

THE ANTIDEGRADATION POLICY IN WEST VIRGINIA: IMPACTS ON THE COAL INDUSTRY

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INTRODUCTION

Over the last few years there has been immense concern and discussion as to what antidegradation will really mean to the mining industry in West Virginia. The speculation has centered on several issues:

- ◆ What is antidegradation?
- ◆ How restrictive will it be?
- ◆ How will West Virginia's regulations compare to other states?
- ◆ It will not effect my operations, will it?
- ◆ Doesn't it apply only to new facilities?

In addition, there has been a lot of confusion. Many folks were unaware that West Virginia has had an antidegradation policy since the mid-1980s. Others thought that as long as they already had a permit that antidegradation would not bother them, even if they wanted to expand their operation.

Over the last year, significant effort and disagreement has gone into the development of regulations to implement West Virginia's antidegradation policy by a host of various groups in the Antidegradation Stakeholder Group. Currently West Virginia does not have regulations approved by the legislature and in-place to implement antidegradation (most other states are in the same boat). This, however, has not stopped the United States Environmental Protection Agency (EPA) from requiring the West Virginia Division of Environmental Protection-Office of Mining and Reclamation (OMR) to start performing partial antidegradation reviews on new permits and permit renewals being submitted to their office. This review is being required by EPA as a condition for that agency not objecting to West Virginia's issuance of mining permits.

How does an agency conduct an antidegradation review when there are no set regulations? That is a very good question and one with which the OMR is struggling. The OMR has been using a definition of significant degradation as a discharge that would degrade the ambient concentration more than 5 percent or reduces the assimilative capacity by more than 5 percent (whichever is more protective), while the WVDEP Office of Water Resources is now considering using 10 percent for each. The reason for the discrepancy results from the West Virginia Environmental Quality Board (EQB) originally proposing regulations that contained the 5 percent values and subsequently changing the value to 10 percent when industry aptly pointed out that no other state has a value more restrictive than 10 percent with some using 25 percent. The

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OMR believes that companies will rightfully believe they are being treated in an arbitrary and capricious manner as the guidance they use changes between now and when the regulations are finalized.

STATUS OF ANTIDEGRADATION REVIEWS

As of the end of February 2001, the OMR has completed three partial antidegradation reviews. Of the three permits reviewed, two were associated with coal mines (one new permit application and one renewal) and one with a quarry (new permit application). Upon completion of the antidegradation review, the applications for the two new permits (one coal mine and one quarry) were pulled by the applicants due to the stringent limits proposed. The applicant for the mining permit renewal reluctantly accepted the discharge permit limits issued to them. In the following sections we will examine the basis of the antidegradation reviews and the time involved, compare the old versus new limits for the permit renewal, and review some areas of concern. Upon reading this paper, it will become clear why the two companies pulled their applications for new facilities.

ANTIDEGRADATION REVIEWS

The OMR's antidegradation reviews to date are referred to as partial-partial reviews. These reviews have not included a public notice or public hearing. In the future, they will be doing both the public notice and the hearing. It is OMR's belief that they can make the public notice for the antidegradation review at the same time they advertise the NPDES permit. The past partial-partial antidegradation reviews have focused on natural reproducing trout streams, ambient concentration and significant degradation.

Future antidegradation reviews will include the following and will be referred to as partial antidegradation reviews:

- ◆ New or expanded operation.
- ◆ General permit eligibility.
- ◆ Tier of water.
- ◆ Uses of receiving stream.
- ◆ Parameters of concern.
- ◆ Determine if there is significant degradation.
- ◆ Evaluate less degrading alternatives.
- ◆ Pursue intergovernmental coordination.

The OMR does not feel it has appropriately trained staff to perform the economic analysis that is the reason they are referring to this procedure as a partial antidegradation review.

It is easy to see that significantly more time and effort will be required of OMR to perform these partial antidegradation reviews. In addition to the time for their general overview in regard to meeting antidegradation requirements, the two items that will add the most time are:

- ◆ 30-day public comment period plus time associated with answering questions received, and
- ◆ evaluation of alternatives if significant degradation is deemed to occur.

The OMR has seen an increase in time associated with conducting the three partial-partial antidegradation reviews and anticipates adding more time to complete the more thorough partial antidegradation reviews.

Relative to intergovernmental coordination, the OMR anticipates significant comments from the US Fish & Wildlife Service and to a lesser degree from EPA. They believe county commissions and others may send letters of support.

OLD VERSUS NEW PERMIT LIMITS

As of the writing of this paper in late February 2001, only one permit renewal has been issued that has been through the partial-partial antidegradation review. This permit previously had an iron limit of 3.0 mg/l (average monthly) and was initially being proposed to be a renewed discharge into a trout stream with an iron limit of 1.07 mg/l. However, upon completion of a partial-partial antidegradation review, including a determination of ambient water quality, it was renewed with an iron limit of 0.3 mg/l. In essence, the mining company had their iron limit cut to 10 percent of its previous limit. Table 1 shows the limits for iron, manganese, aluminum and pH for the old and new permits as well as the OMR's initial projection for initially anticipated renewal discharge permits. It should be noted that the alternative to accepting such stringent limits is to perform the economic analysis, request a variance from OMR, conduct the public hearing, pursue the intergovernmental coordination, and hope that OMR grants your request.

Aluminum limits will be added to permits across the board as a result of partial antidegradation reviews. This will bring WVDEP's parameters of concern to iron, manganese, aluminum and pH. They will be based on West Virginia's water quality standards numeric criteria. It should be noted that EPA has raised questions concerning sulfates, specific conductance and conductivity based on their work on the mountain top mining issue. EPA could also require other parameters that have numeric water quality standards. The mining industry needs to track this quite closely.

Of particular interest is how the ambient concentrations were determined for use in setting the permit renewal limits. The West Virginia water quality regulations require that antidegradation protect down to the 7Q10 flow. The agency determined that the drought of 1999 very closely approximated the estimated 7Q10 flow. Therefore, the water quality monitoring data for the receiving stream reported on the monthly discharge monitoring reports (DMRs) was averaged and assumed to be the ambient water quality. For trout streams, no degradation below the ambient concentration is allowed; on other streams the 5 percent degradation of ambient is then applied to come up with the proposed new limits. Averaging the water quality numbers presents an immediate concern as numerous values will be greater than the average and thus, out of compliance. For iron, 7 out of 24 readings in 1999 exceeded the average with 5 exceedences for manganese and 6 for aluminum. In addition, manganese limits equaled the average 8 times and aluminum 7 times with none for iron (see Table 2). Whether these limits pose a problem under more normal flow remains to be seen.

In the past, OMR allowed the discharge to degrade up to the appropriate water quality limit, but no longer. For example, if your operation was on a stream with iron water quality standards of 1.5 mg/l which had an

ambient iron concentration of 0.3 mg/l, then previously you could discharge up to 1.5 mg/l of iron. Now on the same stream with the same 0.3 mg/l ambient iron concentration you would be allowed to degrade the stream by 5 percent of ambient or to 0.32 mg/l ($1.05 \times 0.3 \text{ mg/l} = 0.32 \text{ mg/l}$). Note that OMR determines limits to two significant figures.

When determining the ambient concentration, the OMR will use data from your previously submitted DMRs. For a new mine, they will have the minimum of six months of water quality data you are required to submit. This data may be supplemented with data from another mine in the same coal seam and if possible in the same watershed that OMR has in their database.

Fortunately, the OMR is entering into a compliance schedule for permit renewals to allow time for companies to meet the new limits when they are ratcheted down after a partial antidegradation review. A one-year compliance schedule is the norm. Interim limits will be the old permit limits that were technology based whereas the new limits are based on the partial antidegradation review.

WVDEP-OMR'S AREAS OF CONCERN

The OMR has three areas of concern as they commence with implementation of their new limits based on partial antidegradation reviews. These are:

- ◆ Many companies have one NPDES permit that covers several SMAs. They are concerned that if a company adds a new SMA and tries to cover it with a revision of an NPDES permit that already has several SMAs on it, they will have to perform the partial antidegradation review on all of the SMAs not just the one being added. To prevent this, if you are applying for a new SMA, then consider applying for a new NPDES permit.
- ◆ OMR believes that many companies will not be able to meet the new limits at the discharge point for their on-bench sediment structures. Typically, these discharge points are not being tested now.
- ◆ If a company asks for technology-based limits and the analyses show that they will degrade greater than 5 percent of ambient, then there is significant degradation. This kicks in the alternate treatment evaluation that in turn requires a public hearing if there are no alternatives available. If substantial comments are received opposing the approval, then the permit may be denied. If the company appeals the denial to the EQB, they will be in the situation of having their own data in Module 7 (Parts A and B.8) working against them. The OMR believes the best approach is to bite the bullet up front and indicate what you can or cannot live with. Companies need to review the data and their answers in Module 7 very closely prior to submittal to determine their preferred course of action and to keep themselves out of this predicament. At this point, if your appeal is denied, you may be facing expensive chemical treatment to meet your permit limits.

SUMMARY

The main issues stemming from the partial antidegradation reviews can be summarized as follows:

- ◆ Aluminum will be added to all permits.
- ◆ Permit limits will be more stringent.
- ◆ Review and discussion of alternative treatments will be frequent.
- ◆ Companies must be prepared to pay for chemical treatment.

As shown in Table 1, the one partial antidegradation review that has been performed in conjunction with a mining permit renewal resulted in a severe tightening of limits for parameters of concern. Unfortunately, this is not an anomaly but will be commonplace. Even more disturbing is the loss of additional jobs and tax revenue that resulted when the two new permit applications were pulled after receiving their antidegradation based discharge limits. We can only hope that significant changes are made in West Virginia's proposed antidegradation regulations to prevent such situations for both renewals and new permits.

References: Meeting with Mr. Ken Politan of WVDEP-OMR on February 22, 2001.

TABLE 1

**LIMITS FOR PARAMETERS OF CONCERN
FOR RENEWED MINING PERMIT AFTER
PARTIAL-PARTIAL ANTIDEGRADATION REVIEW**

Parameter of Concern	Old Permit Limits	Initially Proposed Permit Limits	Renewed Permit Limits
Al	Report Only	2.45 mg/l	0.10 mg/l
Fe	3.0 mg/l	1.07 mg/l	0.30 mg/l
Mn	2.0 mg/l	3.8 mg/l	0.04 mg/l
pH	6-9 SU	6-9 SU	6-9 SU

TABLE 2**DETERMINATION OF AMBIENT CONCENTRATION**

Month	Fe	Mn	Al	Flow
January	0.16	0.04	0.12	12,500
	0.21	0.04	0.14	24,500
February	0.10	0.02	0.09	6,400
	0.10	0.03	0.10	10,500
March	0.07	0.02	0.03	6,950
	0.13	0.03	0.08	16,750
April	0.18	0.02	0.04	2,875
	0.19	0.04	0.09	3,250
May	0.28	0.03	0.04	2,975
	0.32	0.04	0.08	3,950
June	0.25	0.04	0.02	675
	0.37	0.08	0.05	985
July	0.29	0.03	0.08	65
	0.95	0.06	0.20	80
August	0.29	0.03	0.08	65
	0.95	0.06	0.20	80
September	0.42	0.01	0.10	2
	0.43	0.08	0.10	130
October	0.23	0.04	0.10	1,100
	0.38	0.04	0.20	1,500
November	0.22	0.01	0.10	1,900
	0.26	0.08	0.20	2,000
December	0.18	0.01	0.10	3,200
	0.18	0.04	0.10	4,330
<i>Average:</i>	<i>0.30</i>	<i>0.04</i>	<i>0.10</i>	<i>4,448</i>