

# Issue Paper on Special Primacy Provisions for the Stage 2 Disinfectants and Disinfection By-Products Rule (Stage 2 DBP Rule) and the Long Term 2 Enhanced Surface Water Treatment Rule (LT2 Rule)

**Overview of this Issue Paper:** There is one special primacy provision in the Stage 2 DBP Rule and there are five provisions in the LT2 Rule. This paper describes the primacy provisions and associated EPA guidance. DEQ's initial position on how these issues should be handled in Idaho is presented. Persons who wish to provide input to DEQ on these provisions are invited to attend a negotiating meeting on April 24, 2007, as described in the Notice of Negotiated Rulemaking. Each of the primacy provisions will be explained in greater depth at the meeting, but persons planning to attend are encouraged to prepare for negotiations by developing a good understanding of the federal regulatory provisions that are cited in this issue paper, particularly the LT2 Rule. Owing to the technical nature of most of these provisions, persons who are planning to advise DEQ on these matters will need to present technical and scientific arguments in support of their views. Please see references at the end of this paper.

## **1. Stage 2 DBP Rule—Modification of Wholesale and Consecutive System Monitoring Requirements**

40 CFR 142.16(m) allows the state to modify the monitoring requirements of wholesale and consecutive systems on a case by case basis, *if the state chooses to exercise this authority*. Otherwise the monitoring requirements of these systems are prescribed in the Stage 2 DBP rule. A wholesale system is a public water system that sells water to another public water system (the consecutive system) on a part-time or full-time basis.

Following is EPA's guidance on this primacy provision:

*40 CFR 142.16 Special primacy requirements. (m) Requirements for states to adopt §141, subparts U and V. In addition to the general primacy requirements elsewhere in this part, including the requirements that state regulations be at least as stringent as federal requirements, an application for approval of a state program revision that adopts §141, subparts U and V, must contain a description of how the state will implement a procedure for addressing modification of wholesale system and consecutive system monitoring on a case-by-case basis for part 141 subpart V outside the provisions of §141.29 of this chapter, if the state elects to use such an authority. The procedure must ensure that all systems have at least one compliance monitoring location.*

40 CFR 141.29 allows states to modify monitoring requirements of consecutive systems to the extent that the interconnection of the systems justifies treating them as a single system for monitoring purposes. The Stage 2 DBPR gives states the opportunity to specify alternative monitoring requirements for multiple consecutive systems in a combined distribution system. These modifications must not undermine public health protection and all systems, including consecutive systems, must comply with the trihalomethane and haloacetic acid Maximum Contaminant Levels based on a locational running annual average. However, such a program would allow the state to establish monitoring requirements that account for complicated distribution system relationships, such as:

- where neighboring systems buy from and sell to each other regularly throughout the year,
- where water passes through multiple consecutive systems before it reaches a user, or,
- where a large group of interconnected systems have a complicated combined distribution system.

If states choose to address this issue and develop procedures for addressing consecutive systems outside the provisions of the Stage 2 DBPR, they should consider the following:

- As a minimum, each consecutive system must collect at least one sample among the total number of samples required for the combined distribution system. Each consecutive system must base compliance on samples collected within its distribution system;
- The consecutive system is responsible for ensuring that required monitoring is completed and the system is in compliance; and
- The consecutive system may conduct the monitoring itself or arrange for the monitoring to be done by the wholesale system or another outside party. Whatever approach it chooses, the consecutive system must document its monitoring strategy as part of its DBP monitoring plan.

States can satisfy the special primacy condition regarding consecutive system monitoring by including a copy of the procedure they will use for addressing consecutive systems outside the provisions of §141.29. Alternatively, states can simply attest that they will not use an authority to address consecutive system monitoring outside of §141.29.

**DEQ's Position:** DEQ does not believe that it will be necessary to modify the monitoring requirements for these systems. Idaho has a very small number of consecutive water systems, and DEQ believes that the monitoring requirements imposed on these systems by the Stage 2 DBP Rule are reasonable. Idaho's consecutive systems have small populations and are subject to minimal sampling requirements. Therefore, a monitoring scheme that differs from the rule would actually result in increased sampling and analytical costs. DEQ believes that the flexibility granted in 40 CFR 142.16(m) was aimed at states that have large and complex wholesale/consecutive system networks, wherein a modified monitoring schedule could provide greater public health protection and more representative sampling. This situation does not prevail in Idaho and DEQ does not plan to use the authority offered in this primacy provision.

**Input Requested:** Persons who disagree with DEQ's position on this issue may attend the negotiating meeting to present an alternative viewpoint.

## **2. LT2 Rule—Establishment of Alternative *E. coli* Levels that Trigger Cryptosporidium Monitoring**

Following is EPA's Guidance on this provision:

*40 CFR 142.16 Special primacy requirements. (n): Requirements for states to adopt 40 CFR 141, subpart W. In addition to the general primacy requirements elsewhere in this part, including the requirements that state regulations be at least as stringent as federal requirements, an application for approval of a state program revision that adopts 40 CFR 141, subpart W, must contain a description of how the state will accomplish the following program requirements where allowed in state programs. 1) **Approve an alternative to *E. coli* levels that trigger Cryptosporidium monitoring by filtered systems serving fewer than 10,000 people.***

To reduce the monitoring burden for small filtered systems, the LT2 Rule requires a 2-phase monitoring strategy for small systems. This approach is based on Information Collection Rule and Information Collection Rule Supplemental Survey data indicating that systems with low source water *E. coli* levels are likely to have low *Cryptosporidium* levels. Under this approach, small filtered systems must initially sample for *E. coli* beginning October 1, 2008 (unless they elect to monitor for *Cryptosporidium*), and, if results are above the trigger levels, conduct *Cryptosporidium* monitoring.

As recommended by the Stage 2 Microbial-Disinfection By Products Advisory Committee, EPA will evaluate *Cryptosporidium* indicator relationships in the LT2 Rule monitoring data collected by large systems. If these data support the use of different indicator levels to trigger small system *Cryptosporidium* monitoring, EPA will issue guidance with recommendations.

Under the LT2 Rule, states may also approve source water monitoring for filtered systems serving fewer than 10,000 people using an indicator other than *E. coli*. It also allows states to approve alternatives to the threshold annual mean *E. coli* concentrations provided in 40 CFR 141.701(a)(4)(i), (ii), and (v) that trigger source water *Cryptosporidium* monitoring for filtered systems serving fewer than 10,000 people. When approving an alternative, the state must include in its approval the basis for its determination that the alternative indicator and/or trigger level will provide a more accurate identification of whether a water system will exceed the Bin 1 *Cryptosporidium* level (0.075 oocyst/L) than the applicable *E. coli* trigger value in the rule (i.e., 10 *E. coli*/100 mL for systems using lake/reservoir sources; 50 *E. coli*/100 mL for systems using flowing stream sources).

The LT2 Rule requires all filtered systems serving at least 10,000 people to begin source water monitoring at least 18 months before filtered water systems serving fewer than 10,000 people. Systems serving at least 10,000 people will be required to sample for *Cryptosporidium*, *E. coli* and turbidity. The *E. coli* and turbidity data collected by the larger systems will be used by EPA to confirm or, if necessary, refine the use of *E. coli* and turbidity as indicators for monitoring by filtered systems serving fewer than 10,000 people. The EPA will review the indicator data collected by the larger systems and, if appropriate, issue guidance to states on alternative triggers. This guidance may be issued prior to when filtered systems serving fewer than 10,000 people are required to begin monitoring.

States intending to approve alternative indicators or alternative *E. coli* trigger concentrations must describe in their primacy application how they will decide whether the alternative indicator or trigger value is an effective indicator of *Cryptosporidium* contamination. States should consider any additional EPA guidance on alternative indicators and triggers, developed using the indicator data collected by the larger systems, when reviewing alternative approaches to indicator monitoring. States should also consider the most recent peer reviewed research on the relationships between *Cryptosporidium* surface water concentrations and indicator parameters.

**DEQ's Position:** DEQ has no reason at this time to question the science behind the *E. coli* trigger levels specified in the rule. DEQ does not have scientific evidence or a practical reason to select an indicator other than *E. coli*. DEQ may consider an alternative trigger level in the future, if EPA publishes guidance recommending that states adopt a new trigger level based on the cumulative source water monitoring results from large water systems around the country.

**Input Requested:** Persons who can provide a scientific argument in support of an alternative indicator organism or an alternative *E. coli* trigger level may attend the negotiating meeting to advise the agency on this issue.

### **3. LT2 Rule—Assessment of Significant Changes in Watershed and Source Water**

*40 CFR 142.16 Special primacy requirements. (n): Requirements for states to adopt 40 CFR 141, subpart W. In addition to the general primacy requirements elsewhere in this part, including the requirements that state regulations be at least as stringent as federal requirements, an application for approval of a state program revision that adopts 40 CFR 141, subpart W, must contain a description of how the state will accomplish the following program requirements where allowed in state programs. 2) Assess significant changes in the watershed and source water as part of the sanitary survey process and determine appropriate follow-up action.*

**DEQ's Position:** DEQ will use criteria presented in the *Guidance Manual for Conducting Sanitary Surveys of PWSs; Surface Water and Ground Water Under the Direct Influence*

(GWUDI) to assess changes in a system's watershed or source water during a sanitary survey. As a rule, water systems in Idaho do not own their watershed, nor are they able to impose extensive controls over land uses and other activities in the watershed. The purpose of watershed and source water assessment during the sanitary survey will therefore be to determine whether or not changes have occurred that have the potential to significantly increase source water cryptosporidium concentrations and thus warrant additional source monitoring or additional treatment. Factors that will be examined during the sanitary survey include, but are not limited to:

- New NPDES permits or changes in existing NPDES permits that involve increased loading of contaminants.
- Changes in land use patterns.
- Changes in agricultural cropping, chemical application, or irrigation practices.
- Soil erosion.
- Changes in other nonpoint discharge source activities (e.g. grazing, manure application, commercial or residential development).
- Stream or riverbed modifications.
- NPDES permit violations at wastewater treatment plants, confined animal feedlot operations, etc.
- Dramatic natural events (floods, forest fires, earthquakes, ice flows, landslides) can transport or expose contaminants (e.g. fine-grained sediments, mining wastes, animal and septic system wastes).
- Prolonged drought conditions may warrant special preparatory measures to minimize impacts from waste accumulations that are washed into source waters when precipitation returns.
- Lack of a current emergency response plan.
- Accidental or illegal waste discharges and spills.

Because of the potential for numerous interacting factors, it is anticipated that decisions about follow-up activities will need to be made on a case-by-case basis in consultation with the water system. As the state's population grows and watershed impacts increase, DEQ may find it necessary to develop a scoring system to aid in weighing multiple risk factors, but the agency does not feel that such a system is necessary at present.

**Input Requested:** Interested persons are invited to attend the negotiations to advise DEQ on assessment of watershed risk factors during a sanitary survey and appropriate follow-up actions. DEQ would particularly welcome comments from owners or operators of surface water systems who have direct experience with responding to changes in their watershed that resulted in decreased source water quality.

#### **4. LT2 Rule—Approval of Watershed Control Programs**

Following is part of EPA's guidance on this provision:

*40 CFR 142.16 Special primacy requirements. (n): Requirements for states to adopt 40 CFR 141, subpart W. In addition to the general primacy requirements elsewhere in this part, including the requirements that state regulations be at least as stringent as federal requirements, an application for approval of a state program revision that adopts 40 CFR 141, subpart W, must contain a description of how the state will accomplish the following program requirements where allowed in state programs. 3) **Approve watershed control programs for the 0.5-log watershed control program credit in the microbial toolbox.***

Filtered systems that develop a state-approved watershed control program designed to reduce the level of *Cryptosporidium* in the watershed can receive a 0.5 log credit towards the *Cryptosporidium* treatment

requirement of LT2 Rule. EPA has specified the elements that must be included in a watershed control program to obtain this credit. The required elements are found in 40 CFR 141.716(a) and are briefly described below:

- An analysis of *Cryptosporidium* vulnerability, including characterization of watershed hydrology, identification of the area of influence to be considered in future watershed surveys, identification of both potential and actual sources of *Cryptosporidium* contamination, relative impact of the sources of *Cryptosporidium* on the system's source water, and an estimate of the seasonal variability of the contamination.
- An analysis of control measures that could mitigate contamination.
- A plan that establishes goals and defines and prioritizes specific actions to reduce source water *Cryptosporidium*. The plan must explain expectations, partners and their roles, resource requirements and commitments, and schedule for plan implementation.

Systems must notify the state of their intent to develop a watershed control program. Notification must occur no later than 2 years before the system's treatment compliance date listed in 40 CFR 141.713(c). Systems must submit a proposed initial watershed control plan and a request for plan approval. The proposal is due no later than 1 year before the system's treatment compliance date. If the state does not respond to a system regarding approval of the watershed control program and it meets the necessary requirements, it will be considered approved. However, the state may subsequently withdraw the approval.

To meet this special primacy requirement, states must provide a description of how they will approve a watershed control program for the 0.5 log credit. A key element of the approval should be that the system provides to the state sufficient information to indicate at least 0.5 log reduction of the source water *Cryptosporidium* concentration is feasible through implementation of the watershed control program. If a watershed program is already in place, the description must include any additional measures that will be implemented to reduce source water contamination. The description of the state's approach to this approval process should include the elements of the review process as well as criteria for granting approval.

Chapter 2 of EPA's *LT2 Rule Toolbox Guidance Manual* provides information intended to assist systems in developing their watershed control programs and to assist states in assessing these programs. The chapter includes case studies on successful programs, system steps in applying for approval, required components of the program, and suggestions for maintenance of the program. The guidance addresses assessments of plans by the state, including an extensive checklist containing potential assessment criteria that will help states review system's watershed control plans (Table 2.1 in the *LT2 Rule Toolbox Guidance Manual*) and evaluations of annual status reports. Guidance also includes suggested components of a watershed sanitary survey. An adequate response to this special primacy requirement could include reference to the use of this guidance document for evaluating and approving proposed plans.

**DEQ's Position:** DEQ will allow water systems to apply for credit for a .5 log reduction of source water cryptosporidium concentration through a watershed control program. The agency expects to use criteria provided in EPA's *LT2 Rule Toolbox Guidance Manual* to review and approve these programs. **Please Note: The referenced EPA Toolbox Guidance Manual is not yet available.** Draft criteria for review and approval of watershed control programs are appended to this issue paper (Appendix A), with the caveat that changes may be made prior to finalization of the EPA guidance. As mentioned above, an effective watershed control program implies that the water system can control activities in the watershed to a degree that makes possible a meaningful reduction in potential cryptosporidium contamination. This is rarely achievable in practice, and for this reason DEQ believes that this provision is unlikely to be a useful option for most surface water systems.

**Input Requested:** Persons who wish to advise the agency on watershed control programs are invited to attend the negotiations. It is expected that persons who would like to comment on this

provision will emphasize strategies for achieving watershed control without owning the watershed or having extensive control over watershed access and land use activities.

### **5. LT2 Rule--Establishment of Protocols for Approving Removal Credits Under the Demonstration of Performance Toolbox Option**

Following is EPA's guidance on this provision:

*40 CFR 142.16 Special primacy requirements. (n): Requirements for states to adopt 40 CFR 141, subpart W. In addition to the general primacy requirements elsewhere in this part, including the requirements that state regulations be at least as stringent as federal requirements, an application for approval of a state program revision that adopts 40 CFR 141, subpart W, must contain a description of how the state will accomplish the following program requirements where allowed in state programs. 4) Approve protocols for demonstration of performance treatment credits in the microbial toolbox. 5) Approve protocols for alternative ozone and chlorine dioxide CT values in the microbial toolbox.*

When a system can demonstrate that a plant (or a unit process within a plant) achieves a *Cryptosporidium* removal efficiency greater than the presumptive credit specified in 40 CFR 141.711 and 40 CFR 141.715 through 141.719, the system may be able to receive a higher *Cryptosporidium* treatment credit based on site-specific testing with a state-approved protocol. The treatment plant (or a unit process within a plant) must reliably achieve a higher level of *Cryptosporidium* removal on a continuing basis. States may also award a lower level of *Cryptosporidium* treatment credit to a system if the state determines, based on site specific information, that a plant or a unit process within a plant achieves a *Cryptosporidium* removal efficiency less than a presumptive credit specified in the LT2 Rule.

The demonstration of performance toolbox option applies to physical treatment processes including presedimentation, coagulation/flocculation, sedimentation, filtration (including bank filtration and secondary filtration), and two-stage softening. Treatment credit for disinfection processes is based on system performance (i.e., CT values). Under 40 CFR 141.720, the rule allows systems to develop alternative CT values using a state-approved protocol. Appendix A of the *LT2 Rule Toolbox Guidance Manual* provides guidance for conducting *Cryptosporidium* inactivation experiments and determining CT values.

Since demonstration of performance applies to physical removal processes at a treatment plant, systems may not claim credit for the toolbox options listed below if that component is included in the demonstration of performance credit.

- Presedimentation
- Two-stage lime softening
- Bank filtration
- Combined or individual filter performance
- Membrane filters
- Bag and cartridge filters
- Second stage filtration

Additionally, some treatment options may enhance *Cryptosporidium* treatment while reducing the effectiveness of other aspects of treatment. For example, optimizing the sedimentation process could reduce removal by the filters, resulting in an overall removal equal to or less than the presumptive credit. Therefore, systems and states should carefully evaluate the overall treatment process in addition to the portion addressed in the demonstration of performance.

As implied above, states must establish criteria for determining how additional credits will be granted. States also have the authority to request additional information not specified by the rule to document that systems are in compliance. The demonstration of performance process for microbial treatment is discussed in Chapter 12 of the *LT2 Rule Toolbox Guidance Manual*. Chapter 12 discusses critical aspects of

developing and administering a demonstration of performance process, including criteria development and evaluation, testing protocol, monitoring, and reporting. States are encouraged to use the manual in preparing their demonstration of performance program and primacy revision applications.

Systems serving at least 10,000 people must report the results of their demonstration of performance testing to the primacy agency by April 1, 2012, October 1, 2012, or October 1, 2013 (depending on system size). Systems serving less than 10,000 people must report the results of their demonstration of performance testing to the primacy agency by October 1, 2014. If states are interested in this demonstration of performance toolbox option, state primacy regulations should be developed, reviewed, and approved in advance of these deadlines to allow systems adequate time to pursue the option.

**DEQ's Position:** DEQ expects to rely on the EPA Toolbox Guidance Manual for information on reviewing and approving performance demonstrations. The agency believes that demonstrations of this kind will be technically challenging and should probably only be undertaken if there is strong reason to believe that a plant or facility is clearly capable of achieving performance levels greater than those that are presumed in the LT2 Rule. DEQ does not have sufficient resources to provide water systems with extensive technical support for demonstrations of this kind, which means that systems proposing to conduct such a study will need to rely on expert consultants. DEQ will incorporate the necessary criteria into guidance or rule, as appropriate, prior to finalizing the LT2 rulemaking.

**Input Requested:** Persons with expertise in surface water treatment processes who wish to advise the agency on this provision are invited to attend the negotiations. **DEQ is especially interested in hearing whether stakeholders think that the agency should develop state criteria for evaluating performance demonstrations, or simply accept the presumptive credits given in the rule.** DEQ will try to have pertinent information from the draft Toolbox Guidance Manual available for review at the negotiating session.

## **6. Establishment of Alternative Approach to UV Reactor Validation Testing**

Following is EPA's guidance on this provision:

*40 CFR 142.16 Special primacy requirements. (n): Requirements for states to adopt 40 CFR 141, subpart W. In addition to the general primacy requirements elsewhere in this part, including the requirements that state regulations be at least as stringent as federal requirements, an application for approval of a state program revision that adopts 40 CFR 141, subpart W, must contain a description of how the state will accomplish the following program requirements where allowed in state programs. 6) **Approve an alternative approach to UV reactor validation testing in the microbial toolbox.***

The LT2 Rule requires that systems use UV reactors that have undergone validation testing to determine the operating conditions under which the required UV dose will be delivered (40 CFR 141.720(d)(2)). The operating conditions must include flow, UV intensity as measured by a UV sensor, and UV lamp status. The following specific factors, as described in 141.720(d)(2)(i), must be addressed when determining the operating conditions:

- UV absorbance of the water
- Lamp fouling and aging
- Measurement uncertainty of on-line sensors
- UV dose distributions arising from the velocity profiles through the reactor
- Failure of UV lamps or other critical system components
- Inlet and outlet piping or channel configurations of the UV reactor

The LT2 Rule also allows states to approve an alternative approach to validation testing

(40 CFR 141.720(d)(2)(iii)). States that intend to approve an alternative approach must describe in their primacy application how they will determine whether the alternative approach will assess reactor performance at least as well as the validation approach in the rule. This flexibility was included to allow consideration of new technology developments that were not widely accepted at the time that this rule was written.

Acceptance of an alternative approach should reflect EPA guidance and/or peer reviewed research and be consistent with generally accepted engineering practices for the treatment scenario under consideration. For example, computational fluid dynamics (CFD) modeling has been used to estimate the UV dose distribution in specific reactor configurations. However, at the time that the LT2 Rule was developed, CFD modeling was generally regarded by regulators as insufficient to replace full-scale reactor testing because uncertainty and error ranges for CFD models are not known. Also, synthetic microspheres may someday be useful as replacements for challenge microorganisms that could be used in full-scale validation testing.

States should note that UV reactors previously validated under certain existing protocols (i.e., prior to publication of this document) may receive log inactivation credit. The validation test must provide data on UV dose delivery and monitoring for a documented UV reactor and the proper analysis of those data must relate the measured performance to the required level of pathogen log inactivation credit. Acceptable protocols include the Austrian Standards ÖNORM M 5873-1 and M 5873-2, and the German Guideline DVGW W294. UV reactors certified by DVGW and ÖNORM for a *B. subtilis* RED of 40 mJ/cm<sup>2</sup> can be granted 3-log *Cryptosporidium* and 3-log *Giardia* inactivation credit (DVGW 1997, ÖNORM 2003).

However, validation under NWRI/AwwaRF Guidelines and NSF Standard 55 (NWRI/AwwaRF 2003, NSF 2002) may not meet the requirements of the rule. States that use NWRI/AwwaRF Guidelines and NSF Standard 55 should describe how these validations would be evaluated to ensure that the requirements of the rule are met.

**DEQ's Position:** DEQ does not have the specialized expertise necessary to propose an alternative protocol for UV reactor validation. The agency intends to use the validation procedure established in the LT2 Rule.

**Input Requested:** Persons with technical expertise in UV disinfection technology are invited to attend the negotiations to advise DEQ on this provision. Persons who wish to recommend that the agency develop an alternative protocol will need to demonstrate technical and scientific support for their position and explain why the proposed alternative is better than the procedure outlined in the LT2 Rule.

## Appendix A. Assessment Criteria for Use By States When Reviewing Watershed Control Program Plans

[From the Draft EPA LT2 Rule Toolbox Guidance Manual—may be subject to change.]

### Vulnerability Analysis

Has the area of influence been delineated in appropriate detail, taking into consideration available information about *Cryptosporidium* fate, transport and local hydrogeological characteristics? Have sensitive areas been identified?

Is the scale of the delineation appropriate for the watershed plan? Does it provide a level of detail sufficient for effective decisions to be made?

Has the intake location been identified relative to the water body?

Is any information available about time of travel in the watershed?

Does it seem that all activities within the watershed that could result in *Cryptosporidium* contamination of the water supply have been identified and located?

Have contaminant sources been located and described relative to the drinking water source intake location?

Have the likelihood and timing of releases of contamination been addressed?

Are there permitted wastewater discharges (NPDES) of concern? If there are wastewater treatment plants in the area of influence, systems should include information about their size, discharge quantity, and whether there has been any recent significant noncompliance with permit conditions.

Are sludge disposal areas identified and characterized? Are there any locations in the watershed where biosolids have been applied? Have they been identified? When in the year are they applied?

Have stormwater discharges been located? Are there any discharges directly into the surface water supply?

Have septic systems been identified and located? What information is available about their age, condition, design, and siting?

Has land use zoning been characterized?

If land uses in the watershed include agriculture, have the types of farming been identified? Are feedlots located? Are fields where manure is spread identified?

Have Concentrated Animal Feeding Operations (CAFOs) been identified and located?

Have natural sources of *Cryptosporidium* been identified and located?

Have recreational areas (e.g., campgrounds, trailer parks) been identified and located?

Has any on-site landfilling, land treating, or surface impounding of waste other than landscape waste or construction and demolition debris taken place, and will such circumstances continue?

Does the vulnerability analysis address the effectiveness of physical barriers (e.g., geology, hydraulic conditions, intake structure and location) at preventing the movement of contaminants to the drinking water source?

Have tributaries or areas of the reservoir with high bacterial readings been identified? If so, where are they located relative to the drinking water intake?

If *Cryptosporidium* monitoring data exist for the watershed, have results been addressed and discussed?

Have recreational uses of the surface water supply been identified? Has the effect of those uses on *Cryptosporidium* loading been addressed?

Are there portions of the watershed with high percentages of impervious surfaces which might lead to increased stormwater runoff?

Is water quality monitoring and assessment information (305(b) Report) available?

Have existing best management practices or controls been identified and located?

Is there any information available about the effectiveness of current pollution prevention activities?

### **Potential Control Measures to Control *Cryptosporidium* Contamination**

Do the control measures proposed specifically address the reduction of *Cryptosporidium* contamination?

Would the implementation of the proposed control measures take place in areas where there would be an impact on *Cryptosporidium* loading into the water supply?

Do the proposed control measures seem economically and politically feasible?

If the proposed control measures are ongoing, has the utility explained how they would be sustained?

Is the water utility in a position where it could implement the control measures itself, or would other parties be responsible?

If other parties would be responsible for implementation, are those parties motivated and reliable? What agreements between the utility and those parties exist that document implementation responsibilities?

How does the utility track control measures implemented by other parties?

Has the water system responded adequately to concerns expressed about the source or watershed area in past inspections and sanitary surveys?

### **Watershed Control Program Plan**

Does the plan specifically address potential and existing *Cryptosporidium* sources in the watershed?

Have the proposed actions in the plan been clearly defined and sufficiently addressed?

Does the plan explain how the actions described are expected to contribute to specified goals?

Does the plan prioritize its proposed efforts? Does it define short-term and long-term actions and prioritize them?

Does the plan include cost estimates for implementation of proposed actions?

Does the plan include, in detail, what other resources will be required to implement the watershed control measures? Does it identify the source(s) of those resources?

Does the plan include an implementation schedule?

Does the plan assign responsibilities for implementing short-term and long-term actions?

How reliable are the organizations that will be carrying out the source protection activities?

Has an individual been identified as the responsible party for the plan?

Will the entire watershed for the source be protected? Will the utility try to purchase all land within the watershed? If not, will critical elements of the watershed be protected or purchased by the utility?

If the water system cannot purchase portions of the watershed, does it propose to have written agreements with the landowners concerning land use?

Where access is limited, will the watershed be inspected regularly for new potential and actual sources of contamination?

Does the plan address all existing regulations for the watershed or area of influence?

Does or will the water system employ adequately qualified personnel to identify watershed and water quality problems? Who is given responsibility to correct these problems?

Have the stakeholders in the watershed or area of influence been identified? Were stakeholders involved with the plan's development?

Is it proposed that the water system will actively interact with other agencies that have control or jurisdiction in the watershed? Are their policies or activities consistent with the water system's goal of reducing source water *Cryptosporidium* levels?

How does the watershed protection plan propose to coordinate protection efforts? Will there be a committee of stakeholders?

How will the utility track progress of the implementation of the watershed controls? Does the plan describe how the utility intends to measure the success of projects?

## **Sources for Additional Information Related to this Issue Paper**

1. The full text of the Stage 2 DBP Rule and the LT2 Rule, as published in the Federal Register, may be found at the DEQ website for this rulemaking:

[http://www.deq.idaho.gov/rules/drinking\\_water/58\\_0108\\_0701\\_negotiated.cfm](http://www.deq.idaho.gov/rules/drinking_water/58_0108_0701_negotiated.cfm)

Persons planning to participate in negotiations will need to refer to these federal rules in order to develop an understanding of how the special primacy provisions fit into the regulatory framework, particularly the LT2 Rule. This issue paper contains many citations to the federal rule language. As an example, 40 CFR 141.720(d)(2) describes how UV radiation intensity will be determined under the LT2 Rule.

2. EPA Guidance Manuals, rule fact sheets and reference guides, and other useful information may be found on the following EPA web sites:

Stage 2 DBP-- <http://www.epa.gov/safewater/disinfection/stage2/index.html>

LT2 Rule-- <http://www.epa.gov/safewater/disinfection/lt2/index.html>

3. For further information regarding special primacy provision #3 (Assessment of changes in Watersheds) and #4 (Watershed Control Programs), the following references may be consulted:

*Guidance Manual for Conducting Sanitary Surveys of Public Water Systems; Surface Water and Ground Water Under the Direct Influence (GWUDI)*. USEPA, 1999. EPA 815-R-99-016.  
(<http://www.epa.gov/safewater/mdbp/pdf/sansurv/sansurv.pdf>)

*Watershed Sanitary Survey Guidance Manual. Cal-Nevada Section AWWA, 1993.*  
(<http://www.ca-nv-awwa.org/>)

*State Source Water Assessment and Protection Programs Guidance*. USEPA, 1997. EPA 816-R-97-009. (<http://www.epa.gov/safewater/source/swpguid.html>)

**Please Note:** Persons who are interested in providing input regarding special primacy provision #5 (Establishment of Protocols for Approving Removal Credits Under the Demonstration of Performance Toolbox Option) and #6 (Establishment of Alternative Approach to UV Reactor Validation Testing), are requested to contact Tom John at 373-0191 or [Thomas.John@deq.idaho.gov](mailto:Thomas.John@deq.idaho.gov) in advance of negotiations to discuss additional informational materials that may be available.