

Water Quality Control Commission Policy 13-1

Interim Guidance for Implementation of Discharger Specific Variances Provisions

Regulation # 31, Section 31.7(4)

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List of Acronyms and Abbreviations

AAH	Administrative Action Hearing
AEL	Alternative Effluent Limitations
Basic Standards	Basic Standards and Methodologies for Surface Water (5 CCR 1002-31) Also known as Regulation #31
BLM	Biotic Ligand Model
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CDPS	Colorado Department of Public Safety
CFR	Code of Federal Regulations
Commission	Colorado Water Quality Control Commission
CWQCA	Colorado Water Quality Control Act
CWA	Clean Water Act
DSV	Discharger Specific Variance
Division	Colorado Water Quality Control Division
EPA	U.S. Environmental Protection Agency
FAQ	Frequently Asked Questions
NA	Not Applicable
NO _x	Nitrogen Oxides
Q & A	Questions and Answers
PVC	Poly(vinyl chloride)
Regulation #31	Basic Standards and Methodologies for Surface Water
Regulation #61	Colorado Discharge Permit System Regulations
RO	Reverse Osmosis
SBP	Statement of Basis and Purpose
SO _x	Sulfur Oxides
TMDL	Total Maximum Daily Load
UAA	Use Attainability Analysis
USFWS	United States Fish and Wildlife Service
WER	Water Effect Ratio
WPC-Permitting 2	Water Quality Control Division Implementation Policy “Permit Compliance Schedules”

WQBEL	Water Quality-Based Effluent Limits
WQCC	Colorado Water Quality Control Commission
WQCD	Colorado Water Quality Control Division
WQS	Water Quality Standards

Definitions

“Compliance Schedule” means schedule of compliance as defined in CWQCA: a schedule of remedial measures and times including an enforceable sequence of actions or operations leading to compliance with any control regulation or effluent limitation. § 25-8-103(18), C.R.S.

“Water Quality-Based Effluent Limit” (WQBEL) means: effluent limits in CDPS permits that are developed to ensure that a discharge does not contribute to an instream excursion above an applicable water quality standard.

“Total Maximum Daily Load” (TMDL): A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that load among the various sources of that pollutant. Pollutant sources are characterized as either point sources that receive a wasteload allocation, or nonpoint sources that receive a load allocation.

Water Quality Control Commission Policy 13-1

Interim Guidance for Implementation of Discharger Specific Variances Regulation # 31, Section 31.7(4)

I. INTRODUCTION

A discharger specific variance (DSV) may be granted by the Water Quality Control Commission (“Commission”) in accordance with the provisions set forth in the Basic Standards and Methodologies for Surface Water (Regulation #31, 5CCR 1002-31). This policy document is intended to provide guidance to the Water Quality Control Division (“Division”) staff and to the public regarding the implementation of the regulatory variance provisions. The guidance is designed as a framework to provide a documented process and to ensure considerations of variances are conducted in a consistent manner.

The intent of this policy is to “make the discharger-specific variance adoption and implementation process more transparent and understandable to all interested parties, while providing appropriate flexibility” (*see* Regulation 31.48 I.B.2). Another objective is that the guidance should help the applicant and Division determine whether an application is complete and whether a proposal is ripe for Commission consideration. In support of this objective, the guidance provides a list of factors for applicants to consider when making a proposal for a DSV. The guidance also reiterates policy decisions made in connection with Regulation #31 regarding how DSVs relate to the rest of the water quality program and how the Division should address variances in permits, TMDLs, and other situations.

As of the date of the adoption of this interim policy, the Commission has not yet taken action on any DSV requests. It is envisioned that as the Commission gains experience and takes action on individual DSV decisions in rulemaking hearings, this policy document will be revised to reflect those new policy decisions. Because the Commission anticipates that this policy will be a “living document” during the initial stages of variance implementation, it is designated as “interim guidance.” The Commission anticipates review and refinement of this interim guidance based on actual DSV experience in the next two to five years.

The contents of this document have no regulatory effect, serving instead to summarize the Commission’s thinking and actions in a single public document. In other words, as opposed to a rule or regulation, this policy statement has no binding effect on the Commission, the Division, or the regulated community. Moreover, this policy is not intended, and should not be interpreted, to limit any options that may be considered or adopted by the Commission in future rulemaking proceedings. Therefore, this policy statement can, and will, be modified over time as warranted by future rulemaking decisions.

The first sections of this document set out the core concepts that are the foundation of DSVs and record the history of the Commission’s actions regarding DSVs. Section IV provides guidance on how DSVs relate to other regulatory tools and Section V describes how DSVs relate to

TMDLs. Sections VI through VIII provide guidance on how to complete the alternatives analysis. Section IX describes permit implementation, Section X describes the review process and Section XI describes the process for proposing a DSV. Appendices contain Frequently Asked Questions, an application completeness review checklist, a form to use to demonstrate that a DSV is the appropriate regulatory tool, and a summary of the methods for evaluating “Substantial and Widespread Social and Economic Impacts” from EPA’s 1995 Interim Economic Guidance for Water Quality Standards.

The hypothetical examples included in this guidance are provided to facilitate understanding; they are not intended to limit the application of DSVs, nor are they intended to predict a policy decision.

II. CENTRAL CONCEPTS OF VARIANCES

The criteria for granting a DSV are contained in Regulation 31.7(4). A DSV establishes a temporary water quality standard that represents the highest degree of protection of a classified use that is feasible within 20 years. It is a hybrid standard that maintains the long-term water quality goal of fully protecting all designated uses, while temporarily authorizing an alternative effluent limit (AEL) to be developed for a specific pollutant and specific point source discharge where compliance with the water quality based effluent limit (WQBEL) is not feasible. During the term of the DSV, all other water quality standards not specifically modified remain applicable.

A DSV will be considered and adopted by the Commission in the context of water quality standards rulemaking proceedings. Once adopted, water quality standards, including DSVs, will be submitted to EPA for review and approval. At the time of the periodic basin hearing, the basis for the DSV must be reviewed by the Commission to determine if there has been any change in the factors upon which the DSV was granted and whether there is new information which establishes that a more protective AEL is now attainable.

The Commission may grant a DSV only where there are no feasible alternatives within the control of the discharger (e.g. pollutant reduction or elimination, seasonal retention, or land application) that would allow the regulated activity to proceed without a discharge that exceeds WQBELs. When adopting these provisions, the Commission specifically identified that the AELs authorized by the DSV shall provide the highest degree of protection for the use classification that is feasible to achieve. The AELs must also maintain and protect existing uses in a manner consistent with federal requirements.

III. HISTORY

Prior to 1985, Colorado had a statutory provision that authorized variances from WQBELs in certain circumstances. EPA had significant issues with the details of those provisions. Legislative action in 1985¹ and Commission action in 1986² removed the water quality standards-based variance provisions that were deemed by EPA to be inconsistent with Clean Water Act provisions. Variances from strictly state-based requirements (ground water standards and state effluent limitation guidelines) were not affected by the Legislative and Commission actions.

In 2010, the Commission revised the Basic Standards to provide the opportunity to consider DSVs. The Division and parties had identified challenges in meeting WQBELs based on water quality standards such as temperature, selenium and ammonia. In addition, the Commission and parties recognized that anticipated challenges with meeting future nutrient standards could increase the need for a robust, feasibility-based variance process. Subsection (4) was added to section 31.7 to describe the process and criteria for granting, extending or removing DSVs. Subsection (17) was added to section 31.14 to explain how DSVs are to be integrated into discharge permits. A delayed effective date (until January 2013) was adopted to provide time for the Division, with input from interested stakeholders, to develop guidance regarding the implementation of these provisions.

A. Further Delay in Effective Date to October 2013

The Commission's decision to delay consideration of nutrient criteria nine months until March 2012 resulted in revisions to the Division's and Commission's long range work schedule. Because the delay also would affect development of DSV guidance, the Commission extended the effective date of the variance provisions at 31.7(4) nine months to October 1, 2013.

B. *[Reserved for periodic updates regarding future Commission policy decisions.]*

IV. UNDERSTANDING THE COMPLIANCE PROBLEM

The first step in obtaining a DSV is to affirmatively determine that compliance with one or more WQBELs is not *feasible*. Understanding the compliance problem requires review of the options that fall within the realm of "feasible."

A. The Concept of Feasibility

"Feasible" is the word used in the EPA's water quality standards regulations at 40 C.F.R. § 131.10(g) to describe when states may remove a designated³ use. If it can be

¹1985 Senate Bill 83, as referenced in Regulation #31, Statement of Basis 31.23 5.

²Regulation #61, Statement of Basis, 61.23.

³ EPA uses the term "designated use", Colorado uses the term "classified use."

demonstrated that attaining the designated use is not feasible, the use can be downgraded to a use that is attainable. There is no regulatory definition of *feasible*; however, there are definitions in other resources.

- The American Heritage Dictionary defines feasible as capable of being accomplished or brought about [syn: possible, workable, practicable, viable]⁴.
- Black's Law Dictionary defines feasible as: capable of being done, executed, affected, or accomplished. Reasonable assurance of success.
- Another definition is: capable of being done with means at hand and circumstances as they are [syn: executable, practicable, viable, workable]; adv: in a practicable manner; so as to be feasible [syn: practicable]⁵
- EPA recently published a definition of "infeasible" in the April 1, 2013 proposed "Effluent Limitations Guidelines and Standards for the Construction and Development Point Source Category" rule. "Infeasible means not technologically possible, or not economically practicable and achievable in light of best industry practices" (Federal Register Volume 78, Number 62, Page 19437).

The key concepts in these definitions appear to be that in order to be considered feasible, an alternative must be capable of actually being done or accomplished. By extension, the alternative must also be successful in the long term. Therefore, it does not equate strictly with "possible," instead constraints should be considered and the outcome must be "reasonable." The determination of "feasible" will depend on site-specific circumstances and the kind of evaluation being undertaken.

Regulation 31.7(4)(i) provides three tests for evaluating feasibility, which allow for the following definitions and are described in more detail in Section VII:

- A pollution control alternative is not *technologically feasible* when it cannot reliably treat to the levels that are required to meet the WQBEL.
- A pollution control alternative is not *economically feasible* when the cost of the alternative would cause substantial and widespread adverse social and economic impact.
- A pollution control alternative is not *environmentally feasible* when human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.

B. Underlying Factors to Consider

In order to determine whether compliance with a WQBEL can be achieved, there must be an understanding of the effluent quantity and quality and the receiving water. This step will determine whether there are other ways to calculate the WQBEL that will prevent the discharge from causing or contributing to an exceedance of water quality standards. This

⁴ The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company.
<http://www.thefreedictionary.com/feasible> (accessed on June 18, 2012).

⁵ WordNet ® 2.0, © 2003 Princeton University

step also will determine whether there are alternative water quality standards that are protective of the uses.

The first factor to consider is whether there is more information available that would support recalculating the WQBEL:

- Is there a pattern associated with the compliance issues (e.g., seasonal, flow related)?
- Is the effluent characterized correctly (e.g., would more frequent sampling provide a more reliable 30-day average estimate)?
- Is the facility's capacity appropriately characterized (e.g., is there unused capacity that could either be used for augmented treatment or re-rating the plant)?
- Is the low-flow appropriately characterized (e.g., does the method in Regulation #31, Appendix A, provide flexibility)?
- Is the upstream concentration appropriately characterized (e.g., is there enough data for a seasonal approach)?
- Is the water quality standard correctly characterized (e.g., for parameters where numeric standards are a function of site characteristics such as hardness)?

The second factor to consider is whether an alternative standard would be appropriate for the waterbody:

- Are the uses correctly identified (e.g., cold vs. warm aquatic life use) and would a different value for the standard protect the uses?
- Are there natural or anthropogenic irreversible sources of the pollutant in the watershed that prevent attainment of the standard?
- Are there natural or modified flow conditions (e.g., diversions) that influence the attainability of the standard?
- Is data available to estimate the extent to which other point and non-point sources of the pollutant in the watershed are contributing to the in-stream concentration upstream from the discharge? Note: The discharger is not required to identify all other point and non-point sources in the watershed in order to obtain a DSV, but should provide available information to the Division and Commission to evaluate whether a site-specific standard for the waterbody would be the best regulatory tool.

C. What are the Right Regulatory Tools to Address the Compliance Issue?

If it is established that there is a compliance problem with the WQBEL, and there are no opportunities to adjust the WQBEL, then it is appropriate to determine what regulatory option is best. It is the Commission's intent that DSVs are to be used after other avenues (such as compliance schedules and Temporary Modifications) have been shown to be inappropriate, or where granting a variance is preferable as matter of policy. As specified in Regulation 31.7(4)(b)(ii), Temporary Modifications of standards must be considered before moving forward with a request for a DSV. Temporary Modifications provide time to determine whether the water quality standards are appropriate for the waterbody.

Temporary Modifications have been an effective tool in a variety of circumstances where standards are not attained. The Commission added the DSV option because there is a limited set of circumstances where Temporary Modifications are not available or may not be the most effective water quality management tool. Once it is determined that a site-specific standard is not appropriate, or if it is infeasible for a discharger to meet the WQBEL derived from the site-specific standard, then a DSV may be appropriate.

Appendix C provides a form that can be used to structure a demonstration that a DSV is the appropriate regulatory avenue. The demonstration to the Commission that the conditions for granting a Temporary Modification are not met, or that granting a DSV is preferable as a matter of policy may be made simultaneously with the DSV request. However, the proponent must assure that all the issues are ripe for consideration at the time of formally noticing a proposal.

1. Compliance Schedules

Compliance Schedules are the preferred tool where it is feasible for an existing facility to meet the WQBEL if given more time. Compliance schedules are granted by the Division in a permit, without Commission action. Figures 1 and 2 present the relationships between Compliance Schedules and DSVs.

Seeking a permit compliance schedule is appropriate when a discharger has evaluated options to comply with WQBELs and has determined that there is a feasible alternative to achieve compliance (e.g., implementation of additional on-site treatment). Division Implementation Policy WPC-Permitting-2, "Permit Compliance Schedules" (Dec 3, 2010) (page 4-5) states:

Consistent with the EPA principals (sic), permit compliance schedules are only allowed where appropriate, must ensure compliance with the associated effluent limit as soon as possible, must include 1 year milestones as a minimum, must contain enforceable milestones and may extend beyond the permit expiration date as long as the effluent limit is implemented in the permit.

2. Temporary Modifications

Is there Uncertainty Regarding the Standards? Temporary Modifications are the preferred tool where there is significant uncertainty regarding the appropriateness of the standard for the stream segment. This approach may avoid situations where costly pollutant load reductions are imposed on point source dischargers that are unnecessary for the protection of classified uses. The uncertainty can be about what levels are necessary to protect the uses, or about whether the existing elevated level of the pollutant in the receiving water is the result of a natural or irreversible human-induced source of the pollutant. The uncertainty can also be about whether a DSV is appropriate. Figure 1 presents the relationship between compliance schedules, Temporary Modifications and DSVs.

During the term of a Temporary Modification a discharger is protected from unreasonable effluent limits while uncertainty regarding the standard is addressed. If the significant uncertainty is about uses or what levels are necessary to protect the uses, the preferred option is to propose a Temporary Modification and then determine what modified use accurately describes the appropriate existing and future uses. Site-specific standards can then be proposed to protect the site-specific use (using recalculation procedures, biotic ligand model, water effects ratio or other method, as provided in the Basic Standards (see Regulation 31.7(1)(b)(iii))).

If the significant uncertainty is about the extent to which elevated levels of the pollutant are the result of natural or irreversible sources, the preferred option is to propose a Temporary Modification and then propose an ambient-based site-specific standard that recognizes the contributions of natural or irreversible sources as provided in the Basic Standards (see Regulation 31.7(1)(b)(ii)). Similarly, since a DSV is a water quality standard, a Temporary Modification may be appropriate to provide time for a discharger or group of dischargers to determine whether feasible treatment options exist.

3. Site-Specific Standards

Once the studies are completed and the uncertainty is resolved, then the standards are adjusted through public rulemaking, and the permit effluent limits are revised to attain the new standards. Colorado's water quality standards framework provides the opportunity to develop site-specific standards where the table values are either too stringent or not stringent enough to protect the classified uses (see Regulation 31.7(1)).

- Ambient standards can be assigned if the elevated levels (in the waterbody) are the result of natural or irreversible human-induced sources (see Regulation 31.7(1)(b)(ii)).
- Site-specific criteria-based standards can be assigned if appropriate site-specific studies indicate that alternative criteria protect the designated uses (see Regulation 31.7(1)(b)(iii)).

4. Discharger Specific Variances

A DSV establishes a temporary water quality standard that represents the highest degree of protection of a classified use that is feasible within 20 years. It is a hybrid standard that maintains the long-term water quality goal of fully protecting all designated uses, while temporarily authorizing an alternative effluent limit to be developed for a specific pollutant and specific point source discharge where the WQBEL is not currently feasible. DSVs may be granted by the Commission only where there are no feasible alternatives that would allow the regulated activity to proceed without a discharge that exceeds WQBELs.

If a permittee's difficulty in meeting the WQBEL cannot be resolved with a compliance schedule, Temporary Modification, or site-specific standard, then the permittee may evaluate whether a DSV is appropriate. If WQBELs cannot be met through operational changes to the existing treatment plant, then the entity should evaluate alternatives to discharging (e.g., seasonal retention, land application, watershed trading) and additional treatment technologies. If any of these options are found to be a feasible means to meeting water quality standards, then a DSV is not warranted and the permittee should work with the Division on milestones and a compliance schedule.

Since DSVs must protect existing uses, the AEL cannot cause a new impairment or make an existing impairment worse. This does not preclude applying the provisions to new dischargers when the source of pollution pre-dates the new discharger. A hypothetical example of a situation where a new discharge could use this provision to reduce existing pollution is a new wastewater plant that replaces existing septic systems. Another hypothetical example is a situation where legacy mine impacts are reduced as the result of a new permitted treatment facility. In these circumstances, the existing uses are protected and pollution is reduced, although water quality standards that were not attained before the discharge existed may still not be met after the DSV.

Figure 1
Relationship between Compliance Schedules,
Temporary Modifications and Discharger-
Specific Variances

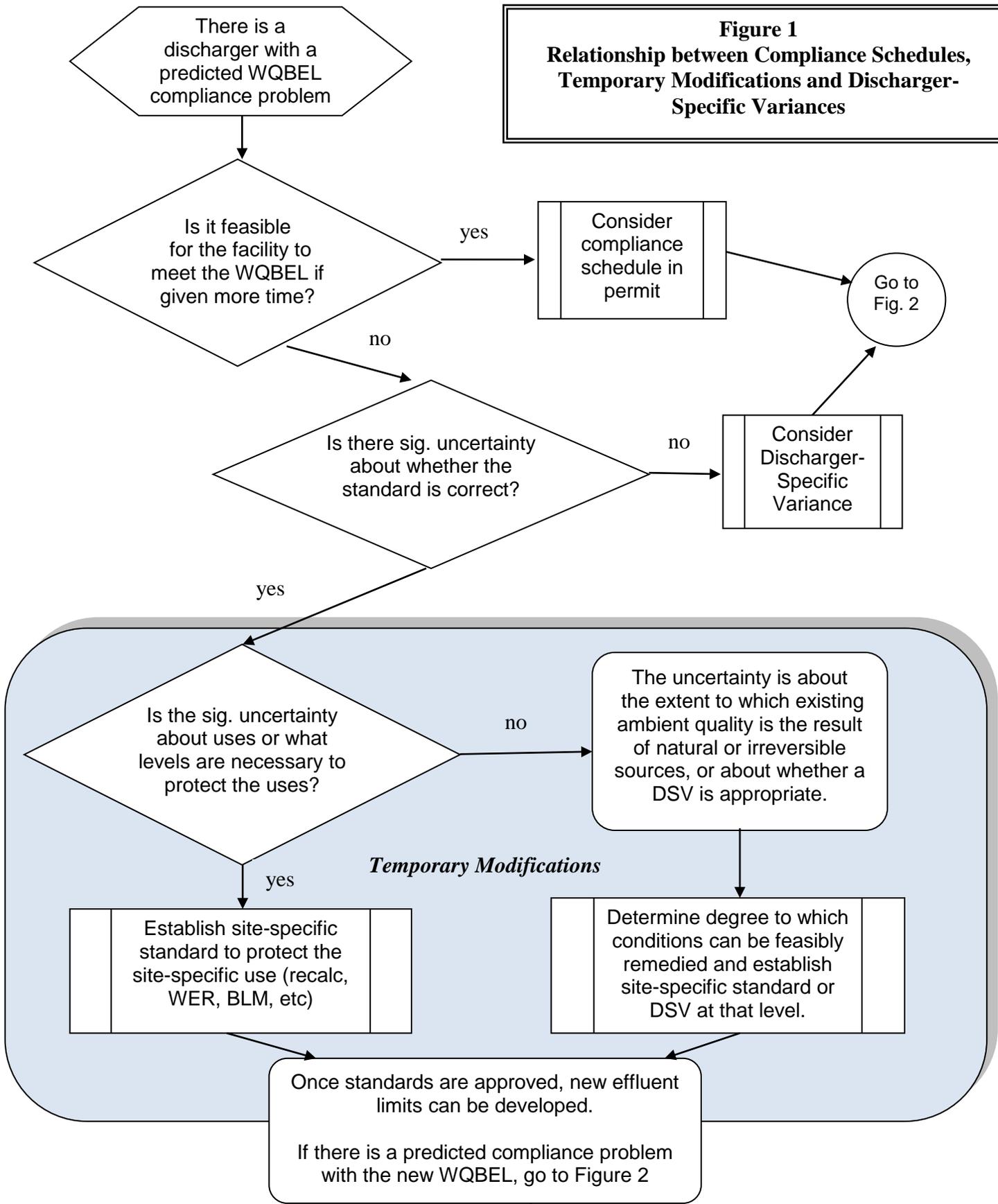
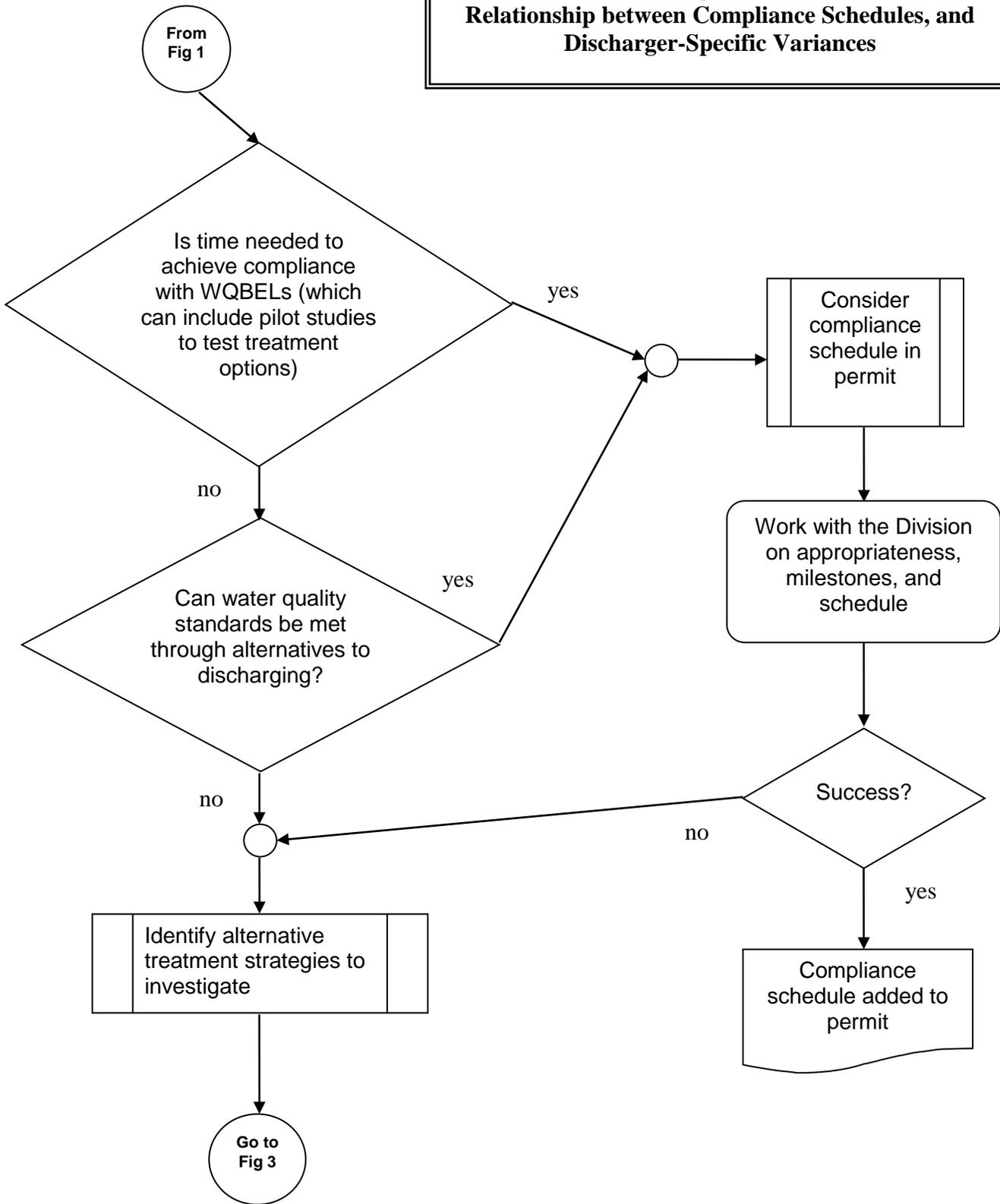


Figure 2
Relationship between Compliance Schedules, and
Discharger-Specific Variances



V. RELATIONSHIP OF DISCHARGER SPECIFIC VARIANCES AND IMPAIRED WATERS

As Regulation 31.48.I.B Statement of Basis and Purpose states:

Adoption of a discharger-specific variance constitutes a policy decision that, according to the terms of the variance, during the life of the variance the underlying standard does not need to be met. When a discharger-specific variance is adopted for an impaired water segment that is impaired by multiple sources, development of a TMDL would be required. The Commission intends that alternative effluent limits would establish the extent of regulatory requirements for the discharger in question, in accordance with the terms of the discharger-specific variance. Any impairments that are solely attributable to a duly authorized variance, are not to be included on the section 303(d) List. The section 303(d) List is the list of waters that still require a TMDL. In the case of impairments solely attributable to (and authorized by) a variance, a TMDL is not required since it is apparent why the water quality is impaired, and thus a TMDL is not necessary to identify the remedy for these waters. Cases where multiple sources contribute to an impairment would need to be examined on a case-by-case basis, and section 303(d) Listing may be appropriate.

Where there is an approved DSV, the waterbody will be evaluated for attainment against the underlying standard which represents the long-term goal for the waterbody, i.e., first number in the DSV. Note that not all segments that include a point source with a DSV will be impaired. The WQBEL is a conservative calculation meant to prevent the exceedance of the standard across a range of conditions. Effluent that exceeds the WQBEL may not actually cause the stream segment to exceed the underlying standard if, for example, the in-stream flow is higher than the calculated 30-day low flow, or if the discharger is discharging less than the design flow (see discussion about the “safety factor” for effluent limitations in Section VIII.C).

In some cases, there may be an exceedance of the underlying standard where the discharger is the only source of the pollutant, for example, if the stream is dry above the discharge outfall. In these cases, a TMDL is not required since the TMDL is not necessary to identify the remedy for the waterbody. In cases where there are multiple sources, or where there is uncertainty about the sources, then the segment will be placed on the 303(d) list and a TMDL developed. Waste load allocations should be written to meet the underlying standard which represents the long-term goal for the waterbody, since a DSV is temporary and applies only to a specific discharger.

However, the AELs authorized by a DSV establish the extent of regulatory requirements for the discharger and the specific pollutant(s). In other words, as long as the DSV remains in effect, the discharge permit will not require effluent limitations that are more stringent than the AELs. If TMDL waste load allocations result in effluent limits that are more stringent than the AELs, a permittee will not be required to meet these limits until the DSV expires. A wasteload allocation is not available for the discharger during the term of a DSV.

VI. IDENTIFICATION OF POLLUTION CONTROL ALTERNATIVES

A DSV proposal must include a comprehensive evaluation of pollution control alternatives that could reduce the pollutant or minimize the impact of the discharge. The purpose of the alternatives analysis is twofold: (1) to support a decision regarding whether the underlying water quality standards and related WQBELs are feasible to achieve, and if not, (2) to identify appropriate alternative effluent limits based on the highest degree of protection of the classified use that is feasible, taking into consideration the factors in the “Limits of Technology Test,” the “Economic Test” and the “Other Consequences Test” as described in Section VII.

A. Identifying Alternatives for Consideration

The first step in the alternatives analysis is to survey the range of potentially available alternatives that might allow for water quality standards to be attained. To ensure a broad range of possible alternatives is evaluated, the alternatives that must, at a minimum, be reviewed for feasibility include:

- Alternative locations for the discharge, including moving the outfall to a waterbody with more assimilative capacity;
- Consolidation with other wastewater treatment facilities;
- Reduction in scale of the proposed discharge or activity;
- Water recycling measures within the facility;
- Reclaimed water use (see Regulation 84);
- Process changes, raw material substitution, or alternative technology which could minimize the source of the pollutant;
- Innovative or alternative methods of treatment and advanced treatment, including new designs, stages, components, capacity for treatment plant replacement or upgrades of current plant;
- Improved operation and maintenance of existing facilities in order to maximize treatment or removal of the pollutant;
- Seasonal or controlled discharge options to minimize discharging during critical water quality periods;
- Watershed trading;
- Land application of wastewater;
- Total containment of wastewater (i.e., zero discharge);
- Any other alternative to minimize the effects of the proposed discharge or activity; and
- No action (maintain status quo).

B. Evaluation of Alternatives

The second step is to gather information for evaluating the feasibility of each alternative. For each potentially feasible alternative, the expected effluent concentrations and discharge rates must be estimated. When possible, accurate estimates should be developed and reported in consistent units, so that the relative impacts of each alternative

may be easily compared (“apples-to-apples” comparison). The three tests for evaluating feasibility are described in Section VII. If the results of evaluation demonstrate that there are no feasible alternatives to attain the underlying standard, then the permittee should proceed with the process described in Section VIII for selecting the most protective alternative and developing alternative effluent limits.

VII. FEASIBILITY TESTS

Regulation 31.7(4) provides three separate feasibility tests to evaluate individual pollution control alternatives where a discharger cannot comply with a WQBEL based on the underlying water quality standard. The applicant may present a determination of whether or not a pollution control alternative is “technologically feasible,” “economically feasible,” and “environmentally feasible.” (See Section IV.A for a definition of “feasible”). A demonstration that a specific pollution control option is infeasible may be made based upon any one of the three tests. The DSV applicant must show that there are no feasible alternatives that can meet the WQBEL in order to provide justification for the Commission to grant a DSV.

A. Limits of Technology Test

A pollution control alternative is not *technologically feasible* when it cannot reliably treat to the levels that are required to meet the WQBEL. A technology may be infeasible when: (1) pollutant removal technology cannot treat to the level required, (2) a new technology, or a technology developed for a different industry or setting has not been tested enough to demonstrate that it will reliably achieve compliance with the WQBEL, or (3) there are factors that would preclude effective functioning of an existing treatment technology, if implemented, to meet water quality standards.

Evaluation of technological limitations to determine infeasibility with respect to implementing new or existing technologies will be site-specific, depending on numerous factors unique to each facility, including, but not limited to: the facility’s size, influent quality, existing and potential design, retention time, existing and potential new treatment processes, history of full-scale applications in the field, the facility’s age and remaining useful life, flow regimes, seasonal or variable influent quantity and quality, availability of land for any necessary expansion, topography, climate, access, zoning codes and local land use concerns, and differences in sludge/biosolids generation and associated dewatering and disposal/beneficial reuse options. For example, certain constituents can interfere with treatment technologies such as ion exchange and absorptive media, making them technically incapable of treating influent containing high levels of such constituents.

The applicant may request a DSV if there are no feasible alternatives within its control to attain water quality standards (see Section VI.A) and if the best available technology cannot reliably meet the WQBEL. In this case, the DSV applicant would develop an alternative effluent limit (Section VIII.C) that is based upon the best water quality that can be achieved, taking into account a compliance safety factor.

B. Economics Test

This test relates to situations where a specific pollution control alternative is not *economically feasible* because the cost of the alternative would cause substantial and widespread adverse social and economic impact. The related language in 40 CFR 131.10(g)(6) states that attaining a designated use is not feasible when “controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread social and economic impact.” Information regarding facility-specific costs, affordability, and treatment costs is necessary to support a decision that a pollution control alternative is appropriate under this test.

Pollution control is “infeasible” when its implementation will cause substantial and widespread adverse social and economic impacts. The Economics Test has two components – “substantial” and “widespread”:

- Whether or not costs are “substantial” depends upon the entity’s ability to pay for pollution control. Substantial impacts may include impacts that affect an entity’s ability to carry on its activities at a particular facility or locality.
- Whether or not costs are “widespread” depends upon how the surrounding or affected community will be impacted, if the entity is required to implement pollution control.

In order to support a Commission decision that a pollution control alternative is infeasible for economic reasons, the impacts must be both substantial and widespread. One method for evaluating “substantial and widespread social and economic impacts” is EPA’s 1995: “Interim Economic Guidance for Water Quality Standards⁶”; however, other economically defensible methods could also be used. A summary of EPA’s 1995 guidance is included in Appendix D. A case-by-case determination will be made, evaluating appropriate factors, including a discharger’s current wastewater treatment costs, ability to pay, the range of alternatives and associated costs.

The considerations for evaluating the Economics Test are different for public and private entities. Public entities should address the following questions, as well as providing any additional information which could demonstrate substantial and widespread social and economic impacts:

- What is minimally needed to implement the alternative?
- How much will it cost?
- What is the entity’s capacity for raising required capital through additional debt?
- What would be the financial impacts on households?
- What would be the socioeconomic impacts on the local community (or other affected communities)?

Private entities should address the following questions, and provide any additional information which could demonstrate substantial and widespread social and economic impacts:

⁶ Available on the internet at <http://water.epa.gov/scitech/swguidance/standards/economics/>

- What is minimally needed to implement the alternative?
- How much will it cost?
- What is the entity's capacity for raising required capital through additional debt?
- To what extent can the entity raise prices of goods/services to cover the cost of additional pollution control?
- What is the entity's profitability with and without the specific pollution control alternative?
- Would the cost of implementing the alternative put the entity at a competitive disadvantage when compared with other entities in the same industry (or a similar line of business)?
- If the pollution control is required, will the entity likely pursue alternative activities that result in a reduction in the number of employees and/or reduction in local purchasing?
- What would be the socioeconomic impacts on the local community, other affected communities or other industries?

The Commission may consider other methods in addition to those recommended in the EPA's 1995 Guidance. The Commission does not intend to preclude any methodology that is sufficiently rigorous and meets the basis of the provision at 31.7(4)(a)(i)(B). The DSV applicant should discuss the site-specific circumstances and method for evaluating economic feasibility with the Division and EPA. Since a DSV is a water quality standards action subject to approval by both the Commission and EPA, it is recommended that the DSV applicant confirm that the methods used to evaluate feasibility will meet the requirements of both agencies before investing significant resources in an evaluation of alternatives.

[Future Commission decisions on appropriate methods for evaluating economic feasibility will be used to update this guidance with additional information.]

C. Other Consequences Test

A pollution control alternative is not *environmentally feasible* when "human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place" (Regulation 31.7(4)(a)(i)(c)). The language of this test is the same as the 40 CFR 131.10(g)(3) downgrading factor. As Regulation 31.48.I.B Statement of Basis and Purpose states, this test "relates to the non-economic consequences of increased treatment, including the effects on other media such as air or land."

The Other Consequences Test evaluates the feasibility of pollution control based upon whether the negative environmental impacts of the pollution control alternative would cause more environmental harm than in-stream pollutant concentrations below the discharge without the pollution control alternative. Each determination will be a site-specific comparison, weighing the impacts to designated uses downstream of the discharge against the impacts to the environment as a whole (air, water, land and climate). As Regulation 31.48.I.B Statement of Basis and Purpose states:

The Commission understands this test as weighing and balancing the tradeoffs between the environmental damage caused by (in this case) exceedance of effluent limits with the environmental damage caused by meeting those effluent limits. For consideration of this factor, the Commission expects to see discussion of considerations such as the fate and transport of the pollutant if the treatment works were not present, including the effect of the point source on the timing, concentrations and location of the pollutant's delivery to the receiving water. The second element of the "other consequences" test relates to an assessment of the wider environmental impacts of increased treatment on other media as well as on water quality. For this element, there would need to be a demonstration that the increased treatment would cause more environmental damage than the benefits of meeting the standard warrant. The entity advocating this reason for a variance would need to demonstrate the basis for such a policy decision.

In order to determine that pollution control is infeasible due to "more environmental harm," the entity must demonstrate that the negative environmental impacts of the specific pollution control, including all emissions to air, water and land, would cause more environmental harm than in-stream pollutant concentrations below the discharge without the proposed alternative. Some hypothetical examples of scenarios where the pollution control may cause more environmental harm include the following:

- Addition of chemicals to the wastewater treatment process renders the biosolids unfit for agricultural land application or solid waste disposal, and consequently the biosolids must be disposed as hazardous waste.
- Moving the discharge location to a waterbody with more assimilative capacity would require construction of a pipeline through a sensitive ecological area.
- High energy requirements for a treatment alternative would result in greenhouse gas emissions that would cause more environmental harm than the pollutant's impact in the waterbody.

Specific impacts that should be evaluated for the pollution control alternative should include all relevant impacts to human health and the environment. The appropriate factors to consider are site-specific. For a specific pollution control alternative, there may only be one relevant factor or many factors. The following list of factors, and any others, may be used to evaluate environmental feasibility:

- Predicted effluent concentrations for all constituents (both regulated and unregulated parameters may be considered);
- Current practices for the facility's solid waste (e.g., agronomic beneficial use), and any expected changes based on the alternative;
- Increase or decrease in consumption of non-renewable resources;
- Increase or decrease in air emissions (e.g., toxics, NO_x, SO_x, greenhouse gases, particulate matter, odor);
- Changes in energy usage and/or energy recovery;

- Increased in-stream flows due to water conservation or decreased flows due to water consumption (e.g., evaporative losses) and associated impacts on downstream water users (e.g., need for augmentation plan);
- The effects on water supply for municipal, agricultural, and environmental purposes, including the environmental effects of transferring water out of agriculture;
- Changes in noise emissions;
- Impacts from manufacture, transport and use of chemicals (e.g., ferric chloride, alum, methanol, lime, polymer, chlorine);
- Construction phase impacts: cement, sand, steel, copper, PVC, pipes, pumps, motors, blowers, transport, etc.; and
- Ecological impacts of the proposed alternative (e.g., altered habitat, impacts to wildlife).

Scientific peer reviewed literature may be helpful in evaluating the potential positive and negative impacts of specific pollution control options. There are a number of studies available on the life-cycle analysis of different wastewater treatment technologies which may be helpful in identifying and quantifying impacts. The analysis should take into account environmental impacts that occur inside and outside of the treatment facility. Examples of impacts related to wastewater treatment that occur outside the facility include: production of materials, transportation and waste disposal.

Reverse Osmosis (RO) is an example of a treatment technology that generally comes with significant negative environmental impacts, including the large waste stream produced by the RO process, and the out-of-state transport for brine disposal. In many cases, the “other consequences” of RO will make it environmentally infeasible for wastewater treatment. However, a hypothetical example of a situation where RO could be feasible is a facility located near an existing deep water injection well that is suitable for disposal of the waste generated by the RO process. In this hypothetical setting, further evaluation would be warranted.

The determination of whether a specific pollution control is infeasible based upon the principal of “more environmental harm” will be made on a site-specific basis, and will depend upon the degree of impact to the environment, downstream uses and the conditions in the receiving waterbody. The DSV applicant should engage with the Division and stakeholders, especially downstream water users, to verify that all environmental impacts are considered. It may be that a given technology is found to “cause more environmental damage” in one particular setting, but the same technology may be feasible and appropriate in a different setting. The Commission will make each determination on a site-specific basis.

The Other Consequences Test also provides the opportunity to demonstrate infeasibility when conditions or sources of pollution “cannot be remedied.” The Commission has used temporary modifications and site-specific standards in many cases where conditions or sources of pollution are irreversible and cannot be remedied. Generally, it is expected that temporary modifications and site-specific standards will continue to be the preferred regulatory tool for addressing irreversible conditions, although the Commission also has

the option to use a DSV in these circumstances, if the conditions for granting a temporary modification are not met or if granting a DSV is preferable as a matter of policy based on site-specific considerations.

VIII. SELECTION OF AN ALTERNATIVE POLLUTANT REMOVAL TECHNIQUE AND ALTERNATE EFFLUENT LIMITS

Once the range of potentially available alternatives has been identified and evaluated, the next step is to identify the most protective feasible alternative, i.e., the pollution control remedy that will result in the best feasible water quality. The selected alternative must protect existing uses by maintaining existing water quality at a minimum. The alternatives analysis should evaluate all pollutants with predicted WQBELs which may be infeasible and discuss any water quality trade-offs. If it is not feasible to meet all predicted WQBELs, it would be appropriate to describe these limitations and complications in a single DSV application. Then the pollutant removal trade-offs can be understood and the efforts to reduce pollution can be balanced or prioritized.

A. Selecting the Alternative

The following steps describe how to select the pollution control alternative from the list of potentially available alternatives (see Section VI). Figure 3 presents a schematic description of the alternatives analysis process. Key components of the process are:

- For alternatives that are presumed infeasible, provide a short description of the rationale for the decision.
- For each potentially feasible alternative, estimate the expected water quality.
- Rank the alternatives from the one that provides the highest degree of water quality protection to the lowest.
- If the alternative that provides the highest degree of protection is infeasible, move through the list of alternatives and continue to test for feasibility. For alternatives that require a more in-depth evaluation, determine what effluent quality is technologically feasible and develop either: 1) a planning-level cost estimate of the alternative and estimated economic impacts, or 2) information to support evaluation of the “Other Consequences Test.”
- Select the alternative that provides the highest degree of water quality protection and that is also feasible, based upon the three feasibility tests.
- If the highest degree of protection feasible is not sufficient to meet WQBELs, then the applicant should proceed with an application for a DSV and development of alternative effluent limits.

Figure 3
Discharger-Specific Variances
Evaluation of Alternatives

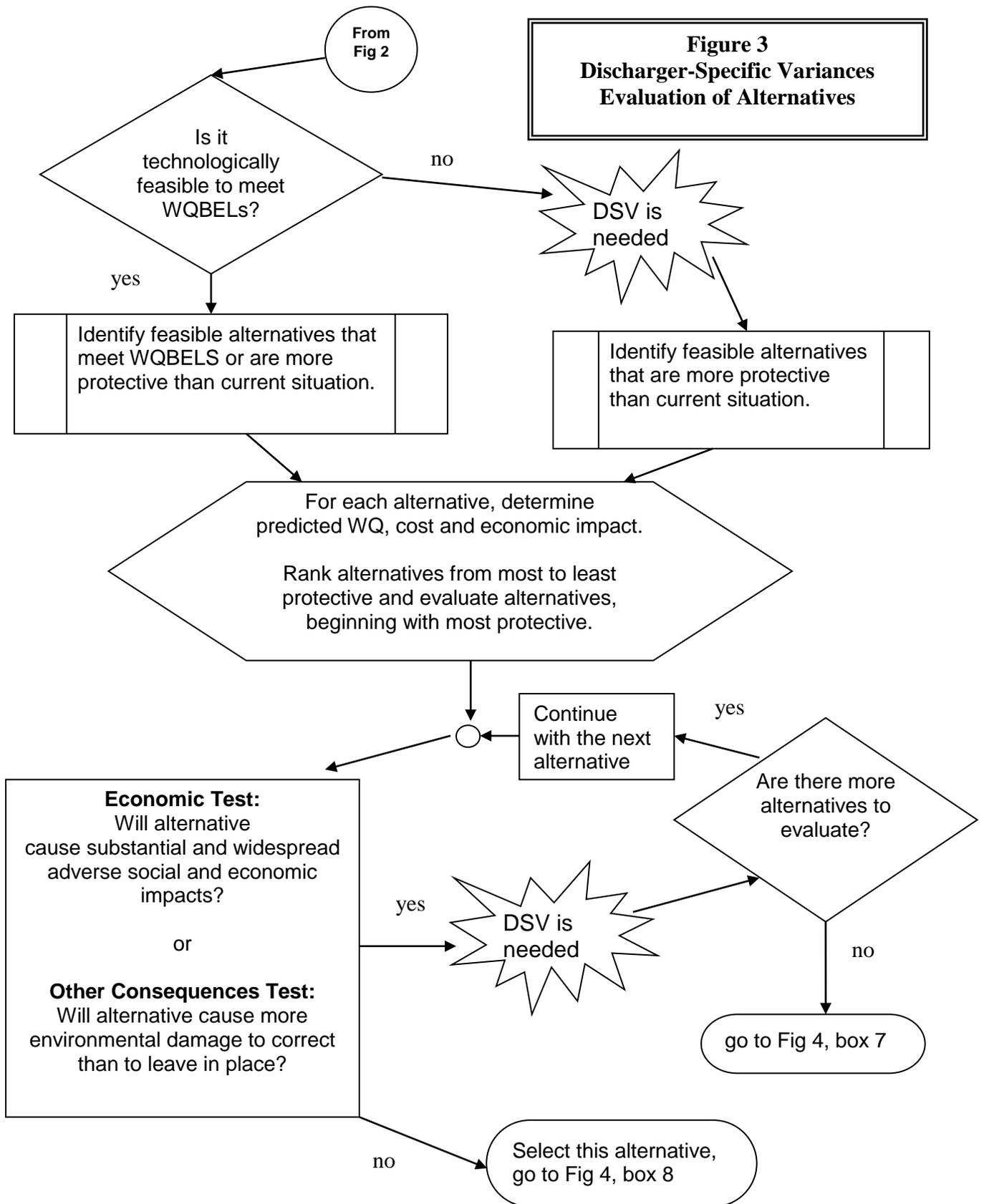


Table 2 presents a hypothetical example of how the alternatives evaluation is combined with the three feasibility tests.

Table 1 Hypothetical Example Summary of Alternatives Analysis

Alternatives	Meet the WQBEL = 7 ?	Expected Effluent Quality	Is it Technologically Feasible?	Is it Economically Feasible?	Is it Environmentally Feasible?	Is evaluation of further alternatives warranted?	Selected Alternative
1) Change outfall location	NA	There is more dilution at other site	Yes	Yes	No, Pipeline through critical habitat	Yes	
2) Total Containment or Land Application	NA	NA	Yes	Yes	No, reduced in-stream flows would cause more harm to aquatic life	Yes	
3) Advanced Treatment by Reverse Osmosis	Yes	6	Yes	Didn't analyze	No, RO brine disposal issues	Yes	
4) Advanced Treatment by Ion Exchange	No	8	Yes	No	Didn't analyze	Yes	
5) Seasonal storage	No	10	Yes	Yes	Yes	No	☆
6) Water Recycling Measures	No	12					
7) Modifications to Operation and Maintenance	No	12					
8) Pollution Prevention Measures	No	14					
9) Watershed Trading	No	15					

In this hypothetical example, the first two alternatives result in compliance with the WQBEL; however, neither is feasible. Changing the outfall location is infeasible using the Other Consequences Test since the pipeline would be constructed through critical habitat and the U.S. FWS has indicated that it would issue a jeopardy opinion on the CWA 404 permit that would be required. Alternative 3 is infeasible using the Other Consequences Test because of the environmental harm that accompanies a Reverse Osmosis treatment option in this location (brine disposal, energy consumption and water losses). Alternative 4 is not economically feasible, so it is not selected. Alternative 5 is feasible by all three tests, so it the most protective of the feasible alternatives and becomes the selected alternative.

B. Supporting Evidence

The level of detail needed to support a determination on feasibility will depend upon site-specific circumstances. In some cases, a short narrative description may be sufficient evidence to support the decision that a pollution control alternative is infeasible. In other cases, an engineering analysis may be needed. The DSV applicant should discuss the site-specific circumstances with the Division and EPA to determine the level of detail needed to support a decision on feasibility.

It is preferable to invest the time and planning resources into a thorough evaluation of alternatives which may be viable. For example, it would generally be appropriate for very small treatment plants to provide a thorough evaluation of whether land application or seasonal storage would be feasible. On the other hand, it may be reasonable to presume that land application and seasonal storage are infeasible for a large capacity treatment plant. It would be more appropriate for a large plant to focus resources instead on investigating and evaluating advanced treatment or watershed trading options.

For public entities, the degree of effort that would be appropriate in developing cost estimates will depend upon the extent to which a community is already financially burdened by existing wastewater treatment costs to comply with water quality-based requirements of the CWA. If current fees are already “substantial,” then higher user fees would also be “substantial,” so a detailed cost estimate would not be necessary. Otherwise, there should be a planning level cost estimate to quantify the increase in user fees with reasonable certainty.

In the event that a party requesting a DSV must submit confidential information that is protected under the Colorado Open Records Act in order to support a proposal for a DSV, the Commission will take steps on a site-specific basis to balance the protection of that information with the need to conduct a public hearing with meaningful input from Division staff and interested parties.

C. Developing the Alternative Effluent Limits

Once the alternative pollutant removal technique is selected, appropriate AELs must be developed. The AELs must characterize the expected effluent quality with full implementation of the selected alternative. A DSV may be adopted for multiple pollutants, where appropriate. In cases where it is only feasible to meet the WQBEL during parts of the year, the discharger may propose an AEL that applies seasonally. Figure 4 presents a schematic of the steps for developing AELs.

For numeric AELs, the DSV applicant should propose the magnitude and averaging periods. Both the “probable” effluent quality as well as the “safety factor” included in developing the effluent limits should be explicitly quantified to support the proposed AELs. The safety factor will depend upon the selected alternative, the influent and effluent variability and other site-specific factors. The discharger requesting a DSV

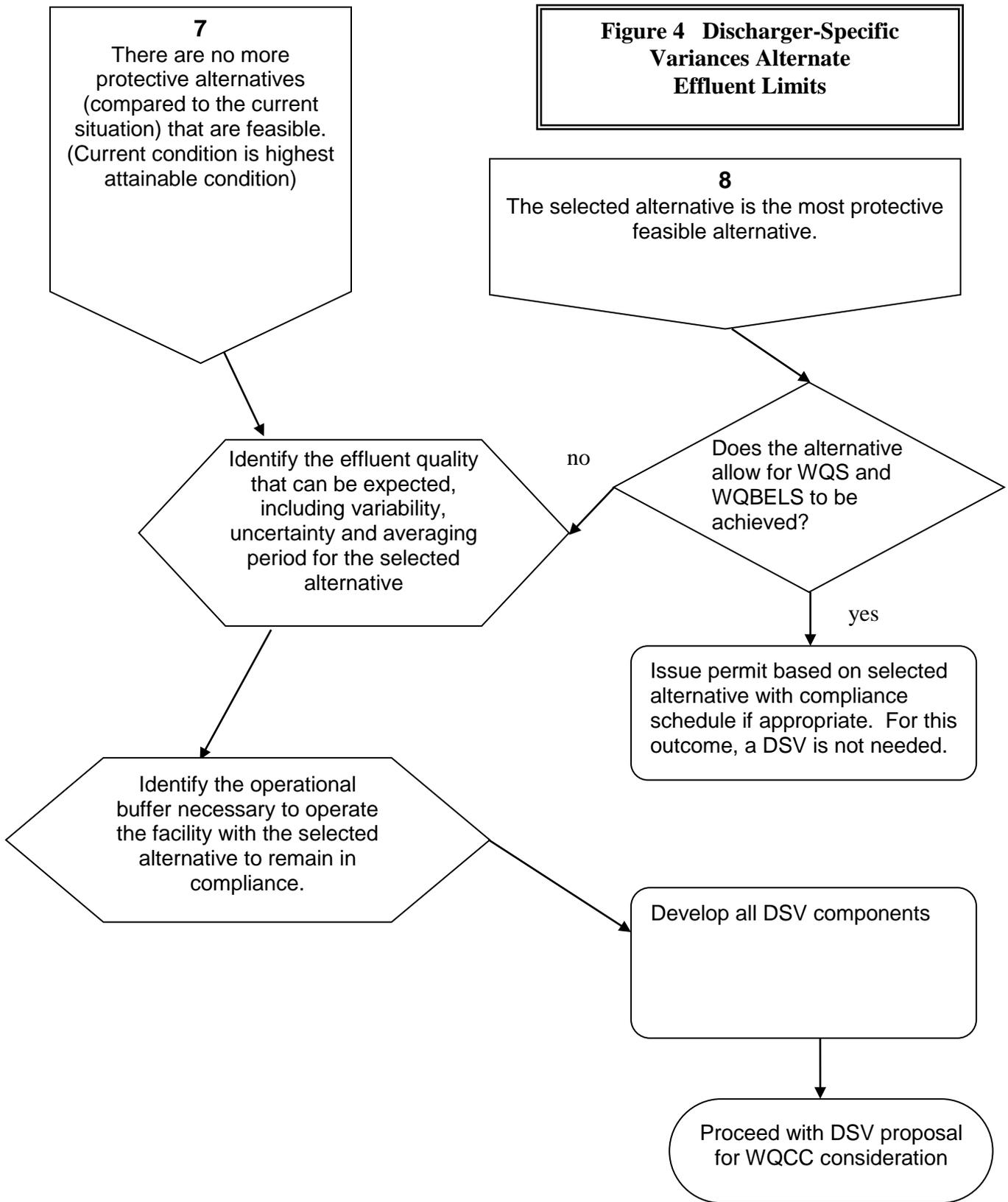
should describe the uncertainty in the expected effluent quality and propose an AEL with which they can fully comply.

In some cases a narrative, practice-based effluent limit may be the appropriate AEL. However, an entity proposing a narrative effluent limit must justify the basis for the narrative limit and develop a narrative limit that is verifiable. For example, narrative effluent limits may be appropriate where there is uncertainty about the maximum effluent concentration of pollutants because of natural conditions or conditions that are otherwise outside the discharger's control. Or, where a treatment technology has only been tested on a small scale, uncertainty about the technology's large-scale performance could justify a narrative effluent limit that contemplates implementation of the chosen technology.

In the event that the entity is not able to meet the AELs upon adoption of the DSV by the Commission, a compliance schedule may be necessary. The compliance schedule, including annual milestones and a schedule for full compliance with the AELs, must be included in the entity's proposal.

A DSV will be expressed as a temporary hybrid standard. The first number is the underlying standard previously adopted by the Commission for the segment and represents the long-term goal for the waterbody. The first number will be used for assessing attainment for the waterbody and for the development of effluent limitations. The second number (or narrative condition) is the Commission's determination of the effluent concentration with the highest degree of protection of the classified use that is feasible for specific dischargers named in the DSV. Control requirements, such as discharge permit effluent limitations, shall be established using the first number as the ambient water quality target, provided that no effluent limitation shall require an "end-of-pipe" discharge level more restrictive than the second number during the term of the DSV for the named dischargers.

**Figure 4 Discharger-Specific
Variances Alternate
Effluent Limits**



IX. IMPLEMENTATION IN PERMITS

The DSV adopted by the Commission will authorize the implementation of AELs which represent the limits that can be achieved at full implementation of the selected alternative. In most cases of numeric AELs, the limits will specify the acute (one day) and chronic (30-day) limits; however, on a case-by-case basis, it may be more appropriate to establish other duration-based limits. For narrative AELs, practice-based permit conditions may be appropriate in lieu of numeric effluent limits on a case-by case basis, and should be described in the DSV application. For any constituent with an approved DSV, the Division will not require the permittee to complete an alternatives analysis for anti-degradation based limits (if the stream segment is reviewable).

Permits will include the AELs or narrative conditions and any other permit conditions that are associated with the DSV. In cases where current pollution removal techniques represent the most protective feasible option, AELs may correspond to the level currently attained. In other cases, AELs may still require more pollutant reduction than is currently attained.

During the term of the DSV, the permit will require progress towards meeting the AELs or narrative conditions as soon as possible. The Division may set a compliance schedule where actions and time are needed to comply with the alternative effluent limits. The milestones and schedule will be based on the information submitted for the hearing, with the ability to consider any new information that would affect milestones or schedules.

A DSV also includes the requirement for ongoing investigation of treatment technologies, process changes, wastewater reuse or other controls that may result in improvement in effluent quality. The permit will include this requirement as “date-based narrative permit conditions.” The individual steps that are necessary to document ongoing investigation and progress will depend on the specific situation and the basis for the DSV. In some cases, investigation of treatment technologies should continue; in others, it may require long-range planning for wastewater reuse, where allowed, or process modification.

X. PERIODIC REVIEW REQUIREMENT AND EXPIRATION DATES

The DSV may be adjusted by the Commission as new information becomes available. Since a DSV is a revised water quality standard for a particular discharge, it will be reviewed by the Commission in conjunction with the water quality standards review cycle that fulfills the triennial review requirements. Once adopted, each DSV will be reviewed as part of the next comprehensive review of the standards for each basin regulation, which occurs approximately every 5 years (e.g., DSVs in the South Platte Basin will be reviewed as part of the basin review cycle for Regulation #38). The DSV applicant is responsible for updating the alternatives analysis for each review and for identifying whether additional progress toward meeting the WQBEL is feasible. If the Commission determines that action on a new or existing DSV is appropriate before the next scheduled basin-wide standards rulemaking hearing, a special hearing would be held.

DSVs are temporary and must include an expiration date. In determining the appropriate duration for a DSV, the Commission’s primary consideration will be the site-specific basis for the DSV and the potential for achieving more protective effluent concentration or load. If the evidence suggests that achieving more protective effluent limits in the future is unlikely, then a longer duration may be appropriate⁷. If the evidence suggests that there is a good potential that current circumstances warranting adoption of a DSV will change, then a shorter duration may be appropriate. The supporting analysis for the DSV should explain the rationale for the proposed expiration date. Additional considerations will be the timing of the discharge permit renewal and basin review cycle. During a regularly scheduled basin review, the Commission could determine, based on evidence submitted in that review, that action on an existing DSV is necessary, regardless of the expiration date.

XI. THE PROCESS FOR PROPOSING A DISCHARGER SPECIFIC VARIANCE

Since a DSV is a revised water quality standard, it must be adopted by the Commission in a public rulemaking hearing and must follow the statutory and regulatory procedures for water quality standards hearings. (See CWQCA § 25-8-402 and Regulation # 21 (Procedural Rules)).

The Commission recommends that the parties discuss their proposals with the Division before asking to schedule the rulemaking. The factors that affect whether a proposal is ripe for consideration are described in the Water Quality Control Commission’s *Considerations for Advancing External Proposals For Revised Water Quality Classifications and Standards Before the Water Quality Control Commission*. The Division’s role is to advise the Commission as to whether the proposal is ripe for a decision at the time of the Notice. During the hearing process, the Division’s role is to indicate whether the proposal meets the conditions of Regulation 31. This document can be found on the Commission’s website on the “Public Participation” tab.

DSV applications will require in-depth review and coordination by staff in multiple programs at the Division and EPA, including Standards, Permits and Engineering. Depending upon the complexity of the alternatives analysis, and the number of DSV applications being reviewed, the time needed will vary. The following timeline can be used as a general guide for planning purposes:

Table 2 General Planning Guide

Time Before Commission Hearing	Progress
1+ year prior	Work with the Division and EPA to determine the nature of the compliance problem and the appropriate regulatory solution. At this time, the discharger should provide to the Division and EPA any available data to answer the questions in Section IV.B. See also Sections II – IV.

⁷ Expiration dates should not be confused with the need for periodic review. For instance, a DSV in the San Juan basin that is initially adopted in 2014 with an expiration date of 2026 will be reviewed in conjunction with the 2017 and 2021 basin-wide hearings, with consideration of extension or deletion in the 2026 basin hearing.

12 months prior	If a DSV is determined to be the appropriate tool, work with EPA and the Division to identify a list of alternatives to be evaluated and discuss methods for evaluating feasibility. Request a hearing date from the Commission. At this time, the discharger should provide to the Division and EPA a complete list of alternatives and information to support a discussion on methods for evaluating feasibility. See Sections VI – VII.
8 months prior	Submit draft results of alternative analysis for review by Division and EPA. At this time, the discharger should provide the complete results of the alternatives analysis and identify the selected alternative and the proposed AEL. See Section VIII.
5 months prior	Submit Notice and Proposal to Commission.
3 months prior	Prehearing Statement – complete evidence due to support DSV request.

Two documents on the Commission’s website contain more detailed information about the rulemaking process.

Rulemaking Hearing Process Summary

<http://www.cdphe.state.co.us/op/wqcc/PubPart/wqccrulemakingprocess.pdf>

Public Participation Handbook

<http://www.cdphe.state.co.us/op/wqcc/PubPart/pubpart.pdf>

Appendix A - Discharger Specific Variance Frequently Asked Questions			
Question		Answer	Citation
1. General			
1a	What is a discharger-specific variance (DSV)?	A DSV establishes a temporary water quality standard that represents the highest degree of protection of a classified use that is feasible within 20 years. It is a hybrid standard that maintains the long-term water quality goal of fully protecting all designated uses, while temporarily authorizing an alternative effluent limit to be developed for a specific pollutant and specific point source discharge where compliance with the water quality based effluent limit (“WQBEL”) is not currently feasible.	31.7(4)
1b	Can there be a DSV from narrative standards?	Yes. Where it is shown that it is not feasible to comply with a permit limit that has been established to implement narrative water quality standards, a DSV can be considered.	
2. Alternative Analysis			
2a	What is required for a Comprehensive Alternatives Analysis?	A comprehensive alternative analysis is an evaluation of the alternative pollutant removal techniques. It should include such options as pollutant reductions or elimination (for instance in industrial manufacturing processes or the pretreatment context), seasonal retention, land application and treatment process alternatives.	31.7(4)(a), and SBP 31.48 B (2010)
3. Feasibility			
3a	What does “feasible” mean?	<p>Defined as: capable of being done, executed, affected, or accomplished. Reasonable assurance of success.</p> <p>Defined as: capable of being done with means at hand and circumstances as they are [syn: executable, practicable, viable, workable]; adv: in a practicable manner; so as to be feasible [syn: practicable].</p> <p>The determination of “feasible” will depend on site-specific</p>	<p>Black’s Law Dictionary</p> <p>WordNet ® 2.0, © 2003 Princeton University</p>

Appendix A - Discharger Specific Variance Frequently Asked Questions			
	Question	Answer	Citation
		<p>circumstances. However, it does not equate strictly with “possible,” i.e., constraints should be considered and the outcome must be “reasonable.”</p>	
3b	<p>How do we define “technologically infeasible” for Limits of Technology Test?</p>	<p><i>Limits of Technology Test: Demonstration that attaining the water quality standard is not feasible because, as applied to the point source discharge, pollutant removal techniques are not available or it is technologically infeasible to meet the standard. This test is evaluated in conjunction with the alternatives analysis.</i></p> <p>A pollution control alternative is not technologically feasible when it cannot reliably treat to the levels that are required to meet the WQBEL. A technology may be infeasible when: (1) pollutant removal technology cannot treat to the level required, (2) a new technology, or a technology developed for a different industry or setting hasn’t been tested enough to demonstrate that it will reliably achieve compliance with the WQBEL, or (3) there are factors that would preclude effective functioning of an existing treatment technology, if implemented, to meet water quality standards.</p>	<p>31.7(4)(a)(i)(A)</p> <p>See December 14, 2012 letter from U.S. EPA headquarters to Natural Resources Defense Council (denial of secondary treatment petition)</p>
3c	<p>How do we define “feasibility” with respect to the Economics Test?</p>	<p><i>Economics Test: Demonstration that attaining the water quality standard is not feasible because meeting the standard, as applied to the point source discharge, will cause substantial and widespread adverse social and economic impacts in the area where the discharge is located. Considerations include such factors as the cost and affordability of pollutant removal techniques</i></p> <p>Pollution control is “infeasible” when its implementation will cause substantial and widespread adverse social and economic impacts.</p> <p>See also Section 4 Q&A.</p>	<p>31.7(4)(a)(i)(B)</p> <p>EPA’s 1995 “Interim Economic Guidance for Water Quality Standards”</p>

Appendix A - Discharger Specific Variance Frequently Asked Questions			
	Question	Answer	Citation
			40 CFR 131.10(g)(6)
3d	How do we define “feasibility” with respect to the Other Consequences Test?	<p><i>Other Consequences Test: Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.</i></p> <p>Pollution control is “infeasible” when it would cause more environmental damage to correct a condition or source of pollution than to leave it in place.</p> <p>See also Section 5 Q&A.</p>	31.7(4)(a)(i)(C)
3e	When is reverse osmosis (“RO”) infeasible?	The decision of feasible/infeasible must be made on a case-by-case basis. Either the “Economics Test” or the “Other Consequences Test” could be used to determine that reverse osmosis is an infeasible alternative. Brine disposal is generally expected to have significant negative environmental impacts, except in cases where there is a unique solution (e.g., a nearby existing injection well).	
3f	When are chillers infeasible?	The decision of feasible/infeasible must be made on a case-by-case basis. Either the “Economics Test” or the “Other Consequences Test” could be used to determine that chillers are infeasible alternatives. Chilling domestic wastewater effluent will generally have significant negative environmental impacts, due to the high energy consumption, as well as the transport and use of hazardous materials.	
3g	How does the consideration of what is "feasible" include the reality that facilities	The decision of feasible/infeasible is made for each alternative pollution control remedy. The determination is made based upon treatment of the entire waste stream (or total pollution control costs).	

Appendix A - Discharger Specific Variance Frequently Asked Questions			
	Question	Answer	Citation
	must treat multiple constituents?	All constituents should be considered, and if there are any trade-offs for different constituents based upon the pollution control alternatives being evaluated, these should be described in the DSV application.	
3h	How do we define “infeasibility” with respect to temporary modifications?	<p><i>Demonstration that the conditions for granting a temporary modification are not met; or, if those conditions are met, determination by the Commission, after considering the site-specific circumstances, that granting a variance under this subsection is preferable as a matter of policy.</i></p> <p>If it is not feasible to meet water quality standards because the existing ambient quality is the result of natural or irreversible sources, then a site-specific ambient-based standard would generally be more appropriate than a DSV.</p> <p>Also, if there is significant uncertainty about whether the standards are necessary to protect the uses of the waterbody, then a Temporary Modification to provide time for Use Attainability Analysis (UAA) would generally be more appropriate than a DSV.</p> <p>In both of the above cases, a Temporary Modification would allow the applicant to maintain effluent water quality at the “current condition,” while developing a site-specific standard or a UAA.</p>	31.7(4)(a)(ii)
4. Economics			31.7(4)(a)(i)(B)
4a	How do we define "substantial and widespread	“Substantial” and “Widespread” are two separate tests. Criteria for those tests are different for public and private entities – see below.	

Appendix A - Discharger Specific Variance Frequently Asked Questions			
Question		Answer	Citation
	adverse social and economic impacts"?	DSV applicants may use EPA’s 1995 “Interim Economic Guidance for Water Quality Standards ⁸ ” or any other economically defensible methodology that demonstrates substantial and widespread adverse social and economic impacts.	
4b	How are "substantial social and economic impacts" defined for <i>public</i> entities?	Social and economic impacts are “substantial” if the cost of pollution control would be burdensome to the community served by the public entity. EPA guidance recommends using the “municipal screener” and secondary test for public entities, which is based upon user fees relative to median income and other factors, such as community unemployment.	EPA’s 1995 “Interim Economic Guidance for Water Quality Standards”
4c	How are “widespread social and economic impacts” defined for <i>public</i> entities?	Social and economic impacts are considered “widespread” if the community will bear significant adverse impacts if the public entity is required to meet water quality based effluent limits. EPA guidance recommends considering the expected change in socioeconomic conditions. For example, a municipality should assess the potential for loss of future jobs if businesses would chose not to locate in the affected community.	EPA’s 1995 “Interim Economic Guidance for Water Quality Standards”
4d	How are "substantial social and economic impacts" defined for <i>private</i> entities?	Social and economic impacts are “substantial” if the company will have difficulty paying for the pollution control. EPA guidance recommends that private entities evaluate the affordability of pollution control by considering the degree of change to the company’s profit, liquidity, solvency and leverage.	EPA’s 1995 “Interim Economic Guidance for Water Quality Standards”
4e	How are “widespread social and economic impacts” defined for <i>private</i> entities?	Social and economic impacts are “widespread” if there will be adverse impacts on the community or surrounding area if the company is required to meet water quality based effluent limits. EPA guidance recommends considering changes in community unemployment, median household income, tax revenues. Other	EPA’s 1995 “Interim Economic Guidance for Water Quality Standards”

⁸ available on the internet at <http://water.epa.gov/scitech/swguidance/standards/economics/>

Appendix A - Discharger Specific Variance Frequently Asked Questions			
Question		Answer	Citation
		relevant impacts to the community should also be considered (e.g., loss of affordable housing).	
5. Other Consequences			31.7(4)(a)(i)(C)
5a	What are the considerations for the Other Consequences Test?	<p>The Other Consequences Test evaluates the feasibility of pollution control based upon whether the negative environmental impacts of the pollution control alternative would cause more environmental harm than in-stream pollutant concentrations below the discharge without the pollution control alternative. An evaluation under this test should include (but not be limited to) changes in effluent concentrations, air emissions and new or increased solid wastes and disposal impacts, and generation of hazardous waste. Energy and water consumption should also be considered, as well as any ecological impacts due to construction or operation. In addition, the site-specific impacts to the receiving water and downstream water quality should be evaluated with enough specificity to weigh the impacts to classified and existing uses against the impacts of pollution control.</p> <p>The Other Consequences Test can also evaluate the feasibility of a pollution control alternative where the source of pollution cannot be remedied by the discharger requesting the variance.</p>	
5b	How is it determined whether the pollution control in question causes more environmental harm than exceeding the water quality standards?	<p>Each determination will be a site-specific comparison, weighing the impacts to designated uses downstream of the discharge against the impacts to the greater environment (air, water, land and climate).</p> <p><i>Regulation 31.48.I.B Statement of Basis and Purpose: The Commission understands this test as weighing and balancing the tradeoffs between the environmental damage caused by (in this case) exceedance of effluent limits with the environmental damage caused by meeting those effluent limits . . . The entity advocating this reason</i></p>	SBP 31.48.I.B (2010)

Appendix A - Discharger Specific Variance Frequently Asked Questions			
	Question	Answer	Citation
		<i>for a variance would need to demonstrate the basis for such a policy decision.</i>	
5c	How is it determined whether the WQBEL cannot be remedied by the discharger requesting the variance?	Each determination will be site-specific. As an example, this option may be considered where additional pollutant reductions are necessary in the watershed (i.e. source water) in order for the discharger to meet the WQBEL. A discharger requesting a DSV based upon this provision should provide justification for why it would be preferable as a matter of policy to address this issue through a DSV, rather than a temporary modification or site-specific standard.	
6. How do DSV's relate to other options?			
6a	How should an applicant demonstrate that other avenues have been exhausted (compliance schedules, temporary modifications, site-specific standards)?	<p>The proponent of the DSV should consult with the Division regarding any site-specific standards and compliance schedule considerations. A compliance schedule is the appropriate avenue if it is feasible for the discharger to meet the WQBEL if given more time. At the time of the proposal for the DSV, the proponent must demonstrate that the conditions for a temporary modification are not met or that a DSV is preferable. The applicant should evaluate whether a change in the underlying standard would be appropriate. It is not necessary to request that the Commission approve a temporary modification or site-specific standard. It is only necessary to explain why these options were not pursued when requesting a DSV. The form in Appendix C provides a structure for that demonstration.</p> <p>(See page 1 of flowchart figure 1)</p>	<p>31.7(4)(a)(ii) and SBP 31.48 B (2010)</p> <p>See EPA's May 10, 2007 policy memo</p>
6b	Are there special considerations for naturally	Elevated concentrations of naturally occurring constituents in a <i>waterbody</i> can be accommodated by proposing to the Commission	

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Question		Answer	Citation
	occurring constituents?	that they adopt an ambient-based site-specific standard. This is addressed in Regulation #31 at 31.7(1)(b)(iii). This is distinct from the case when the constituent in the effluent is contributed from naturally occurring sources (for instance the selenium is in the ground water and enters the collection system through infiltration or inflow). The only relief available for a discharger through an ambient-based standard is to the degree that the receiving water also contains that constituent. If the concentration in the effluent exceeds the concentration in the receiving water, the discharger is still responsible for the extra increment, except to the extent that intake credits or other regulatory tools are available. A DSV would be an option if achieving ambient-based water quality standards is not feasible.	
6c	How is trading related to DSVs?	Colorado Trading Policy (Oct. 2004) is available on the WQCD's web site, on the tab "Policies." Trading opportunities may allow for the classified use to be achieved. Where the classified use is not feasible to achieve, a trade may be one component of the most protective feasible alternative. As such, they are appropriately included in the scope of the alternatives analysis.	
6d	How are Regulation #85 variances different than Regulation #31 variances?	Variances in Regulation #31 (Basic Standards and Methodologies for Surface Water) provide relief for a specific discharger from the obligation to protect water quality standards. Variances in Regulation #85 (Nutrients Management Control Regulation) provide relief for a discharger from meeting the technology-based effluent limits required for total inorganic nitrogen and total phosphorus contained in Regulation #85. (See Regulation #85 at 85.5(3)(c))	
6e	How will situations regarding the timing of implementing attainable	The Type C temporary modification addressed situations where "there is significant uncertainty regarding the timing of implementing attainable source controls or treatment." This	(31.7(3)(a)(i)(C))

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Question		Answer	Citation
	source controls or treatment be addressed after the Type C Temporary Modification provision expires?	<p>provision expired 10/01/2013, at the same time that the DSV provisions became effective.</p> <p>DSVs can be used to address significant uncertainty regarding the timing of implementing attainable source controls or treatment under the control of the discharger.</p> <p>Type B temp mods can be used to address significant uncertainty regarding the timing of implementing attainable source controls or treatment by a third party (e.g., CERCLA). In most cases where remediation is undertaken, there will be uncertainty about the resulting in-stream concentrations (i.e., how much pollution is irreversible). The Commission could also authorize a DSV where it is preferable as a matter of policy.</p>	
7. Alternative Effluent Limits and Permit Requirements			
7a	What are alternative effluent limits?	Alternative effluent limits represent the highest degree of protection of the classified use that is feasible and must maintain and protect existing uses in a manner consistent with federal requirements.	31.7(4)(b)
7b	How are alternative effluent limits developed?	Alternative effluent limits (“AELs”) are selected based upon an evaluation of the comprehensive alternatives analysis and the impact of the DSV on the uses of the waterbody in the area of the discharge and downstream. AELs represent the limits that can be achieved at full implementation of the selected alternative. Acute and chronic AELs will generally be specified and may incorporate an appropriate operational buffer that allows for “achievement” of the limits without jeopardy of enforcement.	31.7(4)(b)
7c	How is a compliance “safety factor” accommodated in an AEL?	A “safety factor” is intended to protect the discharger from jeopardy of enforcement in the cases of expected effluent quality variability. It can be accomplished through an extended averaging period, using	

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Question		Answer	Citation
		a median value, or an explicit compliance buffer. The safety factor will depend on the selected technology, the influent and effluent variability and other site-specific factors. The intent is to develop an alternative effluent limit that the discharger can consistently comply with.	
7d	Could alternative effluent limits be narrative? If so, how would attainment be verified?	Narrative, practice-based effluent limits may be appropriate if numeric limits are not feasible. For example, narrative effluent limits may be appropriate where there is uncertainty about the maximum effluent concentration of pollutants because of natural conditions or conditions that are otherwise outside the discharger’s control. Or, where a treatment technology has only been tested on a small scale, uncertainty about the technology’s large-scale performance could justify a narrative effluent limit that contemplates implementation of the chosen technology. Attainment will be verified on a site-specific basis, depending on the particular conditions included in the permit under the narrative effluent limitations.	
7e	What ongoing investigations will be included as permit requirements?	The permit will require ongoing investigation as a date-based narrative condition. The permittee will be required to investigate whether new treatment technologies, process changes, wastewater reuse or other controls that may result in improvement in effluent quality, and submission of reports on the investigation to allow for timely consideration of the information during the scheduled review of the DSV by the Commission. AELs may be adjusted by the Commission as new information becomes available in the context of these reviews (see 9d below).	31.14(17)(c)
7f	What is the role of compliance schedules in implementation of DSVs?	When the AELs are more stringent than currently achieved effluent quality, where necessary and appropriate, a compliance schedule will be specified which requires progress towards attainment of the AEL as soon as possible.	31.14(17)(a) See EPA’s May 10, 2007 policy memo

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Question		Answer	Citation
8. Process for Adoption of a New DSV			
8a	What are the components of a complete proposal to the Commission?	Completeness will be determined by the Commission based on all of the evidence submitted in the rulemaking process. Appendix B, Application Completeness Review Checklist, includes a list of the items which should be included in a proposal for a DSV.	See Checklist, Policy 13-1, Appendix B
8b	How does the Division's review fit in to the Commission's process?	The Water Quality Control Commission's document <i>Considerations for Advancing External Proposals for Revised Water Quality Classifications and Standards Before the Water Quality Control Commission, Encouraging "Ripeness" of Proposals</i> ⁹ addresses this issue. Among other things, the Division's role is to advise the Commission whether adequate data or other information is available to support a proposal and also whether there are any concerns regarding the consistency of proposed revisions with the Basic Standards (Regulation #31, 5 CCR 1002-31) and EPA's water quality standards regulation (40 CFR, Part 131). The Division's review of the Investigation Report (see 7e above) should take place between the Issues Scoping hearing and the Issues Formulation hearing (see 9b and 9c below).	
8c	What is the expectation for stakeholder involvement and outreach, particularly for downstream communities?	In the Commission document referenced above, the Commission directs parties to discuss their proposal with Division and other relevant stakeholders as necessary before submitting their proposal to the Commission for public notice.	
8d	Are there opportunities to streamline the process?	Once the Commission, Division and stakeholders gain some experience, opportunities for streamlining the process may become	

⁹ WQCC website under "Hearings: Public Participation", then "Submission of External Proposals"

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	Question	Answer	Citation
		evident.	
8e	Are there opportunities for sector based/categorical variances?	<p>Once the Commission, Division and stakeholders gain some experience, opportunities for sector-based/categorical variances may become evident.</p> <p>See EPA’s FAQs publication: “Discharger-Specific Variances on a Broader Scale: Developing Credible Rationales for Variances that Apply to Multiple Dischargers”</p>	EPA 820-F-13-012
8f	How does the process vary for a new discharge?	<p>Under the CWA and 40 CFR Section 131.10(g), variances must protect existing uses. Thus, it may not be appropriate to grant variances where a proposed new discharge would create a new WQS impairment, or where a proposed new discharge would exacerbate an existing impairment (e.g., increase the magnitude, duration, and frequency of use impairment). In either case, granting a variance to a new discharge may fail to maintain and protect the existing use. In these situations, options such as non-discharge alternatives, alternative discharge locations, site-specific WQS, TMDLs, or trading may be appropriate to consider.</p> <p>This does not preclude applying the provisions to new dischargers when the source of pollution pre-dates the new discharger. Like existing dischargers, new dischargers must provide the highest degree of protection feasible. As a hypothetical example, a new wastewater plant that replaces septic systems may reduce existing pollution. Another hypothetical example is a situation where legacy mine impacts are reduced as the result of a new permitted treatment facility. In these circumstances, the existing uses are protected and pollution is reduced, although water quality standards that were not attained before the discharge existed may still not be met.</p>	31.14(17)(b) and 40 CFR 131.10(g)

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Question	Answer	Citation	
9. Process for Periodic Review of an Existing Variance			
9a	How often must the variance be reviewed by the Commission?	Since a DSV is a water quality standards action, it will be reviewed in conjunction with the water quality standards review cycle that fulfills the triennial review requirement. If the Commission determines that action is appropriate before the next scheduled basin-wide standards rulemaking hearing, a special hearing will be held.	31.7(4) and SBP 31.48(b) (2010)
9b	What happens at the Issues Scoping Hearing regarding an existing variance?	The Division will include DSVs as a topic that it intends to review in the basin-wide hearing. If it is aware of site-specific issues that indicate action is appropriate before the next scheduled basin-wide standards rulemaking hearing, a special hearing will be held. The discharger, the public or other parties may also bring forward information regarding the variance for the Commission's consideration.	
9c	What happens at the Issues Formulation Hearing regarding an existing DSV?	The Division will identify any DSVs that are in the subject basin and will indicate its intent to review the basis for the DSV. If it is aware of site-specific issues that indicate action is appropriate before the next scheduled basin-wide standards rulemaking hearing, a special hearing will be held. The discharger, the public or other parties may also bring forward information regarding the DSV for the Commission's consideration.	
9d	What happens at the Classification and Standards Rulemaking Hearing regarding an existing DSV?	In preparing its proposal, the Division will review the basis for the existing DSV, any reports and progress documented through the permit's program and include its proposal with the notice. The discharger or other parties may also propose changes.	
10. Other Issues			
10(a)	How do DSVs affect 303(d) listing decisions?	A waterbody will be assessed for attainment against the underlying standard. Where there are multiple sources that contribute to an impairment or when there is uncertainty about sources, the	

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Question		Answer	Citation
		waterbody will be placed on the 303(d) List. In the case of impairments solely attributable to a discharge authorized by a DSV, a TMDL is not required since the TMDL is not necessary to identify the remedy for the waterbody.	
10(b)	How do DSVs relate to TMDLs?	<p>A TMDL’s waste load allocations should be written to meet the underlying standard which represents the long-term goal for the waterbody, since a DSV is temporary and applies only to a specific discharger.</p> <p>The AELs authorized by a DSV establish the extent of regulatory requirements for the discharger and the specific pollutant(s). In other words, as long as the DSV remains in effect, the discharge permit shall not require effluent limitations that are more stringent than the AELs. If TMDL waste load allocations result in effluent limits that are more stringent than the AELs, a permittee will not be required to meet these limits until the DSV expires.</p>	
10(c)	How does a variance for one discharger impact the effluent limits developed for downstream dischargers?	The WQBELs should be developed for downstream dischargers without taking the alternative effluent limit authorized by a DSV into account. In other words, downstream dischargers should not receive more stringent effluent limits to make up for the higher effluent limit of the discharger with a DSV.	
10(d)	How does a 316(a) waiver (thermal variance) differ from the variance provisions in Reg 31.7(4)?	This guidance document does not address 316(a) waivers because it is specifically focused implementation of Regulation 31.7(4), which provides a means to develop alternative effluent limits based on feasibility. For a 316(a) waiver, an alternative effluent limit may be developed that is protective of the designated uses. The type of information needed to support a 316(a) waiver includes the same evidence that would be needed to support a site-specific temperature	31.14(14)(e)

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Question		Answer	Citation
		standard. If a permittee can demonstrate that the conditions of a 316(a) waiver have been met, then the permit may be modified and as a follow-up action, a site-specific standard should be developed for the receiving water.	
10(e)	Can I request a DSV in addition to a temporary modification?	A variance should not be needed while a temporary modification is in place. Permit limits while a temporary modification is in place are based on an assessment of the level of effluent quality reasonably achievable without requiring significant investment in facility infrastructure (e.g., based on past facility performance).	Reg. 31.14(16)
10(f)	Can I request a variance for a groundwater discharge?	This guidance document does not address variances for groundwater standards because it is specifically focused on the implementation of Regulation 31.7(4). See Regulation 41 for information on the variance provision for groundwater standards.	Regulation 41
10(g)	I can request a variance from a control regulation?	This guidance document does not address variances for control regulations because it is specifically focused implementation of Regulation 31.7(4). There are some variances provisions for control regulations, although there are significant differences. For example, Regulation 85 includes unique criteria for qualifying for a variance. Another difference is that the Division has the authority to grant variances to control regulations. See the control regulations and Regulation 61 for more information.	Reg 61.12 Reg 85.5(3)(c)

Appendix B

Discharger-Specific Variance Proposal Completeness Review Checklist

1. Identification of discharger, contact information, and permit information.
 - Facility: including name of facility, permit number, expiration date
 - Operator contact information: including operator, address, phone number, email address
 - Mailing address: address where official mail is received
2. Identification of discharge location, receiving water and regulatory segment.
 - Physical address: this may be different than the mailing address
 - Lat / Long of outfall location(s) including how Lat/Long was obtained (e.g., GPS, Google maps)
 - Receiving Water: What is the name of the waterbody that receives the effluent?
 - Segment number: What is the regulatory segment for each outfall?
3. Facility description, including current design flow and description of current treatment process.
 - SIC code
 - Current design flow
 - Description of current treatment process
 - Critical low flow used in WQBEL calculations chronic and acute. For temperature, provide appropriate flow statistic.
 - Upstream water quality
4. Identification of pollutants of concern.
 - Identify pollutants for which variances are sought.
5. Evaluation of factors contributing to the compliance problem
 - Answers to questions in Section IV.B. *Underlying Factors to Consider*
 - Electronic files containing raw data with location, date, time and parameter data.
6. Demonstration that a DSV is the right regulatory tool (see Appendix C)
7. Comprehensive Alternatives Analysis
 - Survey the range of potential alternatives, see Section IV.A
 - Expected water quality resulting from each alternative
 - Rank alternatives beginning with most protective
 - Evaluate each alternative for feasibility
 - Select the alternative with the highest degree of water quality protection that is feasible
8. Demonstration of infeasibility. For each alternative which is determined to be infeasible, provide one of the following:
 - Limits of Technology Test and supporting documentation
 - Economics Test and supporting documentation
 - Other Consequences Test and supporting documentation

Appendix B

9. Alternative Effluent Limit and Rationale.
 - ___ Identify expected central tendency of effluent quality
 - ___ Identify safety factor
 - ___ Rationale for chronic limit (fraction and averaging period) or narrative condition
 - ___ Rationale for acute limit (fraction and averaging period) or narrative condition
 - ___ Rationale for monitoring frequency

10. Compliance schedule items
 - ___ Identify milestones and reports

11. Plan for ongoing investigation
 - ___ Identifies what will be investigated
 - ___ Identifies milestones and reports

12. Rationale for duration of the DSV
 - ___ Rationale for the expiration date
 - ___ Plan for participation in periodic reviews

Appendix C

Discharger Specific Variance Demonstration of the Appropriate Regulatory Avenue

1. Identification of discharger, contact information, and permit information:

Facility Name	
Permit Issue date	Permit Number
Permittee	
Permit Contact Name	
Permittee Address	
Permittee email	Phone Number

2. Identification of pollutants of concern.

3. Identification of discharge location, receiving water and regulatory segment (add outfalls additional pages if effluent limits are controlled by standards in downstream segments or there are multiple outfalls / receiving waters involved).

Name of receiving water		
Location of outfall	lat	long
Sub basin and segment number		
Use Classification	Standard	

4. Attach a narrative description of the WQBEL compliance problem. This section should include whether it is a problem with a chronic or acute limit. Identify the source of the pollutant in the facility's effluent limit, describe any seasonal or flow-related patterns. Confirm that the effluent quality and capacity are appropriately characterized. (See Section IV.B).

5. Attach a narrative description of any evaluations of the receiving water that have been conducted, including chemical sampling, aquatic surveys, and habitat evaluation. Identify the source of the pollutant in the effluent and other watershed sources. Provide any available quantitative information on the contribution from natural sources, irreversible anthropogenic sources, point sources and non-point sources. Identify if any reports or summaries of the data are available or have already been part of WQCC proceedings.

6. Is there significant uncertainty regarding the water quality standards necessary to protect current and/or future uses? (31.7(3)(a)(ii)(A))

Explain any site-specific factors that are relevant :

7. Is there significant uncertainty regarding the extent to which existing quality is the result of natural or irreversible human induced conditions? (31.7(3)(a)(ii)(B))

Explain any site-specific factors that are relevant :

Add addition pages as appropriate.

Appendix D

Summary of Methods for Evaluating “Substantial and Widespread Social and Economic Impacts” from EPA’s 1995 Interim Economic Guidance for Water Quality Standards

The following includes a summary of the methods for evaluating the “substantial and widespread social and economic impacts” of a specific pollution control remedy using EPA’s 1995 guidance. EPA’s 1995 guidance represents one method for evaluating economic feasibility, although other economically defensible methods may be used. The following summary is not intended to limit the use of the 1995 guidance, and DSV applicants should refer to EPA’s publications for additional information. The complete EPA guidance work book, appendices, worksheets and spreadsheet tools can be found at:

<http://water.epa.gov/scitech/swguidance/standards/economics/>

Public Entities: Substantial Adverse Impact: Economic impacts are “substantial” if the cost of pollution control would be burdensome to the community served by the public entity. EPA guidance recommends using the “municipal screener” for public entities, which is based upon user fees relative to median income and other factors, such as community unemployment.

To determine whether impacts are substantial using EPA’s 1995 Guidance, a municipality must calculate the community’s Municipal Preliminary Score (MPS) in combination with the Secondary Score (SS) that reflects socioeconomic health. MPS is the total annual incremental cost of the alternative as a percent of median household income (MHI). SS is the average of a set of scores of 1, 2, or 3 (weak, mid-range, strong) applied to the socio-economic indicators. The impacts are considered substantial when the secondary score of community health is less than the municipal preliminary screener value plus half a percentage point.

The matrix used to determine the cost cap as a percent of the MHI as follows:

Table 1 Assessment of Substantial Impacts Matrix ¹⁰

Secondary Score	Municipal Preliminary Screener		
	< 1.0%	> 1.0% and < 2.0%	> 2.0%
> 2.5	Not Substantial	Not Substantial	?
> 1.5 and < 2.5	Not Substantial	?	Substantial
< 1.5	?	Substantial	Substantial

The Assessment of Substantial Impacts Matrix indicates that the socioeconomic health of the community should be taken into account when determining the appropriate cost cap for user fees. For communities with less-than-average socioeconomic health (e.g. higher unemployment, lower median income) user fees above 1.0% of the median household income would be substantial. For communities with average socioeconomic health, user fees above 1.0% of the median household income may be substantial, but additional information would be needed to support a site-specific determination that user fees higher than 1.0% would be unaffordable for the particular community. Communities with strong socioeconomic health (e.g. lower unemployment, good bond ratings, low tax rates) may have the ability to absorb greater costs without adverse economic impacts, so user fees below 2.0% may not be expected to have a “substantial” impact. The cost cap is applied to only those costs resulting from water quality standards-based requirements; costs to comply with the technology-based requirements of the CWA, or with the SDWA, etc. cannot be counted against the cost cap.

¹⁰ EPA’s 1995 Guidance Table 2-2

Appendix D

Public Entities: Widespread Adverse Impact: Economic impacts are considered “widespread” if the community will bear significant adverse impacts if the public entity is required to meet water quality based effluent limits. EPA 1995 Guidance recommends considering the expected change in socioeconomic conditions. For example, a municipality should assess the potential for loss of future jobs if businesses would chose not to locate in the affected community.

Private Entities: Substantial Adverse Impact: Economic impacts are “substantial” if the capital and the operating and maintenance costs of pollution control will have a substantial impact on the entity. The analysis should consider factors such as the entity’s ability to secure financing and the degree to which it will be able to pass the cost of pollution control on to its customers. EPA recommends the following factors be used to assess whether impacts are substantial:

- Profit – Estimate the change in profit with and without the pollution control remedy, and compare it with the profit level of similar companies in the same industry or a similar of business.
- Liquidity –Use the “current ratio” to assess the entity’s ability to meet its short-term payment obligations. This should be calculated with and without the pollution control remedy, and compared with that of similar companies in the same industry or a similar of business.
- Solvency – Use the “Beaver’s Ratio” to assess the entity’s ability to meet its long-term payment obligations. This should be calculated with and without the pollution control remedy, and compared with that of similar companies in the same industry or a similar of business.
- Leverage – Use the “Debt/Equity Ratio” to assess the entity’s borrowing capacity. This should be calculated with and without the pollution control remedy, and compared with that of similar companies in the same industry or a similar of business.

The results of these financial indicators, along with other relevant factors, should be used to assess how the entity will be impacted. The entity should explain the likely outcomes if it were required to implement the pollution control remedy. For example, would the entity become unprofitable or less profitable resulting in a reduction or shutdown of operations? Would there be difficulty raising required capital through additional debt? Would the entity likely pursue alternative activities that result in a reduction in the number of employees and/or reduction in local purchasing?

Private Entities: Widespread Adverse Impact: Economic impacts are “widespread” if there will be adverse impacts on the community, surrounding area, or economic impacts at the State level if the company is required to meet water quality based effluent limits. EPA guidance recommends considering changes in community such as unemployment, median household income, tax revenues social services and/or regionally important products. Other relevant impacts to the affected community should also be considered (e.g., loss of affordable housing). In cases where other dependent industries may be affected, these impacts should be taken into account.