



Matt Blunt, Governor • Doyle Childers, Director

DEPARTMENT OF NATURAL RESOURCES

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MEMORANDUM

DATE: February 3, 2006

TO: Regional Directors, WPB Section Chiefs and Unit Chiefs

FROM: [original signed by] Edward Galbraith, Director
Water Protection Program

SUBJECT: Guidance for Issuing NOV's for the General Criteria

Attached is a copy of the final Guidance for Issuing Notices of Violation Related to the General Criteria of the Water Quality Standards. The attached version of the guidance incorporates the comments and suggestions of the technical review group formed to consider and modify the draft. Also comments requested from Phil Schroeder and John Ford are included.

The guidance should be circulated to all staff involved in inspections, complaint investigations and related field activities. The staff should begin to follow the guidance at this time. The guidance will be incorporated into the Water Pollution Control Inspection and Enforcement Manual during its next revision.

While the attached version of the guidance is final and in effect, it is recognized and hoped that as staff use the document to guide their work activities, they will have questions and improvement suggestions. I encourage staff to submit those comments directly to Kevin Mohammadi. Kevin will respond to questions and requests for clarification, and will also retain the comments and use them as a basis of future revisions of the guidance.

I would like to thank Jim Penfold, Kristen Pattinson, Jamie Shinn, Brad Ledbetter, Paul Mueller, Brant Farris, Scott Goodin, Tom Lange, and the other staff who contributed to the review and revisions of the guidance document.

Attachment

EG:kmc

c: Daniel R. Schuette, DEQ
Earl Pabst, DEQ
Leanne Tippett Mosby, DEQ

Bruce Martin, FSD
Jim Macy, FSD
Jamie Shinn, FSD
Phil Schroeder, WPP
John Ford, WPP
Paul Mueller, SLRO
Tom Lange, KCRO
Kristen Pattinson, SWRO
Brant Farris, NERO
Brad Ledbetter, SERO

January 25, 2006

Guidance for Issuing Notices of Violations Related to the General Criteria of the Water Quality Standards

Explanatory Note: The following information is intended for inclusion in the Water Pollution Control I&E Manual as an expansion of the Enforcement Procedures section.

B. ENFORCEMENT PROCEDURES

1. Criteria for issuing notices of violation

b. Notice of Violation shall be promptly issued without a prior course of CC&P when:

(2) The inspector determines that the discharge/activity violates Missouri Water Quality Standards General Criteria (10 CSR 20-7.031(3)).

Prior to issuing a NOV to a **permitted facility** for a violation of the general criteria, the following steps should be followed:

While this type of information is not essential for the issuance of a NOV for exceedence of general criteria, the information will be very useful in defending agency action, if necessary, and working with the responsible party on the solution to the root problem:

To the extent possible during the investigation, through interviews of facility staff or witnesses, review of records or other means, attempt to determine the events, conditions or operational actions that led to the releases causing the general criteria violations. For example, if a treatment facility is the source of the contaminants, review of discharge monitoring reports, operational testing data including influent sample analyses, treatment system flow data, sludge handling procedures, recent sludge wasting activities, recent operation and maintenance changes including personnel changes, plant upsets and similar events. If the violation results from a single release or intermittent activity, review records or interview staff, neighbors or witnesses regarding recent facility operations (e.g. irrigation pumping or sewage transfers between basins), trucking or hauling activities, or other changes in routine.

During the investigation of a permitted facility for a possible violation of the General Criteria, the operating permit should be checked to determine whether the Special Conditions include the General Criteria of the Water Quality Standards as permit conditions. This would make any violation of

the General Criteria also be a violation of operating permit terms and conditions.

For **unpermitted facilities**, the NOV can be issued for the general criteria violation without the need to conduct specialized inquiry steps similar to those outlined above for the permitted facilities.

There are nine general criteria listed in the Water Quality Standards; they are summarized below. The following summarization is not a substitute for careful reading and consideration of the general criteria themselves (see 10 CSR 20-7.031(3)). The summary statement of a General Criterion begins with (A), (B), (C), etc. Following each criterion statement are questions that will help an inspector determine whether a violation exists.

General Criteria

The following criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant by itself or in combination with other substances shall prevent the waters of the state from meeting the following conditions:

(A) ...free from substances in sufficient amounts to cause putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;

The inspector should ask the following questions to assist with determining whether or not a condition is unsightly:

1. Would you be able to handle, probe, or agitate the deposited material with your bare hands and not experience revulsion or disgust?
2. Would you expect to feel revulsion or disgust if you fell into the water and had significant contact with the deposit?
3. Would you recommend children being allowed to play in the water in the area of the deposit?
4. Is any of the deposit readily identifiable as to its parent product (e.g. hygiene and health products, toilet paper, and fecal solids)?
5. Would you eat fish, crayfish or shellfish taken from the water?
6. Does the deposit appear to affect the quality or quantity of available aquatic habitat?
7. Is more than 10% of the bottom of the stream covered with material of anthropogenic origin (sewage sludge, trash, limestone aggregate, concrete, etc.)?

(B) ...free from oil, scum or floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;

The inspector should ask the following questions to assist with determining whether or not a condition is unsightly:

1. Is there a noticeable prismatic or other sheen covering more than 10% of the surface that is immediately visible?

2. When agitated with a stick or thrown object, does the sheen separate (break up) or remain consistent or flow back together? If it remains broken, it is likely a natural bacterial film. If it remains consistent or flows back together, it is likely to be caused by oil or other introduced material indicating contamination.
3. Do you see/feel a residue on your hands after removing them from the affected water?
4. Would you recommend children being allowed to play in the affected water?
5. Are any floating debris or solids readily identifiable as to their parent product (hygiene and health products, construction or packaging materials, wood, vegetative wastes, etc.)?
6. Does the floating debris or solids cover more than 5% of the surface of the water body, or the bank or shoreline, in the vicinity of the point of release?
7. Would you eat fish, crayfish or shellfish taken from the water?

(C)... free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;

The inspector should ask the following questions to assist with determining whether or not a condition is unsightly or offensive:

1. Is there a visible contrast between the color/turbidity upstream and downstream of the discharge, release or runoff extending beyond the immediate vicinity of where the water contaminant enters the stream?
2. Is the stream or water body of a noticeably different color/turbidity than other, adjacent streams or water bodies of similar size that have experienced the same weather conditions?
3. Is there a noticeable plume that visibly contrasts with the receiving water body that is observable for more than 50 feet from the point of discharge?
4. Is there a discernable odor that can be described as anything other than natural, normal, pleasant or appealing? Note that the offensive odor has to be from a substance introduced into and present in waters of the state; it cannot be from a facility, lagoon or other structure. The odor has to be from the water itself.
5. Would you recommend children being allowed to play in the affected water?
6. Would you eat fish, crayfish or shellfish taken from the water?

(D)... free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;

The inspector should ask the following questions to assist with determining whether or not a condition results in toxicity:

1. Is there an uncharacteristic absence of any aquatic animals, in particular if several types of aquatic animals are found in an upstream area or location not influenced by the release?
2. Is there obvious chlorine or other chemical odor?
3. Is there a bleached appearance of the substrate and absence of any biological growths?

(E)...no significant human health hazard from incidental contact...;

The inspector should ask the following questions to assist with determining whether or not a condition results in a human health hazard:

1. Does smelling the water make your nose burn, eyes water, or otherwise cause physical discomfort to exposed mucus membranes?
2. Does the water cause itching, tingling or burning of the skin for a reason other than temperature?
3. Are there any noticeable physiological effects (for example, nausea) that occur which can be attributed to being in the vicinity of the water body?
4. Is there toxicological or medical information supporting the conclusion that contact with the water produced adverse health effects in people?

(F)...no acute toxicity to livestock or wildlife watering;

The inspector should ask the following questions to assist with determining whether or not a condition results in acute toxicity to livestock or wildlife:

1. Does the receiving water support a noticeably different macroinvertebrate community from what was found upstream or in an area not influenced by the release or different from what should be expected for a comparable, unaffected water body?
2. Considering ecoregion and aquatic habitat, is there present a comparatively large number of planaria, bloodworms (chironomus), or other combination of pollution tolerant macroinvertebrates?
3. Is there an uncharacteristic absence of any aquatic animals, in particular if several types of aquatic animals are found in an upstream area or location not influenced by the release?
4. Have there been expressions of concern, complaints or other communications about fatalities or adverse effects among livestock or wildlife drinking or feeding from the water body?
5. Is there toxicological or veterinary medical information supporting the conclusion that contact with the water body produced adverse effects in livestock or wildlife?

(G)...free from physical, chemical or hydrologic changes that would impair the natural biological community;

The inspector should ask the following questions to assist with determining whether or not a condition results in a negative effect upon natural biological community:

1. Does the receiving water support a noticeably different macroinvertebrate community from what was found upstream or in an area not influenced by the release or different from what should be expected for a comparable, unaffected water body?
2. Considering ecoregion and aquatic habitat, is there present a comparatively large number of planaria, bloodworms (chironomus), or other combination of pollution tolerant macroinvertebrates?

3. Is there an uncharacteristic absence of pollution sensitive organisms or of any organisms at all?
4. Is the bed or bottom, temperature or flow of the water body being affected by construction activities, stream channelization, sand and gravel dredging, dam construction and operation, pumping or diversion of stream flow, dredging, disposal of dredged spoil or other materials, filling of wetlands, or alteration of riparian land?

(H)...free from used tires,..., vehicles, appliances, demolition debris and other solid waste except as specifically permitted in the Solid Waste Law;

The inspector should ask the following questions to assist with determining whether or not a condition results in a violation:

1. Are any of the above present in waters of the state that appear to or could have been placed or caused to be placed by the permittee, landowner or other person who can be identified as the responsible party?
2. Are the solid waste items present along the banks or shore of water of the state but not in the water? If so, consider a Letter of Warning or a similar communication citing a "...putting or placing..." violation in accord with Section 644.051.1(1), RSMo.

(I)...mixing zones and unclassified waters which support aquatic life on an intermittent basis must comply with specified acute toxicity and whole effluent toxicity (WET) requirements.

The inspector should ask the following questions to assist with determining whether or not a condition results in a negative effect upon natural biological community:

1. Does the receiving water support a noticeably different macroinvertebrate community from what was found upstream or in an area not influenced by the release or different from what should be expected for a comparable, unaffected water body?
2. Is there an uncharacteristic absence of any aquatic animals, in particular if several types of aquatic animals are found in an upstream area or location somewhat removed from the influence of the release?
3. Has there been a fish kill or a kill of other aquatic organisms? [Such events are indicators of acute toxicity. Missouri Department of Conservation must be notified in the event of a fish kill or kill of other aquatic animals.]
4. Is there laboratory data available that indicate chronic toxicity or whole effluent toxicity of the water to aquatic organisms?

The Water Quality Standards, including the General Criteria, are Clean Water Commission regulations and are enforceable. Violations of the General Criteria can be determined and supported through four forms of substantiation:

1. On-site observations utilizing the human senses of touch, sight and smell;
2. Supporting toxicological, medical or veterinary information, determinations or data;

3. Supporting hydrological and ecological information, determinations or data; and
4. Fish and other aquatic life kills indicating acute toxicity and the results of laboratory analyses demonstrating whole effluent toxicity.

Violations of four of the General Criteria can be determined through on-site observations and use of the senses of touch, sight and smell. Those criteria are (A), (B), (C) and (H). In effect, the knowledgeable WPP-WPCB staff person making the observations is the “instrument” through which the violation is measured and determined.

Violations of five of the General Criteria (D), (E), (F) (G) and (I) are best determined when supported by sample collection and analysis. Indication of when to collect a sample comes from field staff using a Standard Operating Procedure for conducting an indicator assessment of the macroinvertebrate community. The Notice of Violation can be based on the results of the analysis and supported by the observations of the inspector.

Investigation of Conditions at the Site

On-site observations must be first-hand and thorough. Conclusions must be based on certainty. A Notice of Violation for General Criteria (A), (B), (C) and (H) must be based on personal observations, not information supplied by others. A NOV for General Criteria (D), (E), (F), (G) and (I) also needs to be based on personal observations at the site or detailed personal knowledge of the situation. However, a NOV for (D), (E), (F), (G) and (I) must also have the supporting laboratory data or expert information or determinations such as can be obtained from qualified department staff, medical or veterinary doctors, toxicologists or hydrologists.

The upstream and downstream conditions must be carefully observed and documented so that the cause or source can be determined and other possible causes or sources eliminated from consideration. Inspectors are encouraged to support their field observations with techniques such as photographs, simple measurements of depths or extents of deposited materials, use of Jackson Turbidity Unit (JTU) Tubes, pH meters, specific conductance meters and dissolved oxygen (DO) meters. The results of these tests strengthen and substantiate the personal observations.

The inspector needs to exercise common sense when making the decision whether or not to issue a Notice of Violation. Water quality impacts such as a “dusting of sludge along the bottom” perhaps should be addressed through other means such as an inspection report with corrective actions recommended or a Letter of Warning. It is important to state, however, that water quality conditions that match or reflect the General Criteria cannot be ignored and must be addressed through a NOV, Letter of Warning or inspection report recommendations and prompt follow-up to document correction of the problem.

Antidegradation and the General Criteria

Revisions to the Water Quality Standards published November 30, 2005, use the terms Tier 1, 2 and 3 to describe the three levels of protection afforded by the antidegradation policy (see 10 CSR 20-7.031(2)). While the implementation procedures for the antidegradation policy are still being developed, Tier 3 waters are the outstanding national and state resource waters, Tier 1 waters will probably be those in metropolitan areas and areas of rapid urbanization, and Tier 2 waters will be all the remaining streams and lakes.

Where the water body is Tier 1, the water quality standard protects public health and existing water uses. With respect to General Criteria violations, the degree to which the Tier 1 waters of the state are negatively affected must be compelling. The conditions should be such that objective observers reach the same conclusions about the existence of water quality impairment and negative effects on the beneficial uses. However, the contamination need not result in complete loss or impairment of a beneficial use for a violation to have occurred.

Where the water body is Tier 2, the water quality standard is the full maintenance and protection of existing water quality with lowering of water quality only allowed through the formal process presented in the standard. Where the water body is Tier 3, the water quality standard is “no lowered water quality”. With respect to General Criteria violations, Tier 2 and Tier 3 waters are dealt with in the same manner, meaning that no observable change should occur in the physical, chemical or biological attributes of the water body due to the release. Consequently, the point when action should be taken for impairment of Tier 2 and 3 waters occurs as soon as the negative effects described in the General Criteria are determined. The threshold for action on Tier 2 or 3 waters should be ANY noticeable change in the water’s condition where such change is clearly due to a release.