to trending data for identification of issues.
- Microbiology generally limited to total coliforms and *E. coli* but reported variously as ranges of colony forming units (MDL 2 cfu, <10 cfu, <500cfu, etc.). Just 5 years of DWSP chemistry data available in min, mean and max format.
- No data available for on specific human pathogens (except for limited data on *Cryptosporidium sp.*) or emerging contaminants of concern such as endocrine disruptors, other pharmaceuticals and personal care products as these are just not monitored.
- Some municipalities not fully engaged in SPP process, consequently did not recognize importance of project and so collection of critical data (stormshed mapping, raw water quality, etc.) may not have been entirely sufficient.
- [Data on spill-prone areas and shipping areas](#)

Inconsistencies

- Areas of land surrounded by the IPZ-2 (e.g. due to drains) were considered to be included in the IPZ-2 in the Southern Lake Huron study but not in the Essex-Chatham-Kent study specifically the Wallaceburg intake
- Professional judgment was used to establish the zone vulnerability factor considering runoff factors, transport pathways, distance of threat sources and discussions with plant operators. Is this adequate or should a standard method be applied to both studies (a matrix scoring for example)?
- [Uncertainty due to drain and tributary velocity estimations - suggested to be looked into on a case by case basis](#)
- The Guidance Module (MOE, 2006) states “the travel time in the lake can be calculated using average longshore current velocity during high wind and current period.” This definition is open to interpretation and will result in inconsistencies in approach, until it is more clearly defined. Consistency between regions is

Groundwater Assessment Report Technical Studies: Data Gaps, Inconsistencies and Assumptions

Data Gaps

- Updated HWIN
- Updated Certificate of Approval
- Updated UST database
- Tile drainage area mapping (preferential pathway)
- Abandoned well locations (preferential pathway)
- Historic land uses were difficult to assess in some cases – discussion / review with municipal partners can help close this gap
- Look up tables (NAICS) to be finalized
- Difficult to identify private wells; need to keep working with authorities to get that info
- Lack of data on transmissivity and porosity

Inconsistencies

- There may be inconsistencies in which data sources were used between consultants, some used additional data such as Ecolog Eris Search, Historical Air photo review, Septics: development patterns via servicing patterns, Heating Oil Tanks: servicing information, Land Use and Chemical Occurrence Inventory
- WHPAs were usually smoothed manually and checked manually via a variety of methods (air photograph review) and professional judgment; many wells and associated WHPAs were moved with better location data
- Preferential pathways were identified, but not used to modify the vulnerability scores by some consultants
- Issues identification methodology differences: some consultants also developed criteria to prioritize and the information was used to populate a database
- WHPA vulnerability – use of ISI, AVI or SWAT: Regional ISI available across the region, but AVI and SWAT only for some systems; selection of methodology used for WHPA vulnerability assessment is determined on a system by system basis based on professional judgment and scoring methodologies available for that system. Effect of use of AVI, ISI or SWAT on vulnerability score: Perth Study consultants found no significant differences but the Chatham-Kent and Middlesex Study consultants did, in the Ridgetown wells
- Vulnerability score modification (such as for preferential pathways)- need more direction on when and how to modify score
- WHPA delineation and threats assessments are often done at different times
- Porosity – value assumed introduces uncertainty into the WHPA delineated. Porosity is uncertain and difficult to characterize. Maybe we need to compare old WHPA methodology with new guidance and document it
- NAICS code: sub land use categories were added and will vary from study to study, no one common list followed beyond the MOE generic list
- NAICS code challenges: in assigning NAICS codes; lack of detailed info and hence risk assessed may be incorrect (e. g.: chemical use is assumed for a land use type, where it may not be)
- Differences between source protection regions studies may not be accounted for
- Water budget work: not yet tied to vulnerability studies. WHPAs are delineated based on

municipal pumping rates. Therefore updated pumping rates from the water budget work should be incorporated into the vulnerability assessment. The same may be true of other significant water takings.

Assumptions

- The assumptions are limited as the process is prescriptive, however, there is professional judgment involved. Most assumptions are based on data that can have a range of values. For example, factors that may lead to significant differences would be porosity, permeability, thickness of the aquifer. These parameters have not been measured and are not easily determined. These can also affect the estimated flow rates.

Uncertainties

- Consultant QA/QC includes self checking, and review by a Technical Review Partner. All modeling was performed by Senior Hydrogeologists
- Dillon and Schlumberger completed uncertainty analysis by varying key variables (K, recharge) and running simulations to examine effects. Professional judgment was then used to develop a composite capture zone. In general, the capture zones, are conservative in relationship to the results of the practical tracking process.
- Oxford added an extra level to address uncertainty in the WHPAs, there was a 20% increase in the overall shape of the capture zone and an addition of a 5 degree angle to the centerline of the capture zone to compensate for uncertainty in regional groundwater flow direction.

Other difficulties

- Database Structure: Some of the Land use activity names (LUANs) do not cover all relevant land uses, while other LUANs do not seem relevant. In addition, there is not always a logical mapping between LUAN and LandUse Category or LandUse Type
- There is a lot more 'black box' with groundwater studies because we don't know what is happening below ground. The ways of completing the model were more prescriptive for groundwater than surface water, but there is likely more variability in groundwater due to the difficulty of knowing the various parameters.
- Tying a threat to an issue is difficult and tricky
- Changes in guidance means more challenges
- Peer Review: It is understood that each technical study will be peer reviewed, not an overall peer review of all studies by one group of reviewers. However, it would be nice to do that (regional peer review).

GUDI Wells and Proposed GUDI well IPZs Discussion

- 2 hours may or may not be a reasonable time to determine a zone – spills response not as easy as surface intakes; going to be based on a variety of factors like groundwater or surface water flow and fate of contaminant.
- Should be dealt with at the Issues stage and track back.
- Start at 2 hours, but may go beyond; time of travel may be based on contaminant or pathogen
- Should the effectiveness of in-situ filtration be considered to determine extent of zones?
- How do we relate the IPZ time of travel (usually 2 hours) to the WHPA capture zones (2, 5 and 25 years)?

unknown. Generally a ten year storm period is used in studies for our SP region.

- NAICS code: sub land use categories were added and will vary from study to study, there is no common sub land use list followed beyond the generic list

Assumptions

- Storm sheds and tile fields that drain to a watercourse within the 2 hour time of travel are included in IPZ-2 as their response is assumed to be rapid
- Bulletin from MOE and/or Director's Rules amending the Guidance and setting out standard inputs for determining vulnerable zones (factors?), raw water quality benchmarks, and other inputs not issued yet. We set our own criteria based on professional judgment and knowledge of local conditions (Chatham-Kent study)

Other difficulties

- The uncertainty in the timing of the release of the threats database has been challenging in setting up the threats database. The challenge is to determine what information is needed for the threats database.
- Difficulty in assigning a "high" or "low" score to the uncertainty scoring system; consultants are generally reluctant to assign a low score, the uncertainty is generally characterized as high. In reality, the uncertainty is probably more moderate and likely acceptable.
- Surface water vulnerability reports undertaken *as per* Guidance Module 4, issued in October 2006. We are operating a *under no regrets* policy set out to the CAs by MOE in 2007
- Current reports have primary and secondary vulnerable zones delineated *as per* anticipated changes to the guidance revealed by MOE in December 2007
- Changes to existing reports resulting from amendments to the Guidance will result in extra work and cost to the client
- NAICS code challenges: in assigning NAICS codes; lack of detailed info and hence risk assessed may be incorrect (e. g.: chemical use is assumed for a land use type, where it may not be)
- Need to aggregate risk based on threats categories to land use activities – also must look at area/boundary of drinking water threats in any of the three forms: point, line or polygon
- Unknowns in threats inventory: MNR suggests this: if you have a land use activity name not in the provided list, you go to MOE. Chemical is tied to the threats category which drives the hazard score. Look at all chemicals that relate to that threat category and if some chemicals are known to not be used, then remove them from the list, but only if you can verify and hence be sure of it.
- Peer Review: Besides each technical study being peer reviewed, an overall peer review of all studies by one group of reviewers (regional peer review) may be done

Data Handling/Maintenance

- Interface not feasible now because of time constraints, will continue to use Access
- Need a consistent across-province interface during Tier 2 work
- In the long term, having an interface make sense from a maintenance point of view
- When updating data from Tier 1 to Tier 2, update existing data and make note of update

Source Protection Plan Work Planning Session

May 15, 2008

9:30 am (to be confirmed)- 4:00 pm

St Clair Region Conservation Authority, Strathroy

1. Purpose

- To scope the Source Protection Plan (SPP) so that the work associated with developing the SPP may be included in the Terms of Reference
- To consider the types of policies which may be developed in the SPP

2. Background

- Source Protection Committee (SPC) is required by the Clean Water Act to complete a source protection plan for the reduction of risks to drinking water sources
- As a first step the SPC must develop Terms of Reference which includes the work to complete Assessment Report (AR) and SPPs for the Source Protection Areas (SPAs) in the Source Protection Region (SPR)
- The Assessment Report content is well established through draft guidance produced by the province. This Guidance will soon be replaced by Directors rules and further guidance, however the scope of the AR is largely established
- Source Protection Plan (SPP) guidance is not yet available, however the work must be included in the Terms of Reference
- An alternative methodology of scoping the plan is required.

3. Goals and Objectives

- To develop preliminary deliverable breakdown associated with Source Protection Plan
- To develop a preliminary outline for the Source Protection Plan
- To consider the types of policies which the source protection plan may include
- To produce preliminary options for consultation on the development of the SPP

4. Proposed Participants

Facilitator	Greg Philliban
SP Project Manager	Chris Tasker
SP Technical Coordinator	Chitra Gowda
Conservation Authority Planners	Jeff Brick Patty Hayman Valerie Towsley
Municipal Staff	Margaret Misk-Evens Barb Debbert Ralph Puggleise Steve Evans (or alternate) Dave Posliff Eric Boere
CA Communications	Bonnie Carey

5. Deliverables

- Preliminary deliverable breakdown which can be used by staff to develop a task list for the SPP
- Preliminary outline of the SPP
- List of potential policy categories which might be contained in the SPP

6. Schedule

- The work is required to be part of the Terms of Reference
- The work should be completed in advance of the first draft of the Terms of Reference
- Deliverable of this project are therefore required by late May
- Therefore the session should be planned for the mid May
- It is proposed that the session be planned for a 2-4 hour facilitated brainstorming session with background introduction

7. Preliminary Agenda

- 9:30 am proposed start (to be confirmed)
- Lunch will be provided
- Welcome and introductions
- Preliminary discussion on nature of SPP
 - Types of policies which would be included
 - What will be in the plan
 - Need for a preliminary local discussion paper
 - Provincial expectations
- SPP Consultation
 - Methods of involving stakeholders
 - Timing of consultation
 - Expectations of regulated requirements
 - Local expectations
- SPP Deliverables
 - Break into 2 or 3 smaller groups
 - Break SPP into 2-3 topics
 - Spend 15-20 min on each topic
 - 5 min report back from each sub-session
- SPP Deliverables Breakdown Structure
 - Organize deliverable components developed through above exercise
- 4:00 proposed wrap-up

Thames – Sydenham and Region Drinking Water Source Protection Source Protection Committee Discussion Paper

Report to Chair and members
Thames – Sydenham and Region
Source Protection Committee

Agenda # 2008.05.6d

Cc SP Management Committee

Date April 30, 2008

Prepared By Chris Tasker, Project Manager

Re: Updated Terms of Reference components

Background

- Attached are details which will be included in the terms of reference for the SP Areas. Included in the package are:
 1. Overview of the Assessment Report Modules
 2. Surface Water Intakes Technical Studies Progress
 3. Groundwater Wellhead Technical Studies Progress
 4. Groundwater Technical Studies Progress – Watershed Based Tasks
 5. Drinking Water System Details
 6. List of Municipalities in the Source Protection Areas
 7. Terms of Reference Tasks
- Items 1, 2, 3, 5 and 6 have been previously presented to the Working Groups and the municipalities at the last forums. These sheets have been revised to include sub tasks to update the work to the current and future MOE guidance.
- Item 4 has been added and has been discussed at the groundwater municipal working group. The Watershed based components of the Assessment Report are to be completed by the CA. This list will be updated to include other region and watershed based tasks from the tasks listed in the Terms of Reference Tasks.
- Item number 3 and 5 have been amended to include 2 planned systems in Oxford County. The County will be providing further details on these systems later.
- The tasks and groupings of tasks in item 2 and 3 have been adjusted to fit the general task descriptions provided in the MOE Terms of Reference Wizard and attached as Item 7.
- Item 7, the Terms of Reference task sheet, will be updated and distributed by email before the meeting and in hard copy at the meeting. This list will be modified to include the sub tasks identified in the tables with descriptions of the work related to the sub task.
- The maps which are required to be submitted with the Terms of Reference will be prepared and distributed at the meeting.

Discussion

- From the Working Group meetings it would appear based on feedback from staff in attendance at the meeting that the municipalities will continue with the existing partnerships

through to the completion of the Assessment Reports and likely the work related to the Source Protection Plan itself. This will be confirmed again at the next meetings in May.

- It is anticipated that Oxford County will continue with undertaking the work on their systems.
- Additional subtasks have been added to bring already completed work up to current guidance as well as to allow for changes in guidance expected with the release of the Directors rules. Although we have some ideas of what might be included in these rules we will not have a clear picture until approved rules are posted. Some of the items which may need to be addressed include:
 - Surface water vulnerability assessment of GUDI systems (Groundwater systems Under the Direct Influence of surface water) as well as possibly threats inventories in those areas where they are substantially different from the WHPAs (Well Head Protection Areas). Based on working group meeting discussion, a preliminary screening may be required to determine which systems require this work.
 - IPZ3 for surface water systems based on issues and possibly concerns identified with the source for the system.
 - Revisions of threats data from version 3.x to version 4.x for work completed in the first round of funding
 - Revisions from version 4.x to final data structure for threats data collected in the second round of studies
 - Conversion or entry of the threats data into final data structure
 - Possible revisions to the vulnerability scoring for Surface Water Sources
 - Conversion from general or specific land use categories used by consultants to ones contained in the final database
 - Revisions to IPZ1 to reduce onshore areas

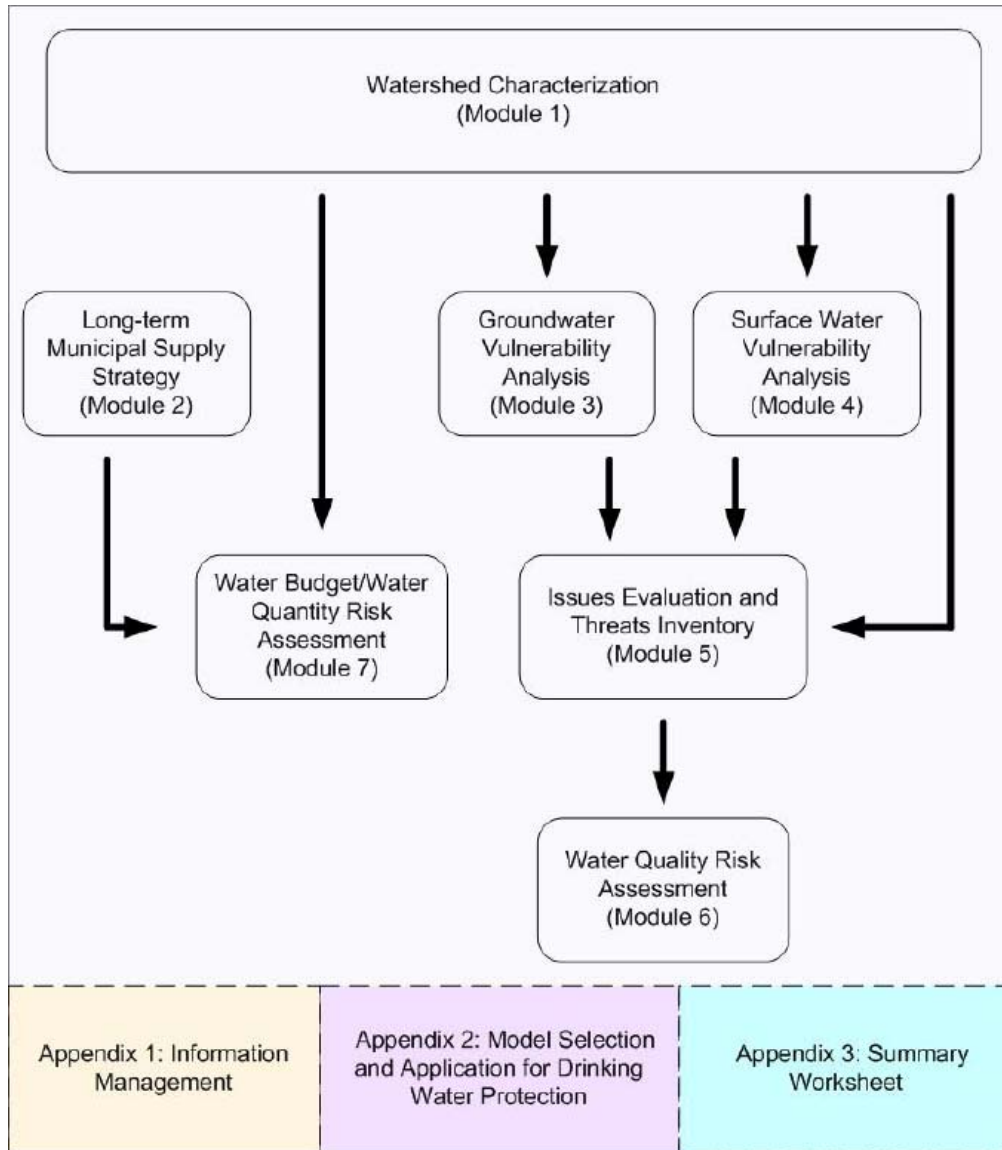


Figure 1: Source Water Protection Assessment Process.

AN OVERVIEW OF ASSESSMENT REPORT PROGRESS

Guidance Module	Name	Progress
Module 1	Watershed Characterization	Report complete
Module 2	Long Term Municipal Supply Strategy	Draft summary report complete
Module 3	Groundwater Vulnerability Analysis	Draft WHPA complete to current guidance
Module 4	Surface Water Vulnerability Analysis	Draft IPZs complete to current guidance
Module 5	Issues Evaluation and Threats Inventory	In progress
Module 6	Water Quality Risk Assessment	Awaiting hazard scores from MOE
Module 7	Water Budget and Water Quantity Risk Assessment	CWB ready for municipal review, Tier 1 workplan approved and work in progress

WHPA: Well Head Protection Area
 IPZ: Intake Protection Zone
 CWB: Conceptual Water Budget

TABLE: GROUNDWATER TECHNICAL STUDIES PROGRESS - WATERSHED BASED TASKS

Source Protection Region	Source Protection Area	Consultant	Groundwater Vulnerability Analysis (Module 3)						Issues Evaluation and Threats Inventory (Module 5)						Water Quality Risk Assessment (Module 6)											
			AR9			AR12			AR10			AR13			AR11		AR14									
			Regional ISI	HVA Delineation	HVA Vulnerability Score	Uncertainty Analysis (HVA)	SGRA Delineation	SGRA Vulnerability Score	Update Module 3 to meet Current Guidance	Update to meet Director's Rules	Threats Inventory in HVA	Issue Identification in HVA	Hazard Score in HVA	Uncertainty analysis (HVA)	Threats Inventory in SGRA	Issue Identification in SGRA	Hazard Score in SGRA	Uncertainty analysis (SGRA)	Update to meet Director's Rules	Threats Prioritization in HVA	Issues Evaluation in HVA	Uncertainty Analysis (HVA)	Threats Prioritization in SGRA	Issues Evaluation in SGRA	Uncertainty Analysis (SGRA)	Update to meet Director's Rules
THAMES - SYDENHAM & REGION	Lower Thames Valley (LTVCA)	Dillon/SP Staff (HVA), Schlumberger/SP Staff (SGRA)	IP				IP	NR																		
	St Clair Region (SCRCA)		IP				NR	NR	NR					NR	NR	NR	NR									
	Upper Thames River (UTRCA)		IP				IP	NR																		

Note: Director's Rules yet to come; NR - task not required, blank cell -task required but not done; IP - In Progress

NOTE

- ISI - Intrinsic Susceptibility Index
- AVI - Aquifer Vulnerability Index
- HVA - Highly Vulnerable Aquifer
- SGRA - Significant Groundwater Recharge Area

TABLE: Drinking Water System Details for the Thames-Sydenham and Region				
Drinking Water System Name (WTP-Water Treatment Plant; WS-Well Supply)	Waterworks #	Owner	Operating Authority	Surface Water (SW) or Groundwater (GW)
Chatham WTP*	220003378	Municipality of Chatham-Kent	Public Utilities Commission	SW
South Chatham-Kent WTP*	260024999	Municipality of Chatham-Kent	Public Utilities Commission	SW
West Elgin WTP	220002949	Municipality of West Elgin	Ontario Clean Water Agency	SW
Wheatley WTP	220003332	Municipality of Chatham-Kent	Public Utilities Commission	SW
Wallaceburg WTP	220003341	Municipality of Chatham-Kent	Public Utilities Commission	SW
Lambton Area Water Supply System	210000906	Lambton Area Water Supply System	Ontario Clean Water Agency	SW
Town Of Petrolia (Bright's Grove) WTP	220002903	Town of Petrolia	Waterworks Environmental Services Inc.	SW
Union Water Supply System	210000853	Union Water Supply System Joint Board of Management**	Ontario Clean Water Agency	SW
Stoney Point WTP	220003396	Town of Lakeshore	Town of Lakeshore	SW
Elgin Primary Area Water Supply	210000871	Elgin Primary Area Water Supply Joint Board of Management***	American Water Services Canada Corp.	SW
Lake Huron Primary Area Water Supply	210000791	Lake Huron Primary Area Water Supply Joint Board of Management***	American Water Services Canada Corp.	SW
Beachville-Loweville WS	220000674	County of Oxford	County of Oxford	GW
Embro WS	220000665	County of Oxford	County of Oxford	GW
Hickson King Subdivision WS	220006124	County of Oxford	County of Oxford	GW
Ingersoll WS	220000692	County of Oxford	County of Oxford	GW
Innerkip WS	260046995	County of Oxford	County of Oxford	GW
Lakeside WS	220007533	County of Oxford	County of Oxford	GW
Mount Elgin WS	220000629	County of Oxford	County of Oxford	GW
Tavistock WS	220000647	County of Oxford	County of Oxford	GW
Thamesford WS	220000610	County of Oxford	County of Oxford	GW
Woodstock WS	220000709	County of Oxford	County of Oxford	GW
(Planned)****	(Planned)	County of Oxford	County of Oxford	GW
(Planned)****	(Planned)	County of Oxford	County of Oxford	GW
Sebringville WS	260003084	Township of Perth South	Ontario Clean Water Agency	GW
St. Pauls WS	220003948	Township of Perth South	Township of Perth South	GW
Shakespeare WS	260002317	Township of Perth East	American Water Canada Corp.	GW
St. Marys WS	220000521	Town of St. Marys	Town of St. Marys	GW
Mitchell WS	210000577	Municipality of West Perth	West Perth Power Inc.	GW
Stratford WS	220000530	City of Stratford	City of Stratford	GW
Birr WS	220005492	Township of Middlesex Center	Ontario Clean Water Agency	GW
London Water Supply (back up wells)	260004917	City of London	The Corporation of the City of London	GW
Dorchester WS	220002146	Municipality of Thames Centre	Municipality of Thames Centre	GW
Kilworth Heights Subdivision WS	210003994	Township of Middlesex Centre	Ontario Clean Water Agency	GW
Melrose WS	260002915	Township of Middlesex Centre	Ontario Clean Water Agency	GW
Thorndale WS	220006115	Municipality of Thames Centre	Municipality of Thames Centre	GW
Mount Brydges WS	210003985	Township of Strathroy-Caradoc	Township of Strathroy-Caradoc	GW
Highgate WS	260015587	Municipality of Chatham-Kent	Public Utilities Commission	GW
Ridgetown WS	220003369	Municipality of Chatham-Kent	Public Utilities Commission	GW

Note:

*Chatham and South Chatham-Kent WTPs share the same intakes

**Municipality of Leamington, Town of Kingsville, Town of Essex, Town of Lakeshore

***c/o the City of London

****County of Oxford has two planned well supply systems considered in the Thames-Sydenham and Region draft Terms of Reference

Table: List of Municipalities in Source Protection Areas

Municipality/First Nation		St. Clair Region Conservation Authority	
Upper Tier	Lower Tier	Area(km ²)	Population
Aamjiwnaang First Nation		11.59	630
Kettle & Stoney Point First Nation		7.79	845
Walpole Island First Nation		150.42	1815
Middlesex County	Adelaide-Metcalf	224.43	2337
Lambton County	Brooke-Alvinston	311.61	2669
Municipality of Chatham-Kent	Chatham-Kent	643.16	20796
Lambton County	Dawn-Euphemia	445.21	2217
Lambton County	Enniskillen	341.20	3537
Lambton County	Lambton Shores	117.93	3644
Middlesex County	Middlesex Centre	115.21	2948
Middlesex County	Newbury	1.82	427
Lambton County	Oil Springs	8.22	719
Lambton County	Petrolia	11.40	4747
Lambton County	Plympton-Wyoming	323.53	7958
Lambton County	Point Edward	2.33	1569
Lambton County	Sarnia	164.32	68880
Middlesex County	Southwest Middlesex	174.90	1443
Lambton County	St. Clair	624.74	16562
Middlesex County	Strathroy-Caradoc	171.44	16529
Lambton County	Warwick	278.23	4248
	TOTAL	4129.47	164520

Municipality		Upper Thames River Conservation Authority	
Upper/Single Tier	Lower Tier	Area(km ²)	Population
Oxford County	Blandford-Blenheim	49.13	2106
Huron County	East Huron	2.06	11
Oxford County	East Zorra-Tavistock	221.52	7422
Oxford County	Ingersoll	9.85	10659
London		342.51	351310
Middlesex County	Lucan-Biddulph	57.37	990
Elgin County	Malahide	3.86	73
Middlesex County	Middlesex Centre	287.40	9478
Perth County	North Perth	4.46	44
Oxford County	Norwich	51.49	1271
Perth County	Perth East	360.85	7037
Perth County	Perth South	385.85	4726
Huron County	South Huron	27.33	219
Oxford County	South-West Oxford	230.75	6084
St. Marys		12.91	6600
Stratford		20.63	28081
Middlesex County	Strathroy-Caradoc	20.56	1336
Middlesex County	Thames Centre	391.65	12390
Perth County	West Perth	382.49	6984
Oxford County	Woodstock	24.73	32904
Oxford County	Zorra	533.23	8270
	TOTAL	3420.62	497995

Municipality/First Nation		Lower Thames Valley Conservation Authority	
Upper Tier	Lower Tier	Area(km ²)	Population
Chippewa of the Thames First Nation		39.26	733
Delaware First Nation		12.92	405
Munsee-Delaware First Nation		11.17	172
Oneida First Nation		22.32	2
Municipality of Chatham-Kent	Chatham-Kent	1798.69	87222
Elgin County	Dutton-Dunwich	296.04	3759
Essex County	Lakeshore	110.41	1476
Essex County	Leamington	58.08	1073
Middlesex County	London	14.74	336
Middlesex County	Middlesex Centre	42.26	1267
Middlesex County	Newbury	0.05	10
Middlesex County	Southwest Middlesex	254.08	4511
Elgin County	Southwold	169.09	2150
Elgin County	St. Thomas	0.15	18
Middlesex County	Strathroy-Caradoc	82.37	1952
Elgin County	West Elgin	323.19	5357
	TOTAL	3234.80	110443

Data based on converting the dissemination area (DA) populations to a people/km² value and then overlaying the subwatershed Area and population indicate the part of the municipality within the Source Protection Area

Thames-Sydenham and Region

Terms of Reference Tasks

Task#	TaskName (ToR Wizard)	Description	Status
Assessment Report Preparation			
AR1	Coordinating and supporting projects for the assessment report	Undertaking administrative support, staffing, management support, and training necessary to provide project coordination for the assessment report components and direct support to the source protection committee.	In progress
AR2	Undertaking communications initiatives for the assessment report	Local area engagement, outreach and creation of communications products that support the assessment report process.	In progress
AR3	Information management for the assessment report preparation	Conducting overall data management, data sharing agreements, standards, mapping, software and maintenance.	In progress
AR4	Undertaking a watershed characterization	Identifying and describing watersheds in the source protection area. May include water quality analysis and peer review for water quality analysis. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	Report complete
AR5	Conducting a conceptual water budget	Describing the overall flow system dynamics for each watershed in the source protection area taking into consideration surface water and groundwater features, land cover (e.g. proportion of urban vs. rural uses), human-made structures (e.g. dams, channel diversions, water crossings), and water takings. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	Ready for municipal review
AR6	Conducting a tier 1 water budget analysis and stress assessment	Conducting a tier 1 water budget analysis, stress assessment, and delineation of significant groundwater recharge areas. May also include the identification of water quantity concerns and an analysis of uncertainty. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	In progress
AR7	Conducting a tier 2 water budget analysis and stress assessment	If determined necessary from a tier 1 water budget analysis and stress assessment, conducting a tier 2 water budget analysis and stress assessment, and refining the delineation of significant groundwater recharge areas. May also include the identification of water quantity concerns and an analysis of uncertainty. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	See detailed spreadsheet
AR8	Conducting a tier 3 water budget analysis and water quantity risk assessment	If determined necessary from a tier 2 water budget analysis and stress assessment, conducting a tier 3 water budget analysis and water quantity risk assessment. May include identifying significant, moderate and low water quantity threats. May also include consultation with property owners/residents/stakeholders impacted by a significant drinking water threat scoring and an analysis of uncertainty. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	See detailed spreadsheet
AR9	Delineating and applying vulnerability scores to HVAs	Delineating the location and extent of highly vulnerable aquifers in the source protection area and applying vulnerability scores. An uncertainty analysis may be included in this task. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	See detailed spreadsheet
AR10	Identifying issues, inventorying threats and assessing hazards in HVAs	Listing and describing drinking water quality issues, inventorying threats and assessing hazards (including uncertainty analysis) in the highly vulnerable aquifers. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	See detailed spreadsheet

Thames-Sydenham and Region

Terms of Reference Tasks

Task#	TaskName (ToR Wizard)	Description	Status
AR11	Assessing risks in HVAs	Identifying any significant, moderate, low, and negligible drinking water threats, undertaking an issues evaluation, and analysing uncertainty in highly vulnerable aquifers. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	See detailed spreadsheet
AR12	Applying vulnerability scores to SGRAs	Applying vulnerability scores to significant groundwater recharge areas in the source protection area (delineated in the water budget process). Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	See detailed spreadsheet
AR13	Identifying issues, inventorying threats and assessing hazards in SGRAs	Listing and describing drinking water quality issues, inventorying threats and assessing hazards (including uncertainty analysis) in the significant groundwater recharge areas. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	See detailed spreadsheet
AR14	Assessing risk in SGRAs	Identifying any significant, moderate, low, and negligible drinking water threats, undertaking an issues evaluation, and analysing uncertainty in significant groundwater recharge areas. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	See detailed spreadsheet
AR15	Delineating and applying vulnerability scores to WHPAs or IPZs	Delineating the location and extent of the vulnerable area around a drinking water system (wellhead protection areas for drinking water systems using groundwater or intake protection zones for drinking water systems withdrawing from surface water) in the source protection area and applying a vulnerability score. Uncertainty analysis and peer review may be required. In addition, consultation with property owners/residents/stakeholders affected by the delineation and scoring for these two vulnerable areas may be required. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	See detailed spreadsheet
AR16	Identifying issues, inventorying threats and assessing hazards in WHPAs or IPZs	Listing and describing drinking water quality issues, inventorying threats and assessing hazards (including uncertainty analysis) in wellhead protection areas and/or intake protection zones. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	See detailed spreadsheet
AR17	Assess risk in WHPAs or IPZs	Identifying any significant, moderate, low, and negligible drinking water threats, undertaking an issues evaluation, and analysing uncertainty in wellhead protection areas or intake protection zones. Consultation may be required with stakeholders impacted by significant drinking water threats scoring. Consultation with adjacent source protection areas or regions may also be required for shared Great Lakes drinking water issues. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	See detailed spreadsheet
AR18	Consultation on the overall proposed assessment report	Meeting the legislative and regulatory requirements on the consultation and submission process of the proposed assessment report. Details on how to complete this task will be available in the Assessment Report regulation, Director's rules, and guidance when they are developed.	In progress
AR19	Other Assessment Report Preparation Task	If required, add other tasks to complete the assessment report. Describe in detail.	In progress

Thames – Sydenham and Region Drinking Water Source Protection Source Protection Committee Discussion Paper

Report to Chair and members
Thames – Sydenham and Region
Source Protection Committee

Agenda # 2008.05.6e

Cc SP Management Committee

Date April 29, 2008

Prepared By Chris Tasker, Project Manager

Re: Terms of Reference timing

Background

- The Terms of Reference regulation requires that the Terms of Reference be submitted to the Source Protection Authority (SPA) by August 20, 2008 after a required posting and comment period. Subsequent to submitting to the SPA an additional posting for comment is required.
- The Terms of Reference is required to include a work plan for the completion of the Assessment Report and Source Protection Plans for the region.
- In order to meet the required deadline and have adequate opportunity to consult with municipalities on the work plan, the first required posting period will occur in July. Draft terms of reference must therefore be ready in June.
- The director's rules on the Assessment Report and Source Protection plan have yet to be released. Some of the draft guidance may be posted on the EBR for comment in mid June. While draft guidance on the assessment report has been utilized for the technical projects underway, no similar guidance, draft or otherwise, is available for the Source Protection Plan.
- We have yet to see a discussion paper which will outline some of the MOE's considerations on the Source Protection Plan. This document was promised so that committees would have some guidance as to what will be required in the Source Protection Plan and the level of consultation which will be expected. This discussion paper is necessary as we will likely not see guidance or rules on the plan until after the Terms of Reference is required to be submitted to the Minister.
- It is anticipated that there will be significant differences in the director's rules when compared against the most recent guidance. Although the Terms of Reference is a high level planning document, these changes will result in work which needs to be allowed for in the Terms of Reference and as a result may require changes to the Terms of Reference.
- The Terms of Reference Wizard which provides the format in which the Terms of Reference must be submitted (and consulted on) only became available in March, rather than in November 2007 as planned.

Discussion

- Meaningful consultation is important for the success of the Source Protection Plan. Consultation on a Terms of Reference which we know does not address the legislated requirements will serve to reduce the credibility of the committee and staff.
- Consultation in the summer will be required to meet the required submission dates. This will be seen by many stakeholders as an attempt to bypass meaningful consultation further reducing the credibility of the SPC.
- The summer timing of the last opportunity for municipal input on the Terms of Reference may make it difficult for some municipalities to get resolutions due to summer meeting schedules. As councils should have considered this in advance of the summer, this is only a minor concern. Further, provided the municipality has provided the SPC with an indication that a resolution will be coming; the council can provide the resolution subsequent to the submission of the Terms of Reference to the SPA or even to the MOE. It is important that the SPC be provided with advance notice in sufficient time to planning for the work, especially if the municipality's resolution affects the scope, timing or cost of the work to be included in the work plan. Resolutions are required if the municipality wishes to undertake work, in which case the resolution would be submitted with a scope, timing and cost of the work so that it may be included in the work plan. Further, a resolution is required for adding systems to be included in the SPP, however MOE is suggesting that municipalities hold off on considering these until guidance is available. The last thing that requires a municipal resolution is the exemption of a municipal residential system.
- Current MOE plans have draft rules and guidance being posted for comment at the same time as we will be preparing to begin consultation on the first draft of the Terms of Reference
- In addition to the guidance and rules to be posted in mid-June, it is anticipated that the Ministry will post the critical lookup tables for land use. Without these tables it is difficult to determine how much work will be required to amend previously completed threats inventories to final standards and to accurately assess the number of potential significant threats and therefore the scope of the work to undertake Tier 2 Risk Assessment. It has however been discussed that the Assessment Report and the Source Protection Plan can be completed without the completion of the Tier 2 Risk Assessment based on generalized categories of risk in areas where those threats could present a significant risk. Tier 2 Risk Assessment would however be necessary for Negotiated Risk Management Plans. It is possible that by deferring this work from part of the Source Protection Plan to implementation could have an impact on who might be required to fund this work.
- It would be possible for the SPC to request changes to the Terms of Reference after their submission to the SPA, by providing comments to the SPA during the second posting. These comments would then be considered by the Minister in the approval of the Terms of Reference. The Minister could order the Terms of Reference to be amended to reflect the comments of the SPC. This would effectively eliminate the need to undertake a second set of postings and consultation on the proposed revisions. It would however effectively eliminate stakeholders from having the opportunity to comment on these proposed revisions.
- It is important to proceed in an expeditious manner towards the completion of the Source Protection Plan; however proceeding with the submission of a Terms of Reference at a point

where it is known that it is likely to require immediate amendments may actually result in further delays rather than a quicker end to the process. The requirements for consultation on proposed amendments will add more than 3 months to the approval of an amended Terms of Reference. Amending the terms of reference will require considerable efforts by staff and the SPC directing their attention from getting work underway which was included in the approved Terms of Reference. Thus moving forward with a terms of reference which will need immediate revision is not likely to shorten, but may actually extend the time required to complete the assessment report.

- An early submission of a Terms of Reference may provide the MOE with an early estimate of the costs of the completion of the Source Protection Plans. If however the MOE moves forward with securing funding based on these incomplete Terms of Reference and we require additional funding to complete the work contained in the revisions, it may be difficult to secure the additional funding required to complete the work.
- Based on some of the reasons identified above the Director requested that the deadlines for the submission of the Terms of Reference be extended. The ministry has however elected to maintain the existing deadlines. They have however reallocated resources to ensure that they are ready to post drafts on the EBR June 15.
- Irrespective of the Ministry's refusal to extend the deadline, we anticipate that some of the SPCs will be requesting an extension or indicating that they will not be meeting the required submittal dates and therefore will be out of compliance with the Clean Water Act unless granted an extension by the Minister of the Environment. A request of this nature is consistent with one of the options presented in the attached memo from Ian Smith, Director.
- Posting of drafts on June 15 does not give adequate time to give careful consideration of the rules and guidance in advance of the planned consultation on the proposed terms of reference. It does however allow for this posted guidance to be considered prior to submitting the Terms of Reference to the SPA. It still does not allow for *final guidance* to be considered as it is only drafts which will be posted in June.
- Regardless of whether an extension is requested or granted it is likely that the terms of reference will require amendment at some point.

Thames-Sydenham and Region

Terms of Reference Tasks

Task#	TaskName (ToR Wizzard)	Description	Status
Source Protection Plan Preparation			
SPP1	Coordinating and supporting projects for the source protection plan (SPP)	Undertaking administrative support, staffing, management support, and training necessary to provide project coordination for the source protection plan components and direct support to the source protection committee.	In progress
SPP2	Undertaking communications initiatives for the source protection plan	Local area engagement, outreach and creation of communications products that support the source protection plan process.	In progress
SPP3	Information management for source protection plan preparation	Conducting overall data management, data sharing agreements, standards, mapping, software and maintenance.	In progress
SPP4	Establishing evaluation criteria for selecting policies	Establishing evaluation criteria to assist with objectively deciding how policies will be considered in a transparent manner. Criteria may consider elements such as the natural, social, and economic environments, including health, cost-benefit considerations, and conformance with existing official plans.	
SPP5	Administrative priority setting of work required to complete SPP based on risk assessments in AR	Administrative priority setting and strategic planning for the management of the work required to complete the source protection plan based on results of risk assessments documented in the assessment report. It is anticipated that the number of significant threats, the distribution and location of the threats, etc., may guide the committee in how they will specifically create the plan (e.g. which threats in which vulnerable area will be addressed first), who will be the key players in the plan development, and how they wish to prioritize the work required. Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.	
SPP6	Policy development to address drinking water threats (where required and/or permissible in Act/Regs)	Policy development to address drinking water threats (where required and/or permissible in the Act and source protection plan regulation). Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.	
SPP7	Policy development for monitoring (where required, advisable and/or permissible in Act & Regs)	Policy development for monitoring activities (where required, advisable and/or permissible in the Act and source protection plan regulation), including determining who is responsible for implementing these policies. Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.	
SPP8	Policy development for Great Lakes elements (where required/permissible in Act & Regs)	Policy development for Great Lakes associated elements (where directed by the Minister and required or permissible in the Act and source protection plan regulation), including monitoring policies to assist in implementing and determining the effectiveness of achieving Great Lake target(s) policies, determining who is responsible for implementing those policies, and determining the need to identify any of these policies as "designated Great Lakes policies". Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.	
SPP9	Establishing timelines for policy implementation	Establishing timelines for policy implementation after all policies for the SPP are developed, giving consideration to the policies developed, key players affected, capacity for implementation, the assessed risks, and natural, social, and economic considerations, including local community interests/needs. Detailed requirements and guidance will be provided in the Source Protection Plan regulation and guidance document when they are developed.	
SPP10	Consultation on the overall proposed source protection plan	Consultation and submission process of the overall proposed source protection plan. Details on how to conduct the consultations on the overall proposed source protection plan will be provided in the Source Protection Plan regulation and guidance document when they are developed.	In progress
SPP11	Other Source Protection Plan Preparation Task:	If required, add other tasks to complete the source protection plan. Describe in detail.	

**Ministry of
the Environment**

Source Protection Programs
Branch

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April 17, 2008

TO: Source Protection Committee Chairs
Source Protection Program Managers

FROM: Ian Smith, Director,
Source Protection Programs Branch
Drinking Water Management Division

Re: Challenges to the Completion of the Terms of Reference

During the third meeting of the Source Protection Committee (SPC) Chairs (March 3-4), Chairs and Program Managers identified a number of challenges to the successful and timely completion of the terms of reference. Ministry of the Environment (MOE) staff committed to considering and responding to the most commonly noted concerns in order to support the timely completion of the terms of reference. Below is a discussion of these concerns and proposed courses of action to address them.

1. Timelines

The timelines for completing the terms of reference were the most commonly noted challenge. Many SPCs expressed concern that there is no margin for error in the schedules they have established for completing the terms of reference by the legislated due date. The most common concerns relating to timelines were the following:

- 1) The timing for delivery of the Assessment Report Regulation and the Director's Rules in turn delays the completion of the Terms of Reference because these rules and regulations are necessary for determining the work still to be carried out for the assessment report.
- 2) Under current legislated timelines, public consultation periods would fall within the summer months when many people are on vacation.
- 3) The tight timelines make it difficult to obtain municipal council resolutions due to a reduced number of council meetings over the summer months – the time during which the terms of reference will be finalized.

In recognition of these concerns and particularly the timing for the delivery of the Director's Rules, I requested that the deadlines for the preparation and submission of the Terms of Reference be extended. However, the Ministry has elected to maintain the existing deadlines. Thus, the Terms of Reference are still due to the Source Protection Authority (SPA) by the original date of August 20, 2008 and to the Ministry by October 20, 2008. In order to facilitate each SPC's ability to meet this time line, the Ministry has made decisions to re-allocate staffing resources to ensure that the Assessment Report Regulation and Technical Rules can be completed by the original target date of June 1, 2008. The Ministry is working to post notice of the proposed Assessment Report Regulation and Technical Rules on the Environmental Registry by June 15, 2008. The Ministry will, to ensure the preparation of the Terms of Reference can proceed, provide sections of the draft Rules to SPAs as they become finalized, in advance of the June target. These draft rules, while remaining necessarily confidential to SPA staff, will inform and guide discussions between the SPAs and municipalities in the preparation of the Terms of Reference.

In light of this, SPCs should plan to continue along their current schedule for preparing and consulting on the Terms of Reference. There are several options for SPCs relating to where they are in the process now and the timing of public consultation.

Option A – Several SPCs are nearly finished their draft proposed Terms of Reference and are planning to move forward with the first public consultation period within the next month. These SPCs may be ready to submit the draft Terms of Reference to the SPA, after making changes based on the first public consultation period, by June 2008. These Source Protection Committees would not have to do public consultation or even meet regularly during the summer months. Consulting on and submitting their Terms of Reference in advance of receiving the final draft of the Assessment Report Regulation and Technical Rules is not an issue. These committees can amend the Terms of Reference at a later date, if in fact it is necessary; given the high level nature of the Terms of Reference, it is not expected that the Assessment Report Regulation or Technical Rules will require significant amendments to be made to the Terms of Reference.

Option B – Similar to the first option, SPCs could plan to proceed with public consultation on the draft proposed Terms of Reference in advance of receiving the final draft Assessment Report Regulation and Technical Rules. However, they may choose to amend their Terms of Reference based on the draft Assessment Report Regulation and Technical Rules after this initial round of public consultation. These amendments will appear in the draft Terms of Reference submitted to the SPA and will be consulted on during the second round of public consultation. Public comments during this second round of consultation will go directly to the SPA and then to MOE. MOE can approve the Terms of Reference or can conditionally approve it with the condition that certain comments from the second round of public consultation are addressed.

Option C – SPCs may decide to wait until June for their public consultation so as to incorporate information from the draft Assessment Report Regulation and Technical Rules. This still allows them to consult before the summer months.

Option D – In the case that SPCs are unable to prepare and consult on their Terms of Reference by the due date of August 20, 2008, they can request an extension from the Minister. Any requests will be reviewed and decided upon on a case by case basis with regard to the justification provided. Without an approved extension, SPCs risk being out of compliance with the legislation.

It is fully expected that, regardless of the scenario, Terms of Reference will need to be amended at some time during the source protection planning process. This could be necessary after the Assessment Report Regulation and Technical Rules come into effect, after the completion of the Assessment Report, or at any other time to reflect significant changes. It is on the agenda of MOE Source Protection Programs Branch staff to request an amendment to the regulation which currently requires similarly extensive public consultation for amendments to the Terms of Reference as for the initial draft of the Terms of Reference.

In an additional attempt to facilitate public consultation, MOE will work with SPCs to ensure that the Terms of Reference are available for comment in a central location (see section 3 on public consultation). Finally, regarding the difficulty of obtaining municipal council resolutions, I remind you that there is only an official requirement for a council resolution if the municipality desires to undertake work or elevate a non-municipal drinking water system to the source protection planning process. If necessary, SPCs can submit the Terms of Reference in advance of receiving municipal council resolutions, noting that these will follow shortly afterwards. The MOE could approve these Terms of Reference on the condition that the council resolutions are received.

2. Elevating Drinking Water Systems Other Than Municipal Residential Drinking Water Systems

Another concern relating to the completion of the terms of reference was the elevation of an unknown number of drinking water systems other than municipal residential drinking water systems into the source protection planning process by municipalities. Chairs and Program Managers noted that they are waiting for formal guidance from MOE on considerations for elevating these systems and that there is a need for clarity regarding the responsibilities around such systems.

In a previous memo, I requested that SPCs advise municipalities that the decision to elevate a system should be deferred until guidance is given to the municipalities. Among other things, the guidance will explain how municipalities can enlist the Source Protection Authority (SPA) to help them consider whether to elevate a system. A draft of this guidance was presented at the recent Chairs meeting and is expected to become available in final form in the near future. The Chairs and Program Managers all indicated that additional materials should be provided with the technical guidance materials to ensure that municipalities and SPCs understand the implications around elevating systems. Therefore, the province is proposing to provide more direction on the program around the inclusion of other systems. This information will be provided to the Chairs and Program Managers, in advance of sending it to municipalities, to seek their input on the package. Our expectation is that municipalities, working with their SPAs in many cases, will start to consider systems once the province provides the guidance materials discussed above.

Therefore, I still advise that chairs suggest that municipalities defer any decision to elevate a non-municipal drinking water system. The *Clean Water Act* provides for the terms of reference to be amended at a later date, which facilitates including these systems after the preliminary assessment based on the coming guidance is completed. MOE will work with the Association of Municipalities of Ontario (AMO) to ensure that municipalities are notified when the guidance has been finalized. Once the province provides these materials, I recommend that SPAs and their municipalities discuss the need to elevate other systems and consider sending the Ministry a list of systems that they are considering elevating. With this information, the Ministry will be able to make an informed decision around funding for these systems and provide municipalities with information on funding in advance of undertaking any council resolutions.

3. Public Consultation and the Environmental Registry

Several SPCs suggested that posting the terms of reference during the required public comment periods on the Environmental Registry (under the *Environmental Bill of Rights*) would address some of the challenges of public consultation, including avoiding the difficulties of visiting 19 separate source protection region/area websites to access these documents. It was also noted that some members of the public will naturally look to the Environmental Registry for these documents.

The Environmental Registry is a provincially maintained forum established through the *Environmental Bill of Rights* to provide a means of giving information about the environment to the public (s.6). All information notices posted on the Environmental Registry must relate to a specific application or document that is subject to a decision by the Ministry. Therefore, since versions of the terms of reference, assessment report, or source protection plan circulated for public comment during the regulated comment periods will not be identical to the final version submitted to, and subject to a decision by, the Ministry, information notices regarding pre-submission versions of documents are not eligible for posting on the Environmental Registry. MOE is proposing to work with Conservation Ontario to determine if Conservation Ontario's website could serve as a centralized, provincially accessible location for posting notices informing the public of the opportunity to review the terms of reference, assessment reports or source protection plans during the regulated public comment periods, to supplement the existing Internet posting requirements on each SPC Drinking Water Source Protection website. MOE is also considering using the Drinking Water Portal as such a central, provincially accessible location for posting notices regarding the terms of reference.

4. Complicating Factors

Several SPCs have received requests to assess regional threats to drinking water, including uranium, quarries, and municipal dump sites, as part of the source protection planning process. Some of these committees are looking to MOE for guidance on how to assess such threats under the *Clean Water Act*. Further guidance on evaluating such threats, especially in relation to highly vulnerable aquifers and significant groundwater recharge areas, was provided to the Program Managers at their meeting on April 16.

Additionally, some SPCs requested more information on how the requirements for meeting growth projections and intensification targets and timing under the Growth Plan for the Greater Golden Horseshoe would align with the source protection planning process. MOE met with the Ministry of Public Infrastructure Renewal to discuss these issues and both ministries have agreed to work together and meet on a continual basis as the source protection program continues to be developed. We also agreed to work on an information sheet that looks at the synergies between these two programs and how these two programs can be aligned at each stage of the process.

I hope that these proposed courses of action and the information noted above address your concerns about the completion of the terms of reference. Should you have any other questions or comments, please do not hesitate to contact Paul Heeney, Manager of Source Protection Implementation, at (416) 326 – 5564 or paul.heeney@ontario.ca.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ian Smith', with a long horizontal flourish extending to the right.

Ian Smith, Director,
Source Protection Programs Branch
Drinking Water Management Division