

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 # 2009.11a.7d

Cc SP Management Committee

Date November 5, 2009

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Re: Assessment Report Extension

Background

1. The Thames-Sydenham and Region Source Protection Committee is required to submit three Assessment Reports, one for each of the Source Protection Areas in the region. There are 32 systems in the region, 23 of which are in the Upper Thames River Source Protection Area. Those systems include 79 of the 87 wells in the region
2. The deadline for submission of Assessment Reports is identified in the general regulation (O.Reg 287/07) as "the first anniversary of the date that notice of the approval of the terms of reference is published...". As such all three of the Assessment Reports for the Thames-Sydenham and Region are due on April 20, 2010, one year from the posting of the approval of the terms of reference on EBR.
3. Prior to submission of the Assessment Report, two consultation periods (35 and 30 days) are required. It is also necessary to schedule meetings for the Source Protection Committee and the three Source Protection Authorities to review and consider the comments. This results in a required consultation period of more than 3 months from the first posting to the submission of the Assessment Reports. This has been referred to in our Assessment Report Consultation Plan as phase 3 consultation. This third phase follows a first and second phase which includes much more locally focused consultation.
4. Completion of much of the work required in the Assessment Report has identified 11 data gaps which cannot be filled in time to be included in the first Assessment Report prior to the required consultation. Many of these gaps are significant enough that the Assessment Reports would be considered out of compliance. The following table lists the significant data gaps, details on the gaps and possible ways to deal with the gaps.
5. Although the additional work required to fill most of these data gaps could be completed prior to the submission of the Assessment Reports, it is not possible to include that work in the required Phase 3 consultation even if the pre-consultation undertaken for the other work (phase 1 & 2 consultation) was skipped.
6. These data gaps and the options to deal with them have been discussed with staff at MOE
7. The Source Protection Committee has decided that they will not consult on WHPAs which are not completed to their satisfaction. Going to the public with lines which are not defensible would undermine the public confidence in the process and raise questions on the strength of the science behind the Source Protection Plan.

8. Similarly the County of Oxford and the town of St Marys have expressed concerns with consulting on work which is likely to be revised due to changes in the model results used to delineate WHPAs.

Discussion

1. Assessment Report deadlines were arbitrarily set without any consideration of the complexity or volume of the materials to be included in the Assessment Report. This short timeframe for the completion of the Assessment Report was based largely on the fact that much work was initiated prior to the finalization of rules. The timeframe was also set prior to the establishment of the rules which defined much of the work. While much of the work is consistent with the early guidance there are aspects of the work which have changed. Although the risk assessment portion of the work required to be included in the Assessment Report was actually made simpler, this required significant changes in work plans to accommodate the changes. Some of the rules are still in a state of change.
2. Where work is being done by others (municipalities or consultants) the Source Protection Committee and SPAs have little control over receiving materials. This is greatly compounded by the consultant's involvement with studies in other regions on a similar schedule. In order to meet the tight schedule the CAs and municipalities have worked with the consultants to define required deliverables and adjust work plans to delay aspects of the work which do not need to be included in the Assessment Report while focusing on those which are to be included. Most parties involved in this work have endeavored to provide the parts of the material in time to allow for our process to proceed to this point.
3. Options to deal with these gaps include:
 - Request extension for one or more Assessment Reports
 - Submit Assessment Reports with the gaps included and work plans to fill the gaps
 - Submit the Assessment Report late with gaps filled
4. The preferred option depends on the nature of the gap and number of gaps anticipated in an Assessment Report. Options are identified in the following table with the preferred option highlighted.
5. Attempting to submit all 3 Assessment Report on time will have a negative effect on the quality of all 3 Assessment Reports. It is better to focus effort on those reports which can be largely completed, returning to the Upper Thames River Source Protection Area Assessment Report while consultation proceeds on the other two.
6. If an extension to complete the Upper Thames River Source Protection Area Assessment Report is requested, it will need to be 4 months beyond the dates that the data gaps are filled to allow for drafting of the Assessment Report, review and consultation. Based on the dates identified in the attached table it would result in a submission date beyond the end of August.

#	Assessment Report	System Requirement	Status or Description of Gap/Deficiency	Anticipate time frame to be able to fill gap	Alternative ways to Deal with Gap
1	Upper Thames River Source Protection Area	St Marys WHPA-A...D	<ul style="list-style-type: none"> o Modelling completed through municipal study (2002) o Perth GW Study (2003) used materials developed in previous modeling study o 2003 study reviewed by MOE o SP Tech studies to rely on past work of the Perth GW study. All work completed through that GW study was successfully peer reviewed with the exception of the St Marys model which had been completed earlier o TSR vulnerability assessment peer reviewers identified concerns with the work related to St Mary. Further, St Marys staff not comfortable with the high level of uncertainty around the extent and direction of the vulnerable zones. This concern was echoed by CA staff and the consultants o Source Protection Committee decided not to consult on WHPA given the exceedingly high level of uncertainty associated with the WHPA delineation. 	March 2010	<ol style="list-style-type: none"> 1. Submit with gap – fill gap in addendum/revise AR 2. Submit late once work is completed 3. Request extension for Upper Thames River Source Protection Area Assessment Report.
2	Upper Thames River Source Protection Area	Woodstock planned System	<ul style="list-style-type: none"> o New Bond well planned as part of existing Woodstock system o Well identified in terms of reference as a planned well within the existing system o Municipality undertaking technical studies o Municipality seeking permits for pump tests o Pump test results will be provided to modelers once available in December 09 o Two month required for modeling and an additional month for vulnerability assessment o Will need to be peer reviewed before consultation 	May 2010	<ol style="list-style-type: none"> 1. proceed with consultation on WHPA not affected by new well and submit with those affected by planned well as data gap 2. same as 1 but include WHPA for those wells affected by the planned well based on current situation if submitted by municipality 3. submit late 4. Request extension for Upper Thames River Source Protection Area Assessment Report.

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3	Upper Thames River Source Protection Area	Mt Elgin planned system	<ul style="list-style-type: none"> ○ Greydon well to be added to Mt Elgin system ○ Same status as Woodstock planned system 	May 2010	<ol style="list-style-type: none"> 1. Proceed with consultation on WHPA VA based on existing system if information submitted by municipality 2. submit AR with data gap 3. submit AR late 4. Request extension for the Upper Thames River Source Protection Area Assessment Report.
4	Lower Thames Valley Source Protection Area	West Elgin emergency Intake IPZ-2	<ul style="list-style-type: none"> ○ new treatment plant constructed while vulnerability assessment being undertaken ○ uncertainty as to whether the emergency intake would be useable by the new plant ○ towards the completion of the vulnerability assessment it was determined that although useable the intake was not very functional due to limited capacity and sedimentation of intake ○ IPZ-1 and 2 delineated and scored for primary intake ○ IPZ-1 delineated and scored for emergency intake ○ Emergency intake more vulnerable than primary intake ○ Explored likelihood of IPZ-2 for emergency intake being within IPZ-2 of primary intake – hydro-tech consultant indicated that additional modeling needed to be completed to define complex near-shore situation ○ Peer review completed vulnerability assessment of primary intake IPZ-1 and 2 as well as emergency intake IPZ-1 ○ Uncertain as to whether a municipal resolution to exempt only the emergency intake would be acceptable 	Spring 2010, but may require future update if intake modified to make it more functional	<ol style="list-style-type: none"> 1. Request special allowance through 15.1 2. Amend Terms of Reference if municipal resolution and posting received 3. identify as a data gap and submit Lower Thames Valley Source Protection Area Assessment Report on time with work plan to complete the delineation of the IPZ-2 for the emergency intake

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5	St Clair Region Source Protection Area	Wallaceburg IPZ-2	<ul style="list-style-type: none"> o unique IPZ previously having special rules to deal with the extensive regulatory flood limits o type of system based on whether it is a river or connecting channel (either with or without impoundment) based back flow and impacts from Sydenham River (or potentially Lake St Clair). Further compounded by the fact that it is on a distributary of the St Clair River rather than on the connecting channel itself. o Complexity of transport pathways due to extensive private and municipal pumping schemes o Need to consider multiple conditions for the delineation of upstream and downstream extents of IPZ-2 due to reverse flow considerations. Work to model different scenario will take approximately a month. May require peer review of results. o Model used to delineate zone has already been peer reviewed o Recent information from private pump operators being considered by consultant. o This data gap has yet to be explored in detail with MOE although they are aware of the difficulties with this system 	Early December 2009	<ol style="list-style-type: none"> 1. Request special allowance through Rule 15.1 to exclude regulation limits 2. Incorporate revisions into Assessment Report. Hold local consultation (ph1&2 combined) at the start of the posting period (Ph3 – early Jan), provide update to peer review committee but not require full review of work 3. delay consultation on vulnerability assessment until peer review completed 4. Request an extension 5. Submit the Assessment Report late 6. Submit Assessment Report with IPZ2 for Wallaceburg identified as a data gap.
6	All	Livestock Density	<ul style="list-style-type: none"> o Revisions to the rules require inventory of livestock within vulnerable areas. It will be necessary to know the size of barns, the type of livestock included in the barns. o Previous rules required the use of ag census data which was prone to inaccuracies in the density of livestock in the areas of interest. o This information is needed to assess the risk level of threats related to livestock and ASM o Consultants are being asked to identify separately the number of locations where the activities which require this information for risk assessment may be being undertaken o Only necessary to determine which threshold category (measured in nutrient units per acre) the area falls within 	<p>December 2009 (SCRSPA, LTVSPA)</p> <p>February 2010 (UTRSPA)</p>	<ol style="list-style-type: none"> 1. Submit Assessment Report with item identified as data gap as well as threats with this as a circumstance 2. Request allowance for estimate/assumption through rule 15.1

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7	All	Managed Land	<ul style="list-style-type: none"> ○ Revisions to the rules may require map of managed lands although verbal indication is that it will only be necessary to map the percent of managed lands as per the thresholds identified in the tables of threats ○ Past efforts to delineate high level land use has identified most of the agricultural managed lands ○ Work remains to identify agricultural managed lands in some areas (HVA and SGRA) and non-agricultural managed lands in all ○ Only necessary to identify the circumstance category of parts of the vulnerable areas. ○ This is required to assess risk levels for ASM, non-ASM and fertilizer ○ Likely possible to include this information in Assessment Report for St Clair Region Source Protection Area and Lower Thames Valley Source Protection Area but will not be possible to update number of significant threats in the version to be posted. Could be updated in proposed Assessment Report submitted to SPA for the second posting. 	End of November 2009	<ol style="list-style-type: none"> 1. Submit Assessment Report with item identified as data gap as well as threats with this as a circumstance 2. Request allowance for estimate/assumption through rule 15.1
8	All	Percent Impervious	<ul style="list-style-type: none"> ○ Areas within vulnerable areas need to be categorized to determine the percentage impervious area. The percent impervious represents the area on which salt can be applied for the control of ice (roads, sidewalks and parking lots). The percent impervious is to be calculated on a 1 km square grid. ○ The rules specified that the grid is to be centred on the vulnerable area. This results in overlapping grids when vulnerable areas are close together and uncertainty as to how to develop the grid for HVA and SGRA. ○ A potential change in the rules will allow the grid to be centred on the Source Protection Authority, requiring a recalculation of the impervious percent on a new grid. This recalculation is not a difficult task, however, if risks have been assessed based on the percent impervious in calculated based on the previous method, this requires considerably more work. For most areas the risks associated with application of road salt has not yet been assessed as the calculations have not been completed ○ For those few areas which have already assessed the risks based on a different grid it may result in a slightly different result. 	End of November 2009	<ol style="list-style-type: none"> 1. Complete the analysis with the new grid for all areas not yet assessed for risks associate with application of road salt. Update those areas for which the percent changes in an amended Assessment Report. 2. complete the analysis with a consistent, but old method across the entire region and if necessary ask for acceptance of this methodology through rule 15.1 3. Complete the analysis with a

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9	Upper Thames River Source Protection Area	Komoka-Killworth	<ul style="list-style-type: none"> ○ Vulnerability Assessment of this well system has been completed and successfully peer reviewed. ○ Municipality is moving forward with work required to connect this system to the Lake Huron water supply system which would allow them to decommission the wells related to this system. ○ This is a GUDI system which is immediately adjacent to the Thames River just downstream of London ○ Consultation on the work associate with this system has been delayed in case the municipality was to reach a point where it wished to exempt the system ○ The time has come when consultation must be undertaken to include this system in the Assessment Report. 	Not Applicable	<ol style="list-style-type: none"> 1. Amend Terms of reference if council resolution and posting undertaken by municipality 2. Proceed with consultation on existing delineation, issues and threats work and include in Assessment Report
10	Upper Thames River Source Protection Area	Mt Brydges	<ul style="list-style-type: none"> ○ Municipality proceeding with decommissioning of wells once connection to Lake Huron pipeline is completed ○ Municipal resolution for the exemption of the system has been received along with posting if their intent to exempt the system ○ Amendment of Terms of Reference is required, but may not be received in time for Assessment Report submission ○ Other Terms of Reference amendments are also required, best to undertake all amendments together to simplify required consultation. ○ Important not to shift focus from the Assessment Report work and consultation efforts to move forward with the Terms of Reference amendments. 	Not Applicable	<ol style="list-style-type: none"> 1. Amend Terms of Reference to exclude system, including required consultation. 2. Submit Assessment Report without Mt. Brydges work and include council resolution noting that amendment to ToR will be required

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11	Upper Thames River Source Protection Area	Tier 2 Water Budget	<ul style="list-style-type: none"> ○ Tier 2 initiated prior to completion of Tier 1 ○ Tier 2 is only required where municipal systems are shown in the Tier 1 work to have a high or moderate potential for stress. As such this only applies to the Upper Thames River Source Protection Area. ○ Most consultants proposals for the work indicated that completion of the Tier 2 Water Budget was not possible in time to be included in Assessment Report. Successful consultant indicated an aggressive schedule to complete work on time. ○ Various delays affected the ability to complete on time. These delays included additional work identified through peer review of proposed modeling methods as well as the consultant's loss of one of the primary staff working on both the T1 and T2 projects. And difficulty scheduling peer review meetings over the summer. ○ Water Budget process includes peer review of the work by a peer review committee. This committee has resulted in significant improvements to the work and documentation. In some cases this has resulted in additional work and some delays. ○ Peer review of components of the water budget has been undertaken as they have been completed. The process does however include the requirement for the final report to be peer reviewed prior to acceptance by MNR. Although this is a requirement of the MNR Water Budget process this is not a requirement of the Technical Rules: Assessment Report. Although including the Tier 2 Water Budget in the Assessment Report for consultation prior to completion of peer review is acceptable to MOE, it is not expected that the Source Protection Committee would want to consult on a product as technically complex as the water budget without having completed the peer review of that work. ○ Rules have been amended to allow the submission of an Assessment Report without a Tier 3 Water Budget, however a Tier 2 is required. ○ This item has not yet been discussed fully with MNR and MOE 	January 2010	<ol style="list-style-type: none"> 1. Include Tier 2 work in the Assessment Report prior to the completion of the peer review process (if completed in time) <li style="background-color: yellow;">2. Request an extension for the submission of the Upper Thames River Source Protection Area Assessment Report.