



North Carolina Department of Environment and Natural Resources

Division of Air Quality

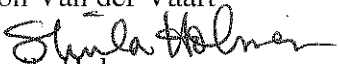
Beverly Eaves Perdue
Governor

Sheila C. Holman
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Dee Freeman
Secretary

January 3, 2011

MEMORANDUM

TO: Don Van der Vaart
FROM: 
Sheila Holman
SUBJECT: Economic Hardship Guidance

Purpose of Economic Hardship Guidance -

This document establishes guidance for facilities seeking consideration under the economic hardship provisions of the North Carolina Air Toxics Program. This procedure is only available to existing facilities because new facilities are required to comply with acceptable ambient level (AAL) concentrations. Sources making this demonstration must provide pertinent information and specify their relationship to economic hardship indicators. None of the information is required, however the strength of the argument could prove to be lacking without coverage of the factors that will influence DAQ's approval or denial of the economic hardship demonstration.

The purpose of the economic hardship demonstration is to achieve the maximum degree of compliance with North Carolina's Air Toxics Program rules when full compliance with the AAL concentrations cannot be achieved without unreasonable economic impacts.

Procedure Overview -

I. Identify Full AAL Compliance Options

A facility seeking to demonstrate an economic hardship should provide information necessary to estimate incremental control strategy costs, using partial budgeting, for the least-cost, technically feasible alternative that achieves full AAL compliance. This control strategy must result in a serious economic hardship based on criteria developed in this procedure, in order to make a satisfactory demonstration. The existing control system will be the starting point in the cost analysis for comparing alternatives for complying with the AAL. If applicable, the facility shall describe its existing system for controlling toxic air pollutants (TAP). It should describe any approach to improve existing capture and control systems or to add control devices where none are in use. Capture and control can be addressed separately, although improved capture often may be achieved through an increase in the amount of air handled. This can necessitate upgrades to existing control devices. Another approach, focusing on pollution prevention, is to substitute low TAP or TAP-free materials for materials now in use.

II. Incremental Analysis of Alternative Controls

After completing a cost analysis of its existing AAL control system, the facility should develop and analyze alternative controls. If technically feasible, it should develop an AAL compliance alternative along with associated cost and economic impacts. It should develop alternative controls and evaluate associated economic hardship indicators to determine the most appropriate degree of control. These economic and technical considerations result in a maximum feasible control technology (MFCT) determination. Comparisons between the existing, full compliance and MFCT alternatives provide the basis for economic hardship determinations. In selecting an alternative to AAL requirements, the economic hardship demonstration will consider the achievable reduction in TAP emissions and other pollutants that may be controlled, the cost of control, and economic, energy, and other health and environmental impacts.

III. Analyze Economic Hardship Indicators

A facility seeking relief should develop the following required Economic Hardship Indicators with detailed discussions of the tradeoffs between environmental protection and significant economic considerations. The report shall identify data sources and state the underlying assumptions on activity levels, emission projections, discount rates and control techniques.

A. Cost Impacts

The facility should estimate the total capital and annualized costs resulting from compliance with AALs for existing sources at the facility. These costs are incremental relative to the present control.

(1) Capital Costs

The facility should describe capital costs incurred in upgrading existing capture and control systems. Facilities that now do not operate control devices are expected to capitalize a period of downtime necessary to convert to low TAP materials. The total capital cost should be estimated using standard accounting procedures.

(2) Annual Costs

The facility should compare the annual costs of the controls needed to meet the AALs with the proposed next best alternative that does not demonstrate compliance. These include annual capital recovery over the useful life of the investment, operating costs for the newly installed and upgraded capture and control systems, plus costs for record keeping, reporting and monitoring. These are net costs after taking into account the costs now being incurred for the existing control system. Cost-effectiveness calculations that represent the cost per unit reduction of TAP should be reported.

B. Economic Impacts

To the extent possible, the facility's economic impact analysis should identify for each alternative:

(1) Market Impact

The analysis should discuss any estimated price effects on the affected facility, reported as a percent change from current average prices. This assumes that the facility passes along the incremental compliance costs to maintain constant profits.

(2) Impacts on local, regional and state economy

The analysis should discuss any economic impacts that would result from changes in the overall competitive structure of the facility and fairness between similar facilities.

(3) Risk of Closure

The analysis should identify factors influencing the potential that the facility could close from complying with the AALs. If full compliance with the AAL requirements will likely cause a facility closure, report estimates of job impact in the affected portion of the economy.

(4) Capital Cost of Compliance

The analysis should discuss the capital investment requirements in control equipment or facility modifications. It shall estimate the capital cost of compliance as a percentage of capital available to the facility.

(5) Annual Incremental Compliance Cost

The analysis should report the annual incremental compliance cost as a percentage of total production costs and sales for the facility.

C. Comparability Analysis

The analysis should compare industry averages with the cost analysis specific to the facility. As a facility develops a request for the economic hardship demonstration, it should compare information about the average industry source with its specific facility, including information on emission source characteristics, control technologies at well controlled facilities, and the cost, energy, and other environmental impacts of emission control techniques. Additional information about the industry may need to be analyzed to estimate economic impacts, including toxic air emission reduction levels and secondary environmental impacts. See Appendix A for more details.

IV. Describe Environmental & Health Impacts

A narrative description of the expected impacts of each alternative control measure should include, when available, the likely effects on employment and competition, and any irreversible or irretrievable commitments of resources. The discussion of alternatives should identify health risks and characterize the uncertainties related to each alternative. Additional consideration of pollution prevention activities should be included in the narrative.

V. Select Alternative Control Plan

Based on technical and economic feasibility, the facility should translate a MFCT alternative into a proposed control plan. The plan should address: test methods, compliance demonstration, monitoring, reporting and record keeping. The proposed plan should explain the rationale for the decision.

VI. MFCT Approval Process

The DAQ shall use the information presented by the facility to evaluate alternative control plans evaluated in the economic hardship demonstration by considering the expected environmental, health and economic impacts and relating those to similar facilities. The MFCT provisions are to be attached to the permit application and considered part of the permit application and the public is invited to comment on the facility's economic hardship arguments during a comment period. Following an evaluation of these comments, the Environmental Management Commission through its delegate, the Director of the Division of Air Quality, shall take final agency action.

APPENDIX A - Example of Economic Hardship Guidance and Impact Analysis

A facility considering alternative control strategies for compliance with North Carolina air toxics regulations will have evaluated the current ambient concentration of a toxic air pollutant (TAP) and been found to exceed the acceptable ambient concentration (AAL) of some TAP. The purpose of this appendix is to develop several examples of what would be considered satisfactory to qualify for the economic hardship demonstration. The principle of what is considered as “serious” economic hardship under these determinations is explained.

A facility seeking to demonstrate a serious economic hardship is required to develop economic impact estimates for a range of variables in order to enable DAQ to follow the MFCT standards development policy guidelines within which it functions. A facility may need to develop estimates of direct cost and economic impacts at their plant, industry, or market level of aggregation in order for DAQ to determine whether it qualifies for an alternative control under the economic hardship demonstration. DAQ must determine whether or not the annual cost of compliance will have significant economic impacts on the facility. Annual compliance costs are compared with estimates of sales or revenues to determine a threshold. Estimates of employment and closure impacts may also be pertinent.

The AALs are guidelines that are generally applied like standards and are established based on Scientific Advisory Board (SAB) recommendations upon consideration of human health risks. The AALs are codified after adoption by the Environmental Management Commission, following administrative procedures issued under North Carolina General Statute 150B, Administrative Procedures Act. Accordingly, development of Maximum Feasible Control Technology (MFCT) requires that (DAQ) take technological feasibility and economic hardship factors into account when considering in an appropriate manner the technology available, costs, and environmental benefits involved.

The level of detail needed for the information requested in the economic hardship guidance document depends on the expected regulatory impacts to the specific industrial facility. These estimates will take account of economic issues raised and may include assessments of the relative importance of unit compliance costs to total unit costs of production for either the individual plant and the financial impacts on the specific firm.

At the next greater level of aggregation, economic impact estimates are required for the specific markets and industries directly affected by full compliance with of the AAL guideline. Impact estimates that may be needed at the industry/market level include commodity price effects, industry output adjustments, employment and other resource use changes, balance of trade effects and changes in market structure. In addition, estimates of total industry wide compliance costs may be of interest when compared to related compliance costs at the facility level.

When appropriate, estimates of economy wide impacts resulting from an individual facility action related to compliance without consideration of MFCT may need to be evaluated, including changes in the general price levels. When a facility closure effects businesses that rely on the facility to supply inputs into their process, then the economic hardship analyses should inform

DAQ decision makers of the consequences of alternative actions and should provide information allowing decision makers to determine that there is adequate information indicating the need for and consequences of the proposed MFCT action. DAQ considers whether the potential benefits to society justify the potential costs, recognizing that not all benefits and costs can be described in monetary or even in quantitative terms. All pertinent information will be provided by the facility on a voluntary basis unless otherwise required by another regulation.

The proposed MFCT will seek to maximize net benefits to society, including potential economic, environmental, public health and safety. Other advantages, distributional impacts or equity issues may need to be identified. Through this process, MFCT will become more cost effective by including reliance on performance objectives to the extent feasible. DAQ decisions are based on the best reasonably obtainable scientific, technical, economic, and other information.

While most economic hardship arguments should include these elements, variations consistent with the spirit and intent of the guidance may be warranted for MFCT regulatory alternatives. In particular, when compliance is achieved through MFCT by establishing permit terms or operating conditions this may call for a different form of economic hardship determination. Otherwise, a direct compliance cost analysis of added controls for the entire facility may be appropriate to inform DAQ and EMC more fully about the desirability of that alternative.

This document is not in the form of a mechanistic blueprint, for a good economic hardship demonstration cannot be written according to a formula. Competent professional judgment is indispensable for the preparation of a high quality analysis. Different regulations may call for very different emphases in analysis. For one proposed regulation, the crucial issue may be the question of whether a market failure exists, and much of the analysis may need to be devoted to that key question. In another case, the existence of a market failure may be obvious from the outset, but extensive analysis might be necessary to estimate the magnitude of benefits to be expected from proposed MFCT regulatory alternatives.

Analysis of the risks, benefits, and costs associated with a MFCT solution must be guided by the principles of full disclosure and transparency. Data, models, inferences, and assumptions should be identified and evaluated explicitly, together with adequate justifications of choices made, and assessments of the effects of these choices on the analysis. The existence of plausible alternative models or assumptions, and their implications, should be identified. In the absence of adequate valid data, properly identified assumptions may be necessary for conducting an assessment.

Analysis of the risks, benefits, and costs associated with regulation inevitably also involves uncertainties and requires informed professional judgments. There should be balance between thoroughness of analysis and practical limits to the agency's capacity to carry out analysis. The amount of analysis (whether scientific, statistical, or economic) that a particular issue requires depends on the need for more thorough analysis because of the importance and complexity of the issue, the need for expedition, the nature of the statutory language and the extent of statutory discretion, and the sensitivity of net benefits to the choice of regulatory alternatives. In particular, a less detailed analysis of the entire range of MFCT alternatives is needed when regulatory options are limited by other rules. Even in such cases, facilities seeking approval of an economic hardship

demonstration should provide some analysis of other regulatory alternatives, in order to provide decision makers with information for judging the consequences of these statutory constraints.

The purpose of the economic hardship demonstration is to ensure that in developing MFCT, facilities identify and DAQ considers ways of tailoring regulations to the size of the regulated entities to minimize any significant economic impact a rule may impose on a substantial number of small entities. The federal requirement does not require that DAQ necessarily minimize a rule's impact on small entities if there are legal, policies, factual or other reasons for not doing so. The Regulatory Flexibility Act requires only that regulatory agencies determine, to the extent feasible, the rule's impact on small entities, explore regulatory alternatives for reducing significant impacts on a substantial number of such entities, and explain its ultimate choice of regulatory approach. For the purpose of this economic hardship guidance, the threshold of these impacts will be considered significant when: 1) the annual compliance costs increase total costs of production by more than 5 percent or; 2) the annual cost of compliance as a percent of sales are at least 20 percent higher for the full AAL compliance alternative over the proposed MFCT alternative.

SH/gs

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