

Permanent Regulation - Filing Statement

Nevada Division of Environmental Protection
Bureaus of Air Quality Planning and Air Pollution Control

Nevada Mercury Air Emissions Control

Legislative Review of Adopted Regulations as Required
By Administrative Procedures Act, NRS 233B.066

State Environmental Commission (SEC) Petition 2006-07 – LCB File R189-05

This new permanent regulation will modify NAC 445B.001 to 445B.3497. The regulation establishes a Nevada Mercury Air Emissions Control Program for precious metals mining facilities in Nevada. As way of background, between 2002 and 2005 the Nevada Voluntary Mercury Reduction Program, a joint effort of the Nevada Division of Environmental Protection (NDEP), the U.S. Environmental Protection Agency (US EPA) and four Nevada mining companies, achieved significant and rapid mercury emission reductions from thermal processes used in precious metals mining. Subsequent to this voluntary program, the NDEP determined it necessary and appropriate to make the program mandatory and expand the coverage of the program to all precious metals mining operations in Nevada.

This regulation allows NDEP to implement a new permitting program that requires mercury air emission controls at precious metal mining facilities. The new permitting program is an adjunct to the current operating permit to construct program operated by the Division. The new program will apply to precious metals mining facilities that process mercury-containing ore and use thermal treatment processes that have the potential for liberating mercury into the atmosphere.

1. A description of how public comment was solicited, a summary of public response, and an explanation how other interested persons may obtain a copy of the summary.

NDEP's Bureau of Air Quality Planning (BAQP) held two workshops on the above referenced regulation at the following location.

Carson City Workshop

December 15, 2005
Room 2144
Legislative Counsel Bureau
401 South Carson Street
Carson City, Nevada
10:00 AM to 12:00 Noon

Elko Workshop

December 19, 2005
Great Basin College
1500 College Parkway
Elko, Nevada
10:30 AM to 12:30 PM

The Carson City workshop was attended by 33 individuals; six persons provided oral comments at the workshop. In Elko, 29 individuals attended with ten providing oral comments.

Regarding written comments on the draft regulation, the Division received numerous letters

and emails from a wide variety of individuals and organizations. To accommodate the diversity and volume of comments, Division staff developed a formal comment response document, which is attached as appendix 1. The comment response document reflects a compilation and disposition of comments received about the regulation. The document is organized to address comments by "similarity of scope." There are twelve different categories of "similar comments" that are responded to in the document.

The comment response document was made available to the public and presented by NDEP staff to SEC at the regulatory hearing held on March 8th in Reno. At the SEC regulatory hearing, staff discussed the comment response document in detail with the Commission.

Regarding the SEC regulatory hearing process -- and as required by the provisions of chapters 233B and 241 of Nevada Revised Statutes -- the hearing agenda was posted at the following locations: the Washoe County Commission Chambers in Reno, the Nevada Department of Wildlife building in Reno, the Grant Sawyer Office Building in Las Vegas, the Nevada State Library in Carson City and at the Offices of the Division of Environmental Protection in Carson City and Las Vegas. Copies of the agenda, the public notice, and the proposed regulation noted above were made available to all public libraries throughout the state as well as to individuals on the SEC electronic and ground-based mailing lists.

The public notice for the hearing was also published on February 20 and 27, 2006 and on March 06, 2006 in the Las Vegas Review Journal and Reno Gazette Journal newspapers. Extensive information about the regulation was also made available on websites managed by NDEP and the SEC; see: <http://ndep.nv.gov/mercury/index.htm> and <http://www.sec.nv.gov/main/hearing030806.htm>

2. The number persons who attended the SEC Regulatory Hearing:

- (a) Attended March 08, 2006 hearing; 70
- (b) Testified on this Petition at the hearing: 17 (3 NDEP Staff, 14 Public)
- (c) Submitted to the agency written comments: (See Appendix 1)

3. A description of how comment was solicited from affected businesses, a summary of their response, and an explanation how other interested persons may obtain a copy of the summary.

In addition to the above referenced public workshops and the SEC regulatory hearing, the NDEP held numerous meeting with non governmental organizations and industry representatives. Comments were solicited from affected businesses as indicated in number 1 above. In addition, NDEP developed a special purpose website to further keep interested organizations and individuals abreast of the regulatory process proposed for the new Nevada Mercury Air Emissions Control Program. The website, which remains an integral part of the program, remains posted at: <http://ndep.nv.gov/mercury/index.htm>

4. If the regulation was adopted without changing any part of the proposed regulation, a summary of the reasons for adopting the regulation without change.

Changes to the regulation were proposed at the hearing by NDEP staff and a consensus on

the proposed changes were agreed to and adopted at the hearing by the Commission. The changes made to the regulation were not considered substantive in content or scope with regard to implementation of the Nevada Mercury Air Emissions Control Program.

5. The estimated economic effect of the adopted regulation on the business, which it is to regulate, and on the public.

The new regulation will have an economic impact on precious metals mining companies that process mercury-containing ore and use thermal processes that have the potential for liberating mercury into the atmosphere. These companies will be subject to the mercury permitting program and applicable fees. See number 9 below for a description of the fees.

Negative economic effects to the public will not result from adoption of this regulation; to the contrary, a significant long-term positive effect will occur from reduction of mercury air emissions to the biosphere. Benefits will occur to both human health and the environment resources.

6. The estimated cost to the agency for enforcement of the adopted regulation.

There will be additional costs to NDEP for implementing this regulation and those costs will be covered entirely by new permit fees imposed on the mining industry in Nevada. See number 9 below.

7. A description of any regulations of other state or government agencies which the proposed regulation overlaps or duplicates and a statement explaining why the duplication or overlapping is necessary. If the regulation overlaps or duplicates a federal regulation, the name of the regulating federal agency.

The regulation does not overlap or duplicate any regulations of other state, federal or local agencies.

8. If the regulation includes provisions which are more stringent than a federal regulation, which regulates the same activity, a summary of such provisions.

The regulation is more stringent than what is established by federal law. The U.S EPA does not currently regulate mercury emissions from precious metals mining facilities that process mercury-containing ore and use thermal treatment processes that have the potential for liberating mercury into the atmosphere. It is worth noting however, US EPA is on record in support of the above referenced regulation. Of note, mercury air emissions are hazardous to human health and the environment and mercury air emissions do find their way into the food chain; such emissions are hazardous to the biosphere. Accordingly, NDEP has decided to implement the Nevada Mercury Air Emissions Control Program to protect human health and the environment for Nevadans and for the region.

9. If the regulation provides a new fee or increases an existing fee, the total annual amount the agency expects to collect and the manner in which the money will be used.

In order to fund the Nevada Mercury Air Emissions Control Program, the regulation imposes a

new fee structure on the affected precious metals mining facilities. A one-time permit application fee totaling \$50,000 will be divided among all of the existing facilities that use thermal treatment processes that have the potential for liberating mercury into the atmosphere. The permit application fee for new or modified thermal units that emit mercury or a revision to an existing permit is \$5,000. Annual maintenance charges totaling \$250,000 a year will be divided among the permitted facilities to support the program. The program fees will support overhead and equipment for two full time staff engineers at NDEP.

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Appendix I

March 8, 2006

Proposed Nevada Mercury Air Emissions Control Program

Summary of Written Comments NDEP Received by 8:00 am, March 7, 2006

Comments the Division received and has compiled below were from a number of sources including: the regulatory workshops held in Carson City on December 15, 2005 and Elko on December 19, 2005; letters received by US mail; and e-mail comments. This document reflects a compilation of comments received. Comments that were similar in scope were consolidated for brevity. Comment counts identified with a "~" are approximate.

Comment #1: Request to add annual reporting of mercury co-product.

Comment Count: ~95

NDEP Response: The draft regulations were amended to address this comment. The March 3, 2006, LCB File No.R189-05, version of the draft regulations contains the definition of "mercury co-product" in Section 6. The requirement for annual co-product reporting is contained in numerous Sections; including, Sections 33, 34, 36 and 39.

Comment #2: Request to add a 15-day time limit to the period an applicant has to resubmit an application that the NDEP deems incomplete.

Comment Count: 1

NDEP Response: A requirement was added to the draft regulation that states, "If an incomplete application is returned to the applicant, the applicant must resubmit a complete application within 15 days after the applicant receives the returned incomplete application". The provision applies to both Phase 1 and Phase 2 applications covering either Tier 1 or Tier 2 thermal units. The language can be read in the March 3, 2006, LCB File No.R189-05, at Section 35.

Comment #3: The tiered regulatory system doesn't thoroughly identify which mines will be considered for each tier and Tier 1 mines were not fully specified.

Comment Count: 1

NDEP Response: The listing of Tier 1 thermal units first became available as Appendix A in NDEP's November 17, 2005 posting of the Proposed Nevada Mercury Air Emissions Control Program summary document. The regulation-format listing of Tier 1 thermal units then became available in the January posting of the Agency Draft regulation, followed by the February 1, 2006 Agency Draft provided to the public in advance of the March 8, 2006 State Environmental Commission hearing. The March 3, 2006, LCB File No.R189-05, version of the draft regulations contains the definition of "Tier-1 thermal unit that emits mercury" in Section 19. The formal identification of units is in Section 23.

Both the draft regulations and the Proposed Nevada Mercury Air Emissions Control Program (NMCP) summary document discuss the process for NDEP to designate units as Tier 1, Tier 2 or Tier 3. Tier 1 units were designated as a result of their involvement in the former Voluntary Mercury Reduction Program. Initially, all other units will be designated as Tier 2 (regardless of whether they are located at a VMRP participating facility or not). Tier 3 units may be determined as a result of the de minimis determination process. To aid in this determination, over 50 mining companies received and are required to complete the NDEP's "Precious Metals Mining Mercury Air Emissions Questionnaire (for Nevada Facilities)". The deadline for submittal is March 20, 2006.

Comment #4: De Minimis Determination: The definition is vague and allows for changes without an objective basis. A numerical minimum definition of de minimis should be incorporated into the regulations. The proposed process is too subjective and should include objective criteria such as ore concentration or process fluid concentration. The cumulative total for a facility should be no more than 16 ounces per year. The section should strengthen the required testing and reporting for any source that has de minimis status.

Comment Count: 8

NDEP Response: During development of the program, it was realized that there may be type(s) of thermal unit(s) that could emit such a small amount of mercury that the construction of a control device is not feasible. One example commonly used for discussion purposes is a laboratory assay hood.

The NDEP was reluctant to set an arbitrary de minimis threshold without supporting data. To aid the Director in this determination, over 50 mining companies received and are required to complete the NDEP's "Precious Metals Mining Mercury Air Emissions Questionnaire (for Nevada Facilities)". The deadline for submittal is March 20, 2006. The results of the questionnaire are intended to provide the NDEP with information necessary to determine if such a threshold can be set. The regulations also provide for a company to petition the Director for an initial de minimis determination that emissions from a thermal unit are de minimis emissions. In either case, the Director shall make such initial determinations publicly available for review and comment. As a component of this initial determination, the NDEP is allowed to factor in to the decision process whether multiple de minimis units at a single facility will be allowed, and if so, at what level of combined mercury emissions. The draft regulations provide for a public process in setting such a de minimis emissions threshold.

The March 3, 2006, LCB File No.R189-05, version of the draft regulations contains the definition of “De minimis mercury emissions” in Section 3. The public process defined for evaluating and setting a de minimis is contained in Section 25.

Comment #5: Annual Self Monitoring/Stack Testing: Annual self-monitoring is too infrequent and insufficient to protect human health and the environment. The requirement should be changed from annual to monthly.

Comment Count: 3

NDEP Response: Annual source testing is adequate to demonstrate that the mercury controls are operating efficiently and will provide sufficient information to support a demonstration of compliance with an emissions limitation. It is not uncommon to have an even longer interval between tests. Based on decades of experience in evaluating pollution control devices and reviewing emissions testing from emissions controls, and the inherent gas stream design range of the current mercury emissions controls, the NDEP does not believe that significant changes in emissions will occur. Additionally, the NDEP does not believe that more frequent testing will result in any additional environmental benefit.

Comment #6: Request to add speciated stack testing requirements to the regulations for the testing that Tier 1 units have started. The sources need more time to complete the testing.

Comment Count: 2

NDEP Response: The Voluntary Mercury Reduction Program (VMRP) companies are already at various stages in the process of developing testing protocols and conducting speciated testing of existing thermal units. This work will be done by the end of the calendar year.

Comment #7: Presumptive Nevada MACT: Presuming that a piece of control equipment performs as MACT merely because the equipment was installed under the former VMRP is inappropriate. ... The ‘presumptive MACT’ inappropriately allows existing VMRP companies to operate ‘as-is’ with no requirement for additional mercury emissions reductions. Existing facilities should undergo timely review to identify and implement additional measures. NDEP’s proposed program would allow these mines to get a “presumptive MACT” or essentially permit the mine as-is. Presumptive NvMACT should be eliminated.

Comment Count: ~96

NDEP Response: These comments reflect a general misunderstanding of the NDEP’s use of presumptive NvMACT. The purpose of identifying current control devices as presumptive NvMACT is to ensure the continued implementation of controls that have been operating under the previous Voluntary Mercury Control Program. Phase 2 of the program requires evaluation of all units and the installation of maximum achievable control technology. The NvMACT may result in the requirement for additional or updated controls at any facility including those originally identified as Presumptive NvMACT.

Comment #8: Fugitive Mercury Emissions: The program needs to go farther in addressing fugitive emissions. There is strong reason to believe that emissions coming from waste rock and dust at gold mining operations are a significant source of mercury

pollution. The draft rule fails to incorporate emissions control or monitoring of fugitive dust.

Comment Count: ~100

NDEP Response: Currently there is no approved method for determining mercury from fugitive emissions. While not part of this proposed program, the NDEP understands that fugitive emissions will be studied. The NDEP has been working industry and other interested parties on fugitive emissions research. The precious metal mining companies are providing funding for further research in Northern Nevada on point sources, fugitive sources and natural sources of mercury emissions.

Comment #9: Continuous Emissions Monitors (CEMs): CEMs should be part of the program is necessary and appropriate to ensure controls are working and to ensure accountability. As the NMCP matures and emissions limits are developed in Phase II, NDEP should consider if it is appropriate to require CEMs. About two thirds of the coal fired electric generating units in the US will be required to monitor their mercury emissions in 2008...should be technically feasible at precious metal mines.

Counter comment: NDEP needs to weigh the need for CEMs against the current state of technology and consider that it is not currently available.

Comment Count: 12

NDEP Response: The program requires monitoring methods adequate to demonstrate that the mercury controls are operating efficiently and provide sufficient information to support a demonstration of compliance with an emissions limitation. The draft regulations do not prohibit an evaluation of the methods used to demonstrate compliance, including the use of CEMs. However, at this time, the technology for mercury CEMs continues to evolve and is driven by the coal fired electric generating units in the U.S. that will be required to monitor their mercury emissions. The technology is in an alpha, or at best a beta, development stage and is not yet available for the processes regulated under this program.

Comment #10: Adequate Ambient Air Monitoring:

Comment Count: ~98

NDEP Response: Ambient monitoring is typically required to protect against an ambient standard. EPA has not established an ambient standard for mercury. This proposed program requires mercury controls on applicable mercury sources. The NDEP believes that the protection provided under this program would be greater than one that is based on an ambient standard. Utilizing an ambient standard would not guarantee that controls would be required on all mercury sources.

Comment #11: Public Health Criteria and Residual Risk Evaluations:

Comment Count: ~90

NDEP Response: To understand the requirements, you need to start at 1970, when Congress enacted Section 112 of the Clean Air Act. This statute was the first time that Congress focused its efforts on reducing hazardous air pollutants (HAPs). The statutes at that time defined HAPs as pollutants that, in the judgment of the EPA Administrator, cause or contribute to air pollution which may increase mortality or have an increase in serious irreversible illness.

Section 112 required EPA to publish a list of each HAP that EPA intended to establish an emissions limitation for, and then promulgate a standard, or otherwise explain why the HAP was not hazardous. To do this, EPA utilized a risk-based analysis to set the emissions standards. EPA considered levels of HAPs at which health effects were observed, and factored in an ample margin of safety to protect public health, and set the standard accordingly.

Between 1970 and 1990, EPA only listed 8 HAPs and set standards for only 7 of them. Clearly, the risk-based approach did not work. Congress was provided information that concluded that the program was not effective. Subsequently, Congress passed the 1990 Clean Air Act Amendments with an emphasis on strengthening and expanding the HAP program through an emissions control technology-based approach. Today, the technology-based approach requires emissions control to levels that utilize the best available control technology.

There were two significant changes made to Section 112 in the 1990 reauthorization. First, rather than the EPA Administrator listing HAPs, as was done previously, Congress established the list of 189 HAPs on their own (see 7412(b)). Second, an emissions standards implementation process was formed and is based on the maximum reduction in emissions which can be achieved by applying the best available control technology.

This technology-based approach consists of a two-step process for determining emissions standards under the 1990 Act Amendments. First, EPA is required to establish technology-based emissions standards for categories of sources that emit HAPs. That is the maximum achievable control technology is required to apply to each category. This requires all sources in a category to at least cleanup emissions to the level their best performing peers have shown can be achieved. This is strictly a technology review and contains no risk-based assessment.

Comment #12: Reduction Goals and Emission Caps: Does the proposed NMCP have emission reduction goals similar to the former voluntary (VMRP) program? What further reductions do you expect? The program should provide for overall emissions reductions. Reductions achieved by other industries should be used as a benchmark, such as medical waste incinerators. The program should establish a cap on total annual mercury emissions.

Counter comment: Given the success of the VMRP, are regulations really necessary?
Comment Count: 8

NDEP Response: The Voluntary Mercury Reduction Program (VMRP) was designed to address the most significant sources of mercury air emissions and utilized EPA's successful 33/50 program as its foundation. According to the US EPA, the four VMRP companies comprised more than 90 percent of reported mercury air emissions in Region 9 in 2000, and the companies have since reduced their emissions by more than 80%. This meets or exceeds most of the goals or caps set by other states for other industry sectors.

There is no basis for establishing a cap and when doing so, there is no guarantee that controls will be required on all units to achieve the cap. In the proposed NMCP best available controls are required on all applicable units.

Comment #13: Will the state mercury permit roll up into the Title V program for affected facilities?

Comment Count: 1

NDEP Response: Yes.

Comment #14: Early Reduction Credit: This section should be deleted. Sources should not operate with emissions above a MACT level at any time.

Comment Count: 2

NDEP Response: The establishment of the Early Reduction Credit program is designed to create an incentive for companies with currently un-controlled or minimally controlled units to reduce emissions in advance of the NvMACT. Early Reduction Credit is based on a rigorous evaluation to determine the best controls available at the time the request is made.

Comment #15: Mercury Control Timeline. The program must be accelerated to realize improvements in mercury control sooner. We can hope that companies will adopt controls on the early reduction track, but NvMACT will not be required until 3 to 4 years from now. This delay is unreasonable considering the serious public health risk.

Comment Count: ~98

NDEP Response: The most significant sources of mercury are the VMRP facilities and they are already controlled. The timelines in the NMCP for implementing additional controls are much more aggressive than any timelines for implementing a federal MACT, and for the implementation allowed for power plants in the most recent CAMR rule. These timelines have been developed based on our ability to adequately evaluate the control measures to establish appropriate conditions in the mercury permits, and to fulfill our public comment requirements.

Comment #16: All public comment periods in the regulations should be set at a minimum of 60 days and include public hearings to provide adequate time for public examination.

Comment Count: 1

NDEP Response: This program includes various points in the process where the Director is making a determination or permits are being processed and public input will be solicited. The proposed regulations are consistent with standard 30-day comment period for all other permit actions and NDEP programs.

Comment #17: Regulation Development Process: The public process for this program and regulation development is complex and flawed. The public comment process was unreasonable; the Elko meeting was cancelled and rescheduled with limited notice that did not permit everyone's attendance. The regulations continued to evolve from draft versions and the [originally proposed timeframe of a] January hearing should be postponed. The timeframe for submitting comments was far too short for such an important issue and therefore an extension of the public process is requested.

Comment Count: 5

NDEP Response: The regulations only require one workshop and the Carson City workshop met that requirement. Postponement of the Elko workshop was unfortunate and due to

circumstances beyond the Divisions control. The meeting in Elko was rescheduled a week later to provide an opportunity for additional comment.

The Agency draft regulations were posted and noticed to the public on February 1, 2006, which was more than 30 days in advance of the scheduled March 8, 2006 State Environmental Commission hearing as required by the APA. The submittal made on February 1st contains the same program as the LCB version recently provided, with a few errors introduced by LCB that will be corrected at the Commission hearing. The version that will be proposed at the hearing is the same as the February 1st version.

Comment #18: Tier 3 thermal units should not be grandfathered into the regulation. Tier 3 thermal units should be held to the same mercury emission standards, rules, applications, monitoring and Tier 1 and Tier 2 thermal units and not have a lower or lesser standard applied to their operation, maintenance or modification. Modification of a Tier 3 thermal unit should be considered as construction of a thermal unit, and not given more lenient consideration than Tier 1 and Tier 2 thermal units.

Comment Count: 1

NDEP Response: According to the proposed regulations, a Tier 3 thermal unit is one that either doesn't have the potential to emit mercury (i.e. zero emissions of mercury) or one that emits at or below de minimis mercury emission levels. The de minimis approval process allows the Director to consider the level of mercury emission or type of unit that doesn't warrant further evaluation of additional controls, permitting and monitoring. Any Tier 3 thermal unit that proposes a modification will be evaluated to determine if any of the mercury requirements would be applicable. In addition, all Tier 3 units are required to certify annually of the units continued status.

Comment #19: Section 35, item 6(a) should not allow the applicant to determine what is deemed sufficient to determine what is to be NvMACT. This set up a self approval and self regulatory program and does not protect the public or public trust resources.

Comment Count: 1

NDEP Response: The proposed regulations require an applicant to propose what they believe is NvMACT as part of the application. The Director (i.e. NDEP) reviews, evaluates and determines the NvMACT based on the information provided by the applicant and any other information available to the Director. Section 35.6(a), however, discusses only the requirement for the Director to make public and receive comment on his proposed NvMACT determination. The program is most decidedly not a self approval and self regulatory program.

Comment #20: General oppositions to adoption: The control of emissions is supported, but the final draft of the regulations still need considerable work to suitably protect public health, public trust resources, fish and wildlife. The proposed program is substantially flawed because NDEP has not conducted a rigorous public health risk assessment so there is not means of determining if it is sufficient.

Comment Count: 2

Counter Comment: The need for action is urgent and should not be delayed. We urge you to adopt rules for mercury reduction that will make sure that the State of Nevada will not allow our native lands to be contaminated further by mercury pollution. We greatly appreciate your

efforts to protect the public and environmental health from mercury emissions. The NDEP has shown great leadership in developing the regulations and the new program should be recognized as a significant first step.

Comment Count: 4

NDEP Response: Based on all of the information available to the NDEP, we believe that the most appropriate course of action at this point in time is to continue to require efficient operation of existing mercury controls and to require the installation and operation of the best available controls on all thermal mercury emitting units. This approach will ensure the most rapid reductions of mercury while additional information is gathered and studies are conducted.

Comment #21: Mass Balance

Comment Count: 10

NDEP Response: Because of the large quantities of ore that are processed and the relatively small concentrations of mercury present in the ore, it is not reasonably possible to account for mercury associated with the mineral processing activities with any relative accuracy and certainty. Attempting to do so with large thermal processing units would result in inaccurate information. A more representative way to account for mercury emission to the atmosphere is to perform direct emissions testing.